



National Quality Assurance Framework (NQAF) for Official Statistics of Bangladesh



BANGLADESH BUREAU OF STATISTICS

Statistics and informatics Division, Ministry of Planning
Government of the People's Republic of Bangladesh



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June 2023



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National Quality Assurance Framework for Official Statistics of Bangladesh



Foreword



Secretary

Statistics and Informatics Division
Ministry of Planning
Government of the People's Republic of Bangladesh



I am highly delighted to learn that Bangladesh Bureau of Statistics (BBS), the National Statistical Office (NSO) of Bangladesh, has published the 'National Quality Assurance Framework for the Official Statistics in Bangladesh'. This publication will emphasize the importance of ensuring the quality of data derived from different sources in Bangladesh.

The clear roadmap that has been depicted in the document will help to improve official statistics through the implementation of stipulated actions and by following this reliable and timely official statistics of all sectors will contribute to the development reality in Bangladesh. Apart from this, it will be useful to all data users, particularly planners, policymakers, development experts, academia, civil society etc.

I would like to convey my heartfelt thanks to Director General of Bangladesh Bureau of Statistics (BBS); and the NQAF Team of BBS along with other officials for their relentless work in preparing this versatile publication. Moreover, the Statistics and Informatics Division (SID) wishes to express its gratitude to various organizations and individuals who contributed to the success of this document. UNICEF, Bangladesh deserves commendable thanks to provide financial and technical assistance in the development, design, and publication of this manual.

I am grateful to the members of the SDG Technical Working Committee and the Editors Forum of BBS, who oversaw the successful publication of this National Quality Assurance Framework (NQAF) for the Official Statistics of Bangladesh.

Dhaka, June 2023

Dr. Shahnaz Arefin, ndc

Preface



Director General

Bangladesh Bureau of Statistics
Statistics and Informatics Division
Ministry of Planning
Government of the People's Republic of Bangladesh



I am highly delighted to inform that Bangladesh Bureau of Statistics (BBS) has prepared and publish the 'National Quality Assurance Framework for the Official Statistics of Bangladesh' following the United Nation's Quality Assurance Frameworks Manual. I am sure that this document will be beneficial for the policymakers, researchers, civil society, academia, planners and development partners.

It is abundantly clear that a much deeper, faster, and more ambitious response is needed to curtail the drawbacks towards quality official statistics needed to achieve our 2030 goals. Without evidence of where we stand now, we cannot confidently chart our path forward in realizing the current status of official statistics. To that end, this report also reflects on the challenges faced in the collection, processing, analysis, and dissemination of reliable, timely, accessible and sufficiently disaggregated statistical data, and calls for better evidence-based policymaking.

I would like to express cordial thanks to Dr. Shahnaz Arefin, ndc, Secretary, Statistics and Informatics Division (SID) for her continuous guidance as the Chair of National Data Coordination Committee (NDCC). I also like to thank Mr. Md. Alamgir Hossen, Deputy Director and Focal Point of SDG Cell, BBS and his team for his innovative idea for preparing and organizing this momentous report, which will sufficiently improve quality of official statistics in Bangladesh.

The time is right, and we must act now. In that spirit, I commend this publication to a wide global audience.

Dhaka, June 2023

Md. Matiar Rahman

Message



Representative

UNICEF Bangladesh



UNICEF wishes to express its sincere gratitude to the SDG Cell, Bangladesh Bureau of Statistics (BBS) for the publication of the 'National Quality Assurance Framework (NQAF) for the Official Statistics of Bangladesh'.

It is abundantly clear that a much deeper, faster and more ambitious response is needed to curtail the drawbacks towards quality official statistics in assuring data quality at the global level, taking into consideration the need for international comparability of data.

The clear roadmap that has been depicted in the NQAF manual of Bangladesh, will act as like as a manual for the National Statistical System (NSS) by improving focus on official statistics, which will definitely strengthen the National Statistical System (NSS) by assuring the availability and quality of official statistics, taking into consideration the need for national or international comparability of data. Specifically, this manual will support the NSO in achieving an adequate mandate and institutionalization of statistical work and quality assurance throughout the NSS.

UNICEF is committed to continuing its best support to the Government of Bangladesh to translate this plan into necessary actions and reality together with other development partners. We also hope that this report will provide a coherent system as a basis for quality management and is useful for those who are interested and/or involved in data-related issues concerning the SDGs in general.

We are deeply proud of the commitment and dedication of our partner organizations like BBS and are committed to continuing our best support to the Government of Bangladesh to publish this framework into necessary actions and reality together with other development partners.

Dhaka, June 2023

Sheldon Yett

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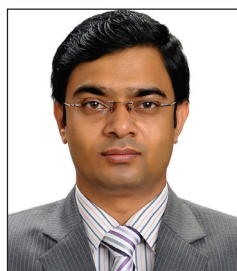


Focal Point Officer

SDG Cell

Bangladesh Bureau of Statistics

Government of the People's Republic of Bangladesh



The 'National Quality Assurance Framework for the Official Statistics of Bangladesh' has been prepared by Bangladesh Bureau of Statistics (BBS), providing a broad picture scenario on the assessment of quality for official statistics in Bangladesh following the United Nations Quality Assurance Frameworks Manual for Official Statistics (UN NQAF Manual).

This publication will identify the deviations from standards of official statistics, which is necessary & sufficient for a certain outcome of improved official statistics. Moreover, it will also provide definite guidance for the engagement with statistics producers and data providers that are outside of the National Statistical System (NSS) that cooperate with NSS members in the production of official statistics.

I would like to acknowledge Dr. Shahnaz Arefin, ndc, Secretary, Statistics and Informatics Division (SID) and Mr. Md. Matiar Rahman, Director General, Bangladesh Bureau of Statistics (BBS) for their continuous guidance and direction to prepare this document. Special thanks to Mr. Md. Emdadul Haque, Director, Bangladesh Bureau of Statistics (BBS) for his leading role in preparation of the report.

Ms. Naima Akther, Deputy Director, SDG Cell, BBS; Ms. Tajmoon Nahar Khayer, Statistical Officer, SDG Cell, BBS and Mr. Md. Ariful Islam, Consultant, SDG Cell, BBS deserve special thanks for their relentless support to finalize the document. I also acknowledge the indispensable and critical input and support from the members of National Data Coordination Committee (NDCC) and SDG Technical Working Committee.

Financial and Technical assistance from the UNICEF Bangladesh is highly acknowledged for developing this report through the 'SDG Data Monitoring, Coordination and Authentication of Administrative SDG Data' initiative being implemented by the SDG Cell of the Bangladesh Bureau of Statistics (BBS). I concede that the NQAF team members from of BBS deserve special credit for their relentless efforts with full compassion and dedication in preparing and timely completion of this Framework.

A handwritten signature in blue ink, appearing to read 'Md. Alamgir Hossen'.

Md. Alamgir Hossen

Dhaka, June 2023

CONTENTS

Chapter 1	Introduction and key issues	15
	1.1 Introduction	16
	1.2 Context of data quality in Bangladesh	16
	1.3 Concepts of quality management	17
Chapter 2	Fundamental Principles of Official Statistics	21
	2.1 Fundamental principles of official statistics	22
	2.2 Core recommendations for official statistics on quality	23
Chapter 3	Quality Principles, requirements and elements to be assured	27
	3.1 Level A: Managing the statistical system	28
	3.2 Level B: Managing the institutional environment	29
	3.3 Level C: Managing statistical process	32
	3.4 Level D: Managing statistical outputs	34
Chapter 4	Quality Assessment tools and risk management	37
	4.1 Quality management and the statistical process and activity model (GSBPM and GAMSO)	38
	4.2 Methods and tools for quality assessment	38
	4.3 Risk management	41
Chapter 5	Development of a national quality assurance framework	43
	5.1 Phase 1: Establishing the purpose, scope and responsibility for NQAF	44
	5.2 Phase 2: Process of NQAF development and adoption	44
Chapter 6	Implementation of quality assurance within the national statistical system	49
	6. NQAF implementation at the BBS and other producers of official statistics	50
Chapter 7	Quality assurance for statistics compiled from different data sources	57
	7. Use of different data sources	58

CHAPTER

Introduction and key issues

1.1 Introduction

Nowadays, the quality of official statistics at the national, regional and international levels is more important than ever. According to the International Organization for Standardization (ISO), quality is defined as “all the properties of a product or service which gives it the ability to meet expressed and implicit need”. In this context, the establishment of a quality assurance framework poses some preliminary issues related to the characteristics of quality itself.

The establishment of the National Quality Assurance Framework (NQAF) manual for the National Statistical System (NSS) is a very important initiative, which will further strengthen the development and dissemination efforts to improve the quality of official statistics and build confidence in its use.

United Nations National Quality Assurance Framework (UN NQAF) Manual for Official Statistics was adopted by United Nations Statistical Commission (UNSC) at the 50th session in March 2019. For the implementation of NQAF, the manual is considered as an important tool at the country level, especially in identifying for new data sources, new data providers and for statistical data in monitoring Sustainable Development Goals (SDGs). The commission also emphasized the need for capacity-building for the implementation of NQAF. In this context, Bangladesh Bureau of Statistics (BBS) has taken initiative to develop an NQAF for the National Statistical System (NSS) in Bangladesh.

The NSS must produce a NQAF manual in order to further reinforce the rigor in the creation and dissemination of official statistics, to enhance their quality, and to increase user confidence.

This document is structured in (five) major parts. These are Fundamental Principles of Official Statistics, Quality Principles & requirements, Quality Assessment tools and risk management, Development of a national quality assurance framework, and Implementation of quality assurance.

1.2 Context of data quality in Bangladesh

Bangladesh Bureau of Statistics (BBS) is the National Statistical Organization entrusted with collecting, collating, compiling data and disseminating official statistics. As per Statistics act 2013, BBS has full mandate to produce, preserve, and publish official statistics as well as to formulate statistical policies and procedures.

To strengthen the confidence of data users in the quality of statistical data produced by the National Statistical System (NSS), the adoption of a quality assurance approach in the production and dissemination of official statistical data is necessary in Bangladesh. Because “the reputation of a National Statistical System (NSS) depends above all on its capacity to produce quality data”.

Moreover, two fundamental concepts must be distinguished in terms of quality: (i) the quality control and (ii) the quality assurance. The first responds more to an internal objective of improving products and increasing productivity and profitability. The second, more recent, started from the idea that guarantees of product quality could be demanded by customers. ISO took hold of these concepts in 1979, leading in 1986 to a standardized definition of quality and, in 1987, to benchmarks for the certification of corporate quality systems.

As a whole, the quality of the official statistics must be understood in the light of (four) main angles of view:

- **The user (First point of view):**

It is a question here of apprehending in a general way the quality of statistics, as a product. Simply, when we study the quality of a product, we obviously place ourselves from the point of view of the person who is going to use it, and who will have a certain number of wishes to express about this product.

- **The respondent (Second point of view):**

Collecting data is not a neutral operation for the respondent. It takes time and energy. The companies surveyed may, for example, have felt at one point treated as “answering machines”; the statistician considering their answer as appropriate. This behavior, deemed excessively sovereign, has many negative consequences on the propensity to respond, on the quality of individual responses, as well as on the image of the National Statistical System (NSS).

- **Statistical coordination (Third point of view):**

A slightly different prism is used here to analyze the quality. We mainly ask two questions: (i) the objectives, in terms of undertaking a new statistical operation, justify as much as we spend public funds to carry out this operation? (ii) Is the statistical apparatus put in place well suited to achieve these objectives? This refers to the role that the label committee of the National Statistics Council (CNS) must play.

- **Production (Fourth point of view):**

Despite considerable advances in information technology, carrying out a survey remains a cumbersome, costly operation, presenting multiple difficulties. To work in good conditions, the survey manager must have a series of indicators in order to know, at any time, where the work is, but also, near the end, how reliable it will be. of the results obtained.

Thus, the Data generator intervenes not only upstream of the survey (questionnaire, sampling plan, etc.), but also during (dashboard, performance monitoring framework, etc.) and after (analysis of the reliability of the results).

Indeed, good quality statistics are essential to contribute to the preparation of relevant and coherent development programs and projects, to ensure better monitoring and effective evaluation. The accessibility of statistical information is a valuable means of better informing populations about the merits of decisions and the results of public action. The availability of reliable and good quality statistics also makes it possible to guarantee an optimal allocation of public resources, better identification of priority sectors and better anticipation of the effects and impacts of political decisions. Therefore, quality statistics can significantly improve the profitability of public investments.

1.3 Concepts of quality management

Quality is defined by the International Standards Organization (ISO000:2015) as:

“Quality is the degree to which a set of inherent characteristics of an object fulfils requirements.”

A simple version of this is “fit for use.” It is the users’ needs that determines quality. Different users may have different needs that must be balanced against each other to give the quality concept a concrete content.

For statistics, the general definition is determined by specifying a set of dimensions that characterize the quality of the product:

- Relevance
- Accuracy and reliability
- Timeliness and punctuality
- Coherence and comparability
- Availability and clarity

Costs must be taken into account, both in Statistics of Bangladesh and for society as a whole. The content of the quality dimensions is elaborated in the following:

Relevance

To what extent the statistics meet current or potential user needs

- Who are the users?
- What are the needs?
- How well does the statistics meet these needs?

Accuracy and Reliability

How close to an estimated result is true value

- Sampling errors
- Other errors, such as:
 - Coverage errors
 - Non-response errors
 - Measurement errors
 - Processing errors
 - Model errors

Timeliness and Punctuality

Timeliness specifies the time period between publication and the period of data referenced.

Punctuality measures whether the planned publishing date is observed and, if appropriate, the deviation

- Frequency
- Production time
- Punctuality in relation to the statistics calendar

Coherence and Comparability

Coherence indicates the extent to which statistics from different sources or compiled using different methods, but which refer to the same phenomenon, are similar.

Comparability indicates the extent to which the statistics can be compared over time and place.

- Coherence between any preliminary and final figures
- Coherence between short term statistics and annual statistics
- Coherence with other statistics in the same area, including the national accounts and other institutions' statistics where applicable
- Comparability over time

- Comparability over geographical areas

Availability and Clarity

Availability indicates how easily users get statistics and data with explanations

Clarity indicates how well the statistics are presented as well as the quality and adequacy of metadata.

- Statistical publication
- Analyzes and graphics
- Statistics bank
- About the statistics

General Framework

A quality framework can be used for the identification of quality challenges and for development of improvement actions, and it is a prerequisite for systematic quality work.

A framework for systematic quality work and management consists of definitions, principles and a model that link the principles together. There are various general quality frameworks which apply to any organisation, such as TQM (Total Quality Management), ISO, Six Sigma, EFQM (European Foundation for Quality Management), Lean and Lean Six Sigma. These systems are largely based on common definitions and principles, but they vary with regard to main focus and formalisation. In ISO emphasis is placed on certification, while Six Sigma focuses on quality control using statistical methods. Lean emphasises improvement in efficiency by reducing waste.

In many ways, TQM, which was developed in the last century, is the mother of all general quality systems. Concepts and principles developed here are common to all systems developed later. Statistics quality can be ensured by following TQM and characterized by the principles:

- Customer orientation
- Process orientation
- Evidence as a basis for decisions
- Participation by all
- Management and continuity

These systems and principles are general because they apply irrespective of the type of business. There is a set of values and principles for official statistics which goes beyond these. This applies in particular to professional independence, objectivity and protection of data on individuals. Such requirements for official statistics were first formulated in the UN 10 Principles of Official Statistics, adopted in 1994. Since then, these principles have been incorporated into more comprehensive frameworks for statistics.

Statistical quality frameworks:

The above-mentioned general quality frameworks inspired the statistical quality frameworks such as the European Statistics Code of Practice (ES CoP), the International Monetary Fund's Data Quality Assessment Framework (DQAF), the Recommendation of the Organisation for Economic Co-operation and Development (OECD) on Good Statistical Practices and so on.

CHAPTER

Fundamental Principles of Official Statistics

2.1 Fundamental Principles of Official Statistics

UN Statistical Commission has adopted ten fundamental principles of official statistics in 1994. After twenty years they are as relevant as they were in the past. For producing any official statistics by the National Statistical Organization (NSO) or other agencies follow these principles is to ensure the quality of official statistics. The brief description of the principles is given below:

1. Relevance, impartiality and equal access:

Official statistics provide an indispensable element in the information system of a democratic society, serving the Government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honor citizens' entitlement to public information.

2. Professional standards and ethics:

To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data.

3. Accountability and transparency:

To facilitate a correct interpretation of the data, the statistical agencies are to present information according to scientific standards on the sources, methods and procedures of the statistics.

4. Prevention of misuse:

The statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.

5. Sources of official statistics:

Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.

6. Confidentiality:

Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.

7. Legislation:

The laws, regulations and measures under which the statistical systems operate are to be made public.

8. National coordination:

Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system.

9. Use of international standards:

The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels.

10. International cooperation:

Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

2.2 Core recommendations for official statistics on quality

Among the all recommendations there are five overarching recommendations that, if they are implemented, it establish the basis of the quality assurance for official statistics. The recommendations are:

- #1 It is recommended that in order to be effective, the fundamental values and principles that govern development, production and dissemination of official statistics have to be guaranteed by legal and institutional frameworks and be respected at all political levels and by all stakeholders in national statistical systems.
- #2 It is recommended that countries include the requirements of quality assurance in their national statistical legislation and other legislation mandating production of statistics for official use (derived from Principle 1 of FPOS).
- #3 It is recommended that countries establish a national quality assurance framework for official statistics and that all members of the national statistical system are committed to continually assess, improve and report on the quality of official statistics, as well as on the quality of data and statistics used in the production of official statistics as required. (derived from Principle 1 of FPOS).
- #4 It is recommended that the national quality assurance framework for official statistics is being developed in consideration or in alignment with the UN National Quality Assurance Framework or similar existing quality assurance frameworks (derived from Principle 1 and Principle 2 of FPOS).
- #5 It is recommended that the national quality assurance framework is implemented at the national statistical office and throughout the entire national statistical system. Furthermore, it is

recommended that the national quality assurance framework is applied to all data and statistics produced outside of the national statistical system that is disseminated with the help and support of a member of the national statistical system or that is used for government decision making, as deemed appropriate and required (derived from Principle 1 of FPOS).

Further recommendations for the implementation of the Fundamental Principles of Official Statistics

- #6 According to FPOS 1 and FPOS 2, it is recommended that statistics at all levels, including the local level, are being planned, designed, developed, produced and disseminated on an impartial basis, and according to strictly professional considerations.
- #7 According to FPOS 3, it is recommended that statistics and data are to be presented in a way that facilitates their correct interpretation, which implies that appropriate metadata such as on data sources, methods and procedures used are made available in conjunction with the released data or statistics.
- #8 According to FPOS 4, it is recommended that all members of the national statistical system comment on erroneous interpretation and misuse of official statistics in their respective subject-matter domain(s) of statistical production and dissemination, as required.
- #9 According to FPOS 1 and FPOS 5, it is recommended that countries include in their statistical laws (a) the mandate of producers of official statistics to collect needed information to compile statistics directly from respondents if it is not already available in the national statistical system and cannot be obtained from existing data and (b) the entitlement to select data sources based on professional considerations, including “new” sources such as “big data”.
- #10 According to FPOS 6, it is recommended that individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.
- #11 According to FPOS 7, it is recommended that the laws, regulations and measures under which the national statistical systems operate are to be made public.
- #12 According to FPOS 8, it is recommended that the work of the national statistical system is properly coordinated to achieve consistency and efficiency, and that, therefore, the statistical law of the country (a) clearly identifies the roles and responsibilities of the individual members within the national statistical system and (b) establishes a body which is responsible for managing and coordinating the system-wide activities, including promotion of the national quality assurance framework.

- #13 According to FPOS 9, it is recommended that the national statistical office and all other members of the national statistical system, including members at the local level, use international statistical concepts, classifications and methods and, hereby, ensure the consistency of official statistics and efficiency of statistical systems at all levels.
- #14 According to FPOS 10, it is recommended that countries participate in bilateral and multilateral cooperation in statistics to improve official statistics in all countries.

CHAPTER

Quality Principles and Quality Requirements

3. Quality Management Guidelines

For the evaluation of the quality of statistical data produced by the National Statistics Office of Bangladesh, Bangladesh Bureau of Statistics (BBS) and other statistical agencies and organizations in the National Statistical System, four (4) main areas are assessed, namely:

1. Level A: Managing the statistical system;
2. Level B: Managing the institutional environment;
3. Level C: Managing statistical processes;
4. Level D: Managing statistical outputs.

3.1. Managing the statistical system

The management of the statistical system aims to the following principles, namely to ensure:

1. Coordinating the National Statistical System (NSS);
2. Managing relationships with data users, data providers and other stakeholders;
3. Managing statistical standards.

3.1.1. Coordinating the national statistical system (NSS)

Good coordination of the NSS is important for the regular improvement and maintenance of the quality of official statistics. This coordination are being maintained on the following fundamental principles:

- The National Data Coordination Committee (NDCC) headed by Secretary, Statistics Division is responsible as the coordinating body of the members of the national statistical system in Bangladesh;
- The Activities of the coordinating body of the national statistical system should be extended to the local, regional alignment with international level;
- Bangladesh Bureau of Statistics (BBS) plays the main role in coordinating the national statistical system (NSS) of Bangladesh.
- There is a mechanism for considering statistics produced outside the national statistical system, and if appropriate, for these statistics to become official;
- The existence and regular updating of a National Strategy for the Development of Statistics (NSDS) defining national priorities in terms of statistical production. Bangladesh is in a process of developing the 2nd phase of NSDS to align with the Sustainable Development Goals (SDGs).

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

The Bangladesh Bureau of Statistics maintains very good relations with the providers and users of statistical data on the basis of the following guidelines:

- BBS identify data users, data providers and other stakeholders and consult with them regularly regarding their interests, needs and obligations, particularly during the survey/census tools design;
- BBS and other statistical agencies, in practice have institutional arrangements to engage with

their users; But a strategy should be developed regarding the relationship management;

- BBS and other major statistical agencies continuously maintain and develop cooperation with the development partners, academic institutions and international statistical organizations, as appropriate;
- According to the Statistics Act, 2013, BBS and other statistical agencies have the legal authority or some other formal provision to collect data for the development, production and dissemination of official statistics;
- BBS and other statistical agencies have the legal authority or some other formal provision to obtain administrative data and use of big data and adequate access to these data from other government agencies for statistical purposes;
- BBS cooperates with and provides support and guidance to data providers;

3.1.3. Managing statistical standards

The management of statistical standards involves the coordination of a set of statistical concepts and methodologies used to ensure uniform treatment of statistical issues in a collection operation. This management must be based mainly on:

- BBS and other statistical agencies cooperate in the development and implementation of international and national statistical standards;
- BBS provides support and guidance to all data providers and producers of official statistics in the implementation of statistical standards;
- Divergences from the international or national statistical standards are kept to a minimum, documented and explained to all stakeholders.

3.2. Managing the institutional environment

The institutional and organizational environment of statistical activity significantly influences the effectiveness and credibility of the National Statistical System (NSS) in the production and dissemination of official statistics.

This institutional environment covers the following principles, namely to ensure:

1. Assuring professional independence;
2. Assuring impartiality and objectivity;
3. Assuring transparency;
4. Assuring statistical confidentiality and data security;
5. Assuring the quality commitment;
6. Assuring adequacy of resources;

3.2.1. Assuring professional independence

The professional independence of the actors of the National Statistical System (NSS) ensures the credibility of official statistics. This professional independence is mainly based on the following guidelines:

- It should be declared by the law or other formal provision 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.

- The appointment and dismissal procedure of the head of BBS should be in legislation 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.
- The head of the BBS 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.

3.2.2. Assuring impartiality and objectivity

BBS and other statistical agencies should develop, produce and disseminate statistics respecting scientific independence and in a way that is professional, impartial and unbiased, and in which all users are treated equitably. This impartiality and objectivity is mainly based on the following guidelines:

- 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.
- The statistical agencies implement a declaration or code of conduct or ethics which governs statistical practices, and compliance with it is followed up.
- Data sources and methodologies are chosen on an objective basis.
- Statistical releases are clearly distinguished from political/policy statements.
- Statistical release dates and times are pre-announced.
- 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.
- The statistical agencies comment publicly on statistical issues, misinterpretation and misuse of official statistics, as appropriate.

3.2.3. Assuring transparency

The statistical agencies' policies and management practices and the terms and conditions under which their statistics are developed (including the legal basis and purposes for which the data are required), produced, and disseminated (and, if applicable, subsequently revised) are documented and available to users, respondents, owners of source data and the public. This transparency is mainly based on the following guidelines:

- The terms and conditions for producing and disseminating official statistics are available to the public.
- The terms and conditions for the governance and management of statistical agencies are available to the public.

3.2.4. Assuring statistical confidentiality and data security

Private information on individual persons (including legal persons), compiled within the framework of

the production of official statistics is confidential, and must be used only for statistical purposes. The confidentiality and security of statistical data are based on the following principles:

- Statistical confidentiality is guaranteed by the law and its application.
- Appropriate standards, guidelines, practices and procedures are in place to ensure statistical confidentiality.
- Strict protocols to safeguard data confidentiality apply to users with access to microdata for research or statistical purposes.
- Penalties are prescribed for any willful breaches of statistical confidentiality.
- Security and integrity of data and their transmission is guaranteed by appropriate policies and practices.
- The identification risk of individual respondents is assessed and managed.

3.2.5. Ensure commitment to quality

Services and organizations producing official statistics must commit to providing quality data. Quality assurance of the data produced and disseminated should be based on the following principles:

- Quality policy should be publicly available.
- The statistical agencies practice a culture of continuous improvement.
- A quality management team should be responsible for the coordination of quality management within the statistical agency, and it receives necessary support to fulfil this role.
- The national statistical system staff receives training on quality management.
- Guidelines for implementing quality management are defined and made available to the public.
- Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.
- Regular assessment of Statistical products and processes quality.
- Risk analyses addressing the quality of important statistical products and processes are performed.

3.2.6. Assuring adequacy of resources

The resources made available to the National Statistical System (NSS) for the implementation of statistical operations must be sufficient, available on time, and used effectively and efficiently. The principles of adequacy of resources are as follows:

- BBS and other statistical agencies must have adequate human, financial and logistics resources for the collection, processing, analysis and dissemination of official statistics.
- Planning and management principles are aimed at the optimal use of available resources.
- The statistical agencies' use of resources is reviewed.

3.3. Managing statistical processes

National and international standards, guidelines and good practices must be fully respected in the procedures used by the National Statistical Office (NSO) and the other statistical agencies to collect, process and disseminate official statistics. The relevant aspects mainly concern a sound methodology, suitable statistical procedures, a reasonable burden for the respondents (in terms of time and energy) and a good cost-effectiveness ratio. This statistical process covers the following principles, namely to ensure:

1. Assuring methodological soundness;
2. Assuring cost-effectiveness;
3. Assuring appropriate statistical procedures;
4. Managing the respondent burden;

3.3.1. Assuring methodological soundness

Good quality statistics require a solid methodology requiring adequate procedures, skills and tools. The following principles should be observed to ensure a sound methodology:

- The methodologies applied by the BBS and other statistical agencies are consistent with international standards, guidelines and good practices and are regularly reviewed and revised as needed.
- BBS and other statistical agencies recruit qualified staff and have regular programs to enhance their methodological skills.
- Data sources are chosen by the statistical agencies with regard to accuracy and reliability, timeliness, costs, the burden on respondents and other necessary considerations.
- The registers and the frames for surveys are frequently evaluated and adjusted.
- Bangladesh Bureau of Statistics (BBS) cooperate with the scientific community to improve methods and promote innovation in development, production and dissemination of statistics.

3.3.2. Assuring cost-effectiveness

To ensure cost-effectiveness in the management of statistical processes, the following principles should be observed:

- Costs of producing all individual statistics are measured and analyzed, and mechanisms are in place to assure cost-effectiveness of statistical activities or processes.
- Procedures exist to assess and justify demands for new statistics against their cost.
- Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued to free up resources.
- Modern information and communication technologies are applied to improve the performance of statistical processes.
- Proactive efforts are made to improve the statistical potential of administrative data and other data sources.

- The statistical agencies define, promote and implement integrated and standardized production systems.

3.3.3. Assuring appropriate statistical procedures

Effective and efficient statistical procedures underpin quality and should be implemented throughout the statistical production chain. the following principles should be observed:

- Statistical processes are tested before implementation.
- Statistical processes are well established and regularly monitored and revised as required.
- Appropriate procedures are in place to effectively use administrative and other data sources for statistical purposes.
- Revisions of statistics follow standard and transparent procedures.
- Metadata and documentation of methods and different statistical processes are managed throughout the processes and shared, as appropriate.

3.3.4. Managing the respondent burden

The response burden imposed on statistical data providers (households, businesses, etc.) must be reasonable. It must also be proportionate to the needs of the users. Statistical authorities must therefore monitor it, while setting targets for its gradual reduction. This should be based on the following principles:

- The range and detail of requested information is limited to what is necessary.
- Mechanisms are in place to promote the value and use of statistics to respondents.
- Sound methods including IT solutions are used in surveys to reduce or distribute respondent burden.
- Data sharing, data linkage and use of administrative and other data sources are promoted to minimize respondent burden.

3.4. Managing statistical outputs

The production and dissemination of official statistics must correspond to the needs of users. The main aspects of the management of statistical products relate to the relevance, accuracy, reliability, timeliness, consistency, comparability (between sub-national level), clarity and ease access for users.

Managing statistical outputs covers the following principles, namely to ensure:

1. Assuring relevance;
2. Assuring accuracy and reliability;
3. Assuring timeliness and punctuality;
4. Assuring accessibility and clarity;
5. Assuring coherence and comparability;
6. Managing metadata;

3.4.1. Assuring relevance

The production of statistics must meet the current and emerging needs or requirements of its users. Without relevance, the quality is absent. However, relevance is subjective and depends upon the varying needs of users. The statistical agency's challenge is to weight and balance the conflicting needs of current and potential users to produce statistics that satisfy the most important and highest priority needs within the given resource constraints. Relevance should be based on the following principles:

- Statistical agencies identify users and their needs and to consult them about the content of the statistical work program.
- Users' needs and requirements should be balanced, prioritized and reflected in the work program.
- Statistics based on new and existing data sources are being developed in response to society's emerging information needs.
- User satisfaction is regularly measured and systematically followed up.

3.4.2. Assuring accuracy and reliability

Official statistics must reflect reality accurately and reliably. The accuracy of statistical information reflects the degree to which the information correctly describes the phenomena it was designed to measure, i.e. the degree of closeness of estimates to true values. Accuracy and reliability mainly cover the following aspects:

- Source data, integrated data, intermediate results and statistical outputs are regularly assessed and validated.
- Sampling errors are measured, evaluated and documented. Non-sampling errors are described and, when possible, estimated.
- Studies and analyses of revisions are carried out and used to improve data sources, statistical processes and outputs.

3.4.3. Assuring timeliness and punctuality

Official statistics should be released on time and at the times scheduled. Timeliness refers to how fast on the reference date the data and statistics are made available to users. Punctuality refers to whether data and statistics are delivered on the promised, advertised or announced dates. The principles governing timeliness and punctuality are as follows:

- Timeliness of the statistical agency's statistics comply with international standards or other relevant timeliness targets.
- The relationship with data providers is managed with respect to timeliness and punctuality needs.
- Primary results should be released when their accuracy and reliability is acceptable.
- Data providers should set the release calendar to measure and monitor punctuality according to planned release dates.

3.4.4. Assuring accessibility and clarity

Official statistics should be presented in a clear and understandable form. They must also be disseminated in a practical and appropriate manner, available and accessible to all users at the same time and under the same conditions. Accessibility and clarity must obey the following principles:

- Statistics must be presented with proper interpretation and meaningful comparisons.
- A data dissemination strategy and policy should be publicly available.
- Modern information and communication technology is used for facilitating easy access to statistics.
- 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.
- Mechanisms are in place to promote statistical literacy.
- The statistical agencies have a dedicated focal point that provides support and responds to inquiries from users in a timely manner.
- Quality must be ensured of statistical outputs and Users are kept informed about it.

3.4.5. Assuring coherence and comparability

Statistical agencies should develop, produce and disseminate statistics that are consistent, meaning it should be possible to combine and make joint use of related data including data from different sources. Furthermore, statistics should be comparable over time and between areas. The principles regarding coherence and comparability are as follows:

- International, regional and national standards are used with regard to definitions, units, variables and classifications.
- Procedures or guidelines are in place to ensure and monitor internal, intra- sectoral and cross-sectoral coherence and consistency.
- Statistics are kept comparable over a reasonable period of time and between geographical areas.

3.4.6. Managing metadata

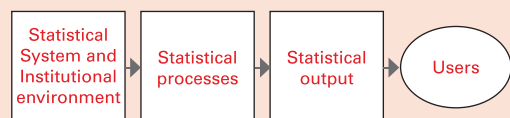
Statistical agencies should provide information covering the underlying concepts and definitions, variables and classifications used, the methodology of the data collection and processing, and indications of the quality of the statistical information – in general, sufficient information to enable the user to understand all of the attributes of the statistics, including their limitations. Managing metadata covers the following principles:

- The metadata management system of the statistical agency is well defined and documented.
- Metadata are documented, archived and disseminated according to internationally accepted standards.
- Staff training and development programs are in place on metadata management and related information and documentation systems.

CHAPTER

**Quality
Assessment tools
and Risk
management**

Statistical quality assessment is an important part of the overall quality management system of a statistical organization. It frequently focuses on the statistical products and the processes leading to their production but can also encompass the statistical system and institutional environment.



4.1 Quality management and the statistical process and activity model (GSBPM and GAMSO)

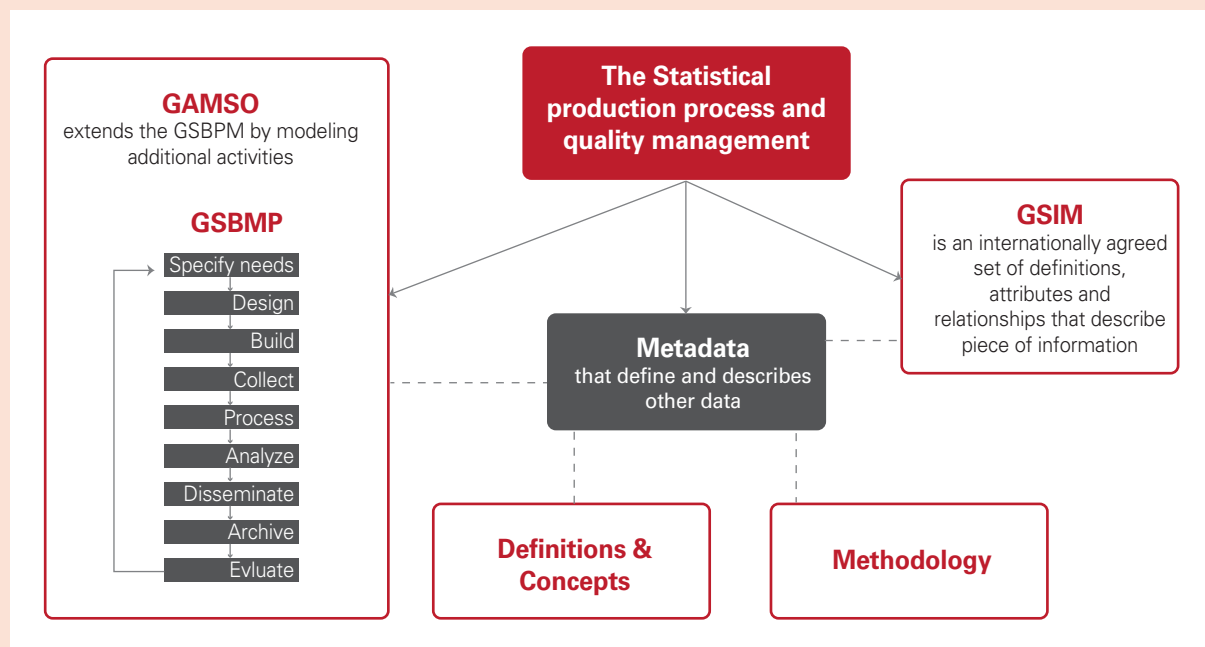
The improvement in quality of statistical products requires the improvement of statistical processes. There are several business process model for quality management of statistical production process of official statistics:

- I. GSBPM
- II. GSIM
- III. GAMSO

Metadata management

4.2 Methods and tools for quality assessment

There are many Methods and tools for statistical quality assessment. In general, the use of quality indicators, the production of quality reports and the conduct of user surveys are considered as the basic level of quality assessment. Self-assessments and audits constitute the next level of quality assessment,



while labelling and certification can be looked upon as advanced practices. Essential tools for quality assessment comprise the following:

- Quality principles
- Quality indicators
- Quality reports
- User surveys
- Self and external assessments and auditing (internal or external quality reviews)
- Quality Audit
- Peer reviews
- Labeling and certification

Quality principles

Before conducting a quality assessment it is necessary to gain a clear understanding of the quality principles, requirements and elements to be assured that are applicable to statistical outputs, statistical processes, the national statistical system (NSS) as a whole and the institutional environment.

- a. The product quality can be assessed in terms of the following five quality principles: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability.
- b. The process quality can be assessed in terms of the four quality principles: methodological soundness, cost-effectiveness, appropriate statistical procedures and managing respondent burden.
- c. The quality of the NSS and the institutional environment can be assessed in terms of nine quality principles: coordination, relationships with stakeholders, statistical standards, professional independence, impartiality and objectivity, transparency, statistical confidentiality and data security, quality commitment and adequacy of resources.

Quality indicators

Quality indicators have to be identified (or developed) in order to measure the compliance with the respective quality principles and requirements. They are specific and measurable elements of statistical practice that can be used to characterize the quality of statistics. Quality indicators allow to describe and compare the quality between different statistics and over time. When quality indicators are used to inform users on the quality of statistics, it is suggested to include qualitative statements which help to interpret quality information and to summarize the main effects on the usability of the statistics. Some of the indicators are linked to targets, these are written in below:

- Hits and number of external users (may be associated with relevance)
- Number of articles or references in media (relevance)
- Timeliness for monthly, quarterly and annual statistics
- Punctuality
- Response rates for mandatory and voluntary surveys (can be linked to accuracy)
- Errors of different severity (can be linked to accuracy)

Quality reports

Communicating about the quality of a statistical process or product can be accomplished through the preparation of reports that explain and review the main characteristics of the process and its products. Because of the multi-dimensional nature of quality, the quality reports typically examine and describe quality according to those components or dimensions (quality principles) the agency has used to define its products' fitness for purpose. The reports are meant to convey the necessary information to enable users to assess the quality. Different user groups should be clearly identified and may be presented with different sub-sets of quality indicators.

User surveys

User feedback is a crucial element of the set of information that is needed for a comprehensive quality assessment. BBS and other statistical agencies of the national statistical system (NSS) should regularly consult its users about their needs and perception of quality, take them into account in the quality assessment exercise, and follow up with them, for example through meetings (e.g. focus group discussions) or in a more formalized way by using user satisfaction surveys. Since the main objective of user surveys is normally to get information on the users' perceptions as a basis for improvement, their results can provide valuable inputs to self-assessment and auditing activities described below. There are different groups of users of statistics and hence different types of user surveys should be carried out. User satisfaction surveys can take different forms (e.g. by either using standardized questionnaires, qualitative interviews or web-based surveys, etc.). The choice will depend on the type of feedback required, and on the resources available.

Self-assessments

Self-assessments are comprehensive, systematic and regular reviews of an organization's activities carried out by the organization (i.e. those responsible for the relevant activities) itself. The results are referenced against a model or framework. Compliance with the Fundamental Principles of Official Statistics (FPOS) has been assessed by self-assessments several times. The choice of the self-assessment tool is a strategic decision and its scope should be clearly defined. For example, the self-assessment could be applicable to the whole institutional environment or simply to the statistical production processes. Oftentimes, self-assessment checklists are developed to be used for the systematic assessment of the quality of the statistical production process. The self-assessment process can be carried out by staff teams and be supported by internal or external experts, to explain the framework and facilitate the filling out of the forms used. In this case we refer to an "assisted self-assessment". A self-assessment may be biased and does not necessarily provide a correct and accurate picture.

Other internal or external assessments

Assessments can also be conducted by an internal group not responsible for the assessed statistics or by an external party. The International Monetary Fund (IMF), using its Data Quality Assessment Framework (DQAF), has undertaken assessments under the Reports on the Observance of Standards and Codes (ROSCs) Data Module. ROSCs are considered an assessment of a country's main statistical products and the underlying NSS/institutions that produce/disseminate these products. The Statistical office of the European Union (Eurostat) and some of the United Nations (UN) regional commissions implement assessments of NSSs as well.

Quality audit

A quality audit is a systematic, independent and documented process for obtaining evidence and determining the extent to which quality requirements are fulfilled. In contrast to self-assessments, audits are always carried out by a third party either internal or external to the organization. Internal audits are led by a team of internal quality auditors who are not in charge of the process or product under review. External audits are conducted either by stakeholders or other parties that have an interest in the organization, by an external and independent auditing organization, or by a suitably-qualified expert. Audits and reviews are normally preceded by a self-assessment as well as documentation of the processes and products in question.

Peer review

Peer reviews are a type of external audit carried out by others working in the same field (a peer), in this case typically by an external expert or team of experts in statistics, such as colleagues from another statistical agency or country. Contacts can be established through professional forums and associations. Normally, peer reviews do not address specific aspects of data quality, but broader organizational and strategic questions. They are typically systematic examinations and assessments of the performance of one organization by another, with the ultimate goal of helping the organization under review to comply with established standards and principles, improve its policy making and adopt best practices.

Labelling and certification

The results of the assessment can be compared to defined standards and requirements. This is often referred to as the labelling or certification layer and helps to enhance trust and credibility in official statistics. Labelling of statistics conveys a message about the extent to which a set of quality standards are met. It can be attached to statistics or a producer of statistics.

Certification is an activity which assesses whether a product, service, process or system (e.g. a quality management system) complies with requirements defined by an internationally recognized standard, or other formal criteria. It attaches a kind of “label” because the standard is internationally recognized as a guaranteed level of quality. 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 the International Organization for Standardization (ISO) awards a certificate to the organization. The ISO standards are general and apply to any organization.

4.2 Risk management

Risks are linked to objectives and are usually expressed in terms of risk sources and potential events that can affect the achievement of the objectives. The level of risk linked to a source is defined as the product of the likelihood or probability of the event and its consequence or effect on the objective. Objectives can be defined as compliance with the NQAF, or more specifically as compliance with each quality principle, such as assuring statistical confidentiality (Principle 7) or assuring accuracy (Principle 15).

CHAPTER 5

Development of a National Quality Assurance Framework

5. Development of NQAF

The emergence of an enlarged data ecosystem with increased needs for data and statistics, new statistics producers and new data sources and data providers requires that NQAF is systematically developed and implemented throughout the entire NSS. This will assure the quality of official statistics and maintain the role of official statistics as provider of trusted information. For example, BBS and other members of the NSS may find themselves increasingly in the situation of having to use data from new data providers and having to assess statistics produced outside the traditional realm of official statistics, as illustrated by the discussion regarding the use of “big data”. For the development of an NQAF there are two phase should be considered:

A. Phase 1: Establishing the purpose, scope and responsibility for NQAF

B. Phase 2: Process of NQAF development and adoption

5.1 Phase 1: Establishing the purpose, scope and responsibility for NQAF

The value of official statistics lies in the trust placed by users in the information provided and its quality, which depends on its ability to meet user needs. The NQAF is an instrument to assure trust and quality and for official statistics to stay relevant. This entails not only assuring the quality of statistical outputs, but also assuring the quality of statistical processes, the management of the NSS and institutional environment, which is reflected in the principles and requirements of the NQAF.

5.2 Phase 2: Process of NQAF development and adoption

5B.1 Institutional arrangement for the development and adoption of NQAF

Development of NQAF is a structured process. To start the development of NQAF, BBS need some institutional arrangements. The establishment of the necessary institutional arrangements for the development of NQAF may encompass the following:

The steps are:

- a. High-level commitment
- b. Establishment of a quality unit at BBS responsible for quality assurance
- c. Establishment of a quality task force (or working group)
- d. NSS-wide governance body
- e. NSS-wide advisory body
- f. Establishment of a legal framework for quality assurance

The details are described in below:

a. High-level commitment:

The development and implementation of a NQAF requires the support and commitment of the leadership of BBS and other members of the NSS that are major producers of official statistics.

b. Establishment of a quality unit at the BBS responsible for quality assurance:

Typically, the head of BBS would establish a dedicated quality unit to lead, coordinate and conduct the

required conceptual work for the development of a NQAF. Such unit is typically placed in the division or department responsible for cross- divisional/cross-departmental statistical work, coordination and/or statistical methodology.

c. Establishment of a quality task force (or working group).

The head of BBS would establish a quality task force which is given the responsibility to develop a NQAF. The quality task force should be composed of a variety of subject matter experts of BBS and as appropriate important members of the NSS to ensure coherence of efforts, broad involvement and subject matter expertise from the start. BBS would typically chair and be the secretariat of the quality task force. Representatives of users of official statistics such as ministries, the media or research institutes may be part of the quality task force as well.

d. Role of the NSS-wide governance body.

BBS is normally the coordinator of the NSS but has typically no authority over other members of the NSS that include entities such as the country's central bank or government ministries that are typically above BBS in the government hierarchy. Therefore, the development and adoption of a NQAF will benefit from an NSS-wide governance body that is able to agree on a common NQAF and implementation guidelines. Many NSSs already have such NSS-wide governance body in the form of a statistical council or board, typically consisting of the head of BBS and representatives of other major statistical agencies. (see Chapter 6 for details).

e. Role of an NSS-wide advisory body

A primary task of such advisory body is to ensure that statistical outputs meet user needs, but it may also advice on all other aspects of statistics development, production and dissemination. In this function it may raise quality concerns, assess existing statistics or formulate requirements for additional statistics and analysis. It would typically be composed of government users, the business sector, researchers, non-governmental organizations (NGOs), media and the general public. In some countries the advisory body may take the form of a or be called user committee. In some countries a separate user committee may exist in parallel to the advisory body.

f. Establishment of a legal framework for quality assurance:

The requirements and process to include or reflect NQAF in the national statistical laws and regulations should be evaluated early on. Adequate steps should be taken to achieve a timely incorporation of NQAF in the national statistical legislation. This is part of the efforts to guarantee the fundamental values and principles that govern the development, production and dissemination of official statistics by legal and institutional frameworks (core recommendation #1), and to include the requirement of quality assurance in the national statistical legislation (core recommendation #2).

5B.2 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 steps:

a. Establishment of a timetable for development and implementation.

The quality unit at the NSO (see para. 5.8.b), in collaboration with the quality task force (see para. 5.8.c) should identify an initial timetable for the development and implementation of the NQAF and regularly review and update it as needed.

b. Review and analysis of national circumstances and practices.

The quality unit at the NSO, in collaboration with the quality task force should compile and review all relevant national documents such as statistical laws, regulations and guidelines, and national statistical strategies and plans that may be of relevance for the development and implementation of a NQAF for official statistics. Countries should also compile and analyze information about statistical quality frameworks that are already being used within the country and existing practices of quality assurance in general.

c. Uses and users of NQAF and NQAF implementation plan.

The uses and users of NQAF should be clearly identified. Countries may want to perform a deeper analysis of their needs, for example by conducting a SWOT analysis (Strengths, Weaknesses Opportunities, Threats) of their NSO or NSS. An initial plan for the implementation of NQAF, including the identification of resource requirements should be developed early on, as the NQAF should be developed with the view on its implementation.

d. Compilation, review and analysis of materials available at the international level.

Countries do not need to start from scratch and can refer to extensive materials relevant for the development of NQAF. The quality unit at the NSO, in collaboration with the quality task force (which may include other members of the NSS) should compile and review the various existing global, regional and thematic quality assurance frameworks and standards (UN NQAF, European statistics CoP, International Monetary Fund's Data Quality Assessment Framework (DQAF), Recommendation of the Organization for Economic Co-operation and Development (OECD) Council on Good Statistical Practice, African Charter on Statistics, ASEAN Community Statistical System (ASS) Code of Practice, Code of good practice in statistics for Latin America and the Caribbean), other relevant guidelines such as the Generic Statistical Business Process Model (GSBPM), as well as practices of other countries.

e. Decision on the reference framework for NQAF

After the analysis of all requirements, relevant experiences and materials the quality task force and the NSS members and, if appropriate the NSS-wide governance body, will need to decide whether to adapt or adopt an existing NQAF (or Code of Practice) or whether to develop an own NQAF from a combination of existing NQAFs or by identifying specific quality principles themselves. In some regions, countries are either obliged or chose for themselves to adopt or align their NQAF with the regional quality assurance framework or Code of Practice. Countries should follow core recommendation #4 that the NQAF is being developed in consideration or in alignment with the UN NQAF or similar existing quality assurance framework. Generally, the NQAFs are not expected to be very different from each other as existing quality assurance frameworks are very similar.

f. First draft of NQAF and its contents.

Based on the decision on the reference framework the quality task force will develop a first draft of NQAF. NQAF typically consists of a description and definition of quality concepts and quality principles which may be complemented by initial implementation instructions and guidelines.

g. Quality requirements, elements to be assured and indicators.

The draft of NQAF may include or will need to be complemented at a later stage with quality

requirements and elements to be assured, in order to provide guidance on how the NQAF can be implemented and used in quality assessment and management.

h. Consultation and review process of the draft NQAF.

The draft NQAF may undergo an internal review and approval process within the organizations participating in the quality task force before being subjected to a wider consultation with all concerned producers of official statistics and other stakeholders in order to raise awareness, create ownership and to ensure that the NQAF fits different circumstance and reflects all relevant quality aspects. The draft NQAF may even be put out for public consultation.

i. Finalization and adoption.

The draft NQAF should be updated based on the inputs received during the consultation process and may undergo a final round of consultations with all stakeholders. The updated version will then typically undergo a final review and approval at the management level of the organizations participating in the quality task force before being submitted for adoption to the NSS-wide governance body. The NQAF may be also adopted at a higher political level or reflected in the national statistical legislation.

j. Communication and dissemination.

NQAF should be disseminated to all producers of official statistics and introduced to the staff at the statistical agencies, emphasizing its benefits. The adoption of NQAF should be announced to all users of statistics.

CHAPTER 6

Implementation of Quality Assurance within the National Statistical System

NQAF implementation at the BBS and other producers of official statistics

Either a country wishes to build on already existing or develop a new quality management tools and guidelines, then they should follow the UN-NQAF rules when implementing NQAF. The implementing strategy should follow the steps after developing and adopting an NQAF. Below provides a brief summary and a possible flow sequence of the steps and elements for the implementation of NQAF:

1. Establish proper institutional arrangements
2. Train staff and conduct an initial self-assessment
3. Communicate internally and externally
4. Develop an implementation strategy and identify implementation actions
5. Analyze business processes and activities (using GSBPM and GAMS0)
6. Decide on methods and tools for quality assessment that are to be used
7. Integrate the implementation steps into the National Strategy for the Development of Statistics (NSDS) and the multi-year statistics plan
8. Ensure ongoing commitment and seek actions with quick/visible pay-off

6.1. Institutional arrangements for the implementation of NQAF:

Quality management must be institutionalized. However, the specific institutional arrangements and roles of the quality units, task forces, quality managers, quality champions and focal points, quality networks etc., that are involved in quality assurance, are expected to evolve over time. The arrangements in countries may consist of a mix of permanent and temporary structures depending on the implementation stage and the specific objectives. In general, as specific activities become more established, responsibilities may shift from more centralized structures such as quality units and task forces to more decentralized structures consisting of quality focal points and networks. The following best practices can be identified which apply to BBS but also possibly to other major producers of official statistics:

a. Quality unit:

BBS is encouraged to retain a quality unit as a place for quality management or coordination within the BBS in order to have sufficient capacity to lead and support the implementation of quality management initiatives throughout the BBS, and to support other NSS members and producers of official statistics if required. Other major statistics producers within the NSS are encouraged to establish their own internal quality units to support the work on quality within their organization. The quality unit may be headed by the quality manager of the statistical agency.

b. Internal quality task force:

BBS is encouraged to establish an internal quality task force consisting of representatives of the quality unit and representatives from each of the other divisions of BBS who serve as quality champions/focal points in their respective divisions; such internal task force will support NQAF implementation throughout the BBS; the internal quality task force should serve as a forum in which quality related issues in the various aspects of the BBS's operations can be addressed at both the strategic management and the operational level. The internal quality task force should also serve as a mobilization mechanism for quality management initiatives, such as documentation workshops, or specialized training workshops for improving quality,

among other things. Other major producers of official statistics are encouraged to establish their own internal task forces.

c. Quality assurance managers or focal points:

BBS is encouraged to appoint quality assurance managers or focal points in the various statistical domains and to establish clear terms of reference for their work. In general, the quality manager or focal point will be responsible for establishing the quality assurance plan, defining all the quality activities and quality indicators that will be implemented and computed in the statistical domain under the responsibility of the quality manager. Other major producers of official statistics are encouraged to establish quality managers or quality focal points as well.

d. Central coordination body, NSS-wide governance body and NSS-wide advisory body:

The central coordination body of the NSS, a role which is typically assumed by BBS, the NSS-wide governance body and the NSS-wide advisory body should guide and support the implementation of the NQAF at BBS and throughout the NSS.

6.2. Training of staff:

Quality managers and focal points and managers of statistical products will need to gain a thorough understanding of the basic concepts, objectives and tools of quality assurance, and the country's NQAF. This manual provides an introduction to the basic concepts of quality assurance, defining quality as fitness for use or fitness for purpose, putting the needs of user at the center of quality assurance. This manual also introduces quality assessment tools.

6.3. Conducting a self-assessment as starting point:

When an NQAF has been adopted, a workshop with managers and experts from BBS or other statistical agencies can conduct a first self-assessment based on NQAF. The assessment can be carried out in groups and be facilitated by external experts. Such self-assessment establishes a baseline for the NQAF implementation and ensures awareness, ownership and management support for the further quality work.

6.4. External and internal communication:

BBS is encouraged to explicitly communicate its commitment to high quality and continuous improvement to its stakeholders in the form of a Declaration on Quality (DOQ). The DOQ states the principles that guide the BBS's approach to managing quality, the standards it follows and the commitments to which BBS can be held accountable in producing official statistics. The DOQ should be launched, be visible on the BBS's website and actively introduced and promoted internally and externally to all stakeholders. Promotional activities may include quality seminars, quality campaigns or an annual quality week. An important instrument of communication is external quality reporting which should address the needs of different user groups.

6.5. Development of an implementation strategy and implementation actions:

BBS and other statistical agencies producing official statistics must decide where and how to start with the implementation of NQAF. They may develop a short-term action plan for quality improvements covering

the next data production cycle and prepare in parallel a mid- and long- term strategy and action plan. Generally, quality assurance can be applied both at the institutional level and/or at the process or product level. On the process or product level there are the options

- a. to apply all relevant NQAF principles to all processes or products,
- b. to apply selected principles to all processes or product (selection of principles can be based on the GSBPM)
- c. to apply all relevant principles to select processes or products. Self-assessments are a useful tool to identify improvement areas

6.6. Specific actions and activities for quality assurance may entail:

- a. Implement quality assurance in the various subject area domains by, among other things, formulating subject matter quality assurance frameworks which would include, as appropriate, any subject area specific recommendations. Such domain specific quality assurance frameworks may reflect guidance issued by the respective international and regional organization responsible for international or regional data collection in this area; relevant international agencies may be even invited to organize and conduct a quality assessment.
- b. Review of institutional and legal arrangements, including mandates and authority for data collection, and initiate any changes as required.
- c. Review the extent to which compliance with applicable legal requirements and the organization's risk management can be integrated with statistical quality management.
- d. Conduct of staff training with the aim to embed quality assurance in every-day activities.
- e. Conduct a producer-user dialogue to inform about quality and use its findings and conclusions alongside results from quality assessments and audits. User engagement should be part of the development and execution of the quality assurance program.

6.7. Best practices in using GSBPM and GAMS0 for quality management:

The improvement of the quality of statistics requires the improvement of statistical processes. The precondition for the management (and quality improvement) of statistical processes and activities is their clear identification. The GSBPM describes and defines the set of business processes needed to produce official statistics. The Generic Activity Model for Statistical Organizations (GAMS0) extends and complements the GSBPM by adding three additional activities needed to support statistical production: strategy and leadership, capability development and corporate support. The following best practices can be identified:

- a. BBS and major producers of official statistics are encouraged to use the GSBPM (i) to document and analyze statistical processes and associated metadata in a standard way, (ii) to identify pertinent quality characteristics, (iii) to formulate appropriate quality indicators to monitor statistical processes and (iv) to identify necessary actions to improve and assure the quality of statistical processes and outputs; the integration of different statistical processes and achieving data interoperability may be an important objective in the use of GSBPM.
- b. BBS and major producers of official statistics may use the GAMS0 to facilitate the extension of

quality assurance to additional activities needed to support statistical production, namely: strategy and leadership, capability management and corporate support.

- c. BBS is encouraged to pioneer the use of GSBPM and GAMSO and then to support other members in the NSS in their use.

6.8. Methods and tools for quality assessment, statistical and technical standards and standard procedures:

All methods and tools for quality management and assessment such as quality indicators, quality reports, quality assessments and audits etc. The methods and tools are complemented by statistical concepts, definitions and methods which are set out in manuals and guidelines for the respective subject matter domain, standard procedures for processes and technical standards for IT systems and software specifications. Quality management and assessment entails the ongoing documentation of all processes and the recording of metadata at the input, intermediary and output stages. Existing and internationally recognized data quality assessment instruments should be considered.

6.9. Overarching activities that impact quality:

- d. The development and regular update of the National Strategy for the Development of Statistics (NSDS) (and/or the multi-year statistics program) should be conducted as an inclusive process involving all stakeholders in order to assure that the outputs of BBS and NSS meet user needs.
- e. To the extent possible legislative and institutional reform to improve the efficiency of BBS and the NSS should be employed.
- f. Participation in regional or international activities and initiatives that aim at improving the availability and quality of official statistics can provide important guidance and support for the implementation of NQAF. For example, countries may participate in one of the three tiers of the International Monetary Fund (IMF)'s data dissemination standards: The Enhanced General Data Dissemination System (E-GDDS), the Special Data Dissemination Standard (SDDS), or the SDDS Plus.
- g. If possible, a peer review of the compliance with the NQAF may be conducted with participation of external experts and/or international statistical organizations.

6.10. The challenge of ongoing commitment and actions with quick/visible pay-off:

The major challenge for quality assurance is to maintain an ongoing commitment and investment despite the difficulty to demonstrate immediate pay-offs. Therefore, a clear mandate and legal obligation are important to assure ongoing support for quality assurance. Even more important is the understanding that quality assurance is indispensable to maintain the trust in official statistics, hereby securing its very existence. At the same time efforts should be made to demonstrate the usefulness of quality assurance to users. The following are good practices that are of immediate benefit to statistics users:

- a. Establish an advance release calendar and adhere to it.
- b. Establish and publish some output quality indicators (e.g. on accuracy and timeliness).
- c. Provide metadata and quality reports for users in a systematic and easily accessible way.

CHAPTER



**Quality assurance
for statistics
compiled from
different data
sources**

Use of different data sources

7.1. Statistics producers, data providers and use of different data sources in the production of statistics:

Three types of statistics producers at the national level can be distinguished: the national statistical office (NSO), other producers of official statistics and other statistics producers outside of the national statistical system (NSS). The context of this chapter, data providers are entities that own or hold the data used in the production of statistics (source data). All types of statistics producers can use any type or combination of data sources, be it statistical, administrative, or other data sources.

7.2. Definition of different data sources for the production of statistics:

The purposes of this manual is suggested to distinguish data sources by their purpose and by the entity responsible for data compilation. The following definition and classification of data sources are proposed for the purposes of this manual, while it is acknowledged that others may want to define and distinguish data sources differently according to their respective needs.

- a. Statistical data sources are data collections created primarily for official statistical purposes by government agencies or other entities working on behalf of the government. Statistical data sources include statistical sample surveys and censuses. There are different types of censuses such as population and housing censuses, economic censuses, agriculture censuses etc. Sample surveys and statistical registers can cover different units, for example individuals, households and businesses.
- b. Administrative data sources are datasets created primarily for administrative purposes by government agencies or other entities working on the behalf of the government. Administrative data sources include administrative registers of persons and legal entities and records of ministries, departments and specialized agencies such as tax returns, social services records, customs data etc. or data of regional or local administrations. In contrast to statistical data sources, administrative data sources are not created as response to the need for statistical data but as a part of government functions such as the provision of services and taxation. In some cases, statistical agencies participate in the design and/or collection of administrative data. In addition, statistical agencies may be involved at different stages of the production process of administrative data with the aim to ensure that the data will be useable for statistical purposes.
- c. Other data sources are all datasets that are not created primarily for official statistical or administrative purposes but rather for commercial or other private purposes. Other sources include datasets by providers of communication, media and e-commerce services, providers of services based on earth observation and remote sensing and private insurance companies, but also traditional sample surveys conducted by companies for their own purposes such as market research. In general, other data sources include data sources associated with the term “big data” unless already included, in some instances, in statistical or administrative data sources.

7.3. Other data sources and new data sources:

Often the term “new data sources” is used when referring to other data sources, and both terms may be perceived as largely synonymous at the time of the drafting of this Manual. However, this use of the

term “new data sources” is misleading in multiple ways. New data sources can emerge from all three categories of data sources, be it statistical, administrative or other data sources. Furthermore, some of these data sources have been used in some countries since many years already; also, the notion of what is considered as new changes over time.

7.4. List of other data sources:

The following list of other data sources is only provided for illustrative purposes and attempts to reflect major other data sources. It does not aim to provide an exhaustive list nor a classification of such sources.

- a. Cross-country sample surveys by supra-national organizations or international enterprises;
- b. Data compiled and maintained by private professional organizations or business associations or non-profit institutions in general;
- c. Data and records compiled and maintained and/or owned by enterprises that cover large parts of the population of statistical units, in particular e-commerce, media and telecommunication providers but also other enterprises that provide services directly to individuals or businesses such as insurance companies, banks, airlines etc.;
- d. Earth observation and remote sensing;
- e. Thematic mapping and monitoring systems (e.g., field-monitoring stations for water quality, air pollution etc.);
- f. Research/scientific and pilot studies;
- g. Citizen generated data.

7.5. Data sources, the statistical production process and quality assurance:

The statistical production process consists of several phases. The GSBPM distinguishes between the following phases: specify needs, design, build, collect, process, analyze, disseminate and evaluate.⁶⁶ The GSBPM provides a universal basis for the identification of pertinent quality characteristics and the formulation of quality indicators by analyzing the statistical production process. Hereby, the use of the GSBPM, if properly applied and interpreted can pinpoint quality issues in the use of specific data sources.⁶⁷ In addition, the selection of the appropriate data source itself is part of the statistical production process. However, overarching processes such as statistical infrastructure and management and support functions also need to be considered when identifying the quality principles and indicators that are most relevant for statistics compiled from a particular data source, or when selecting the data source.

7.6. Understanding the Generic Statistical Business Process Model (GSBPM)

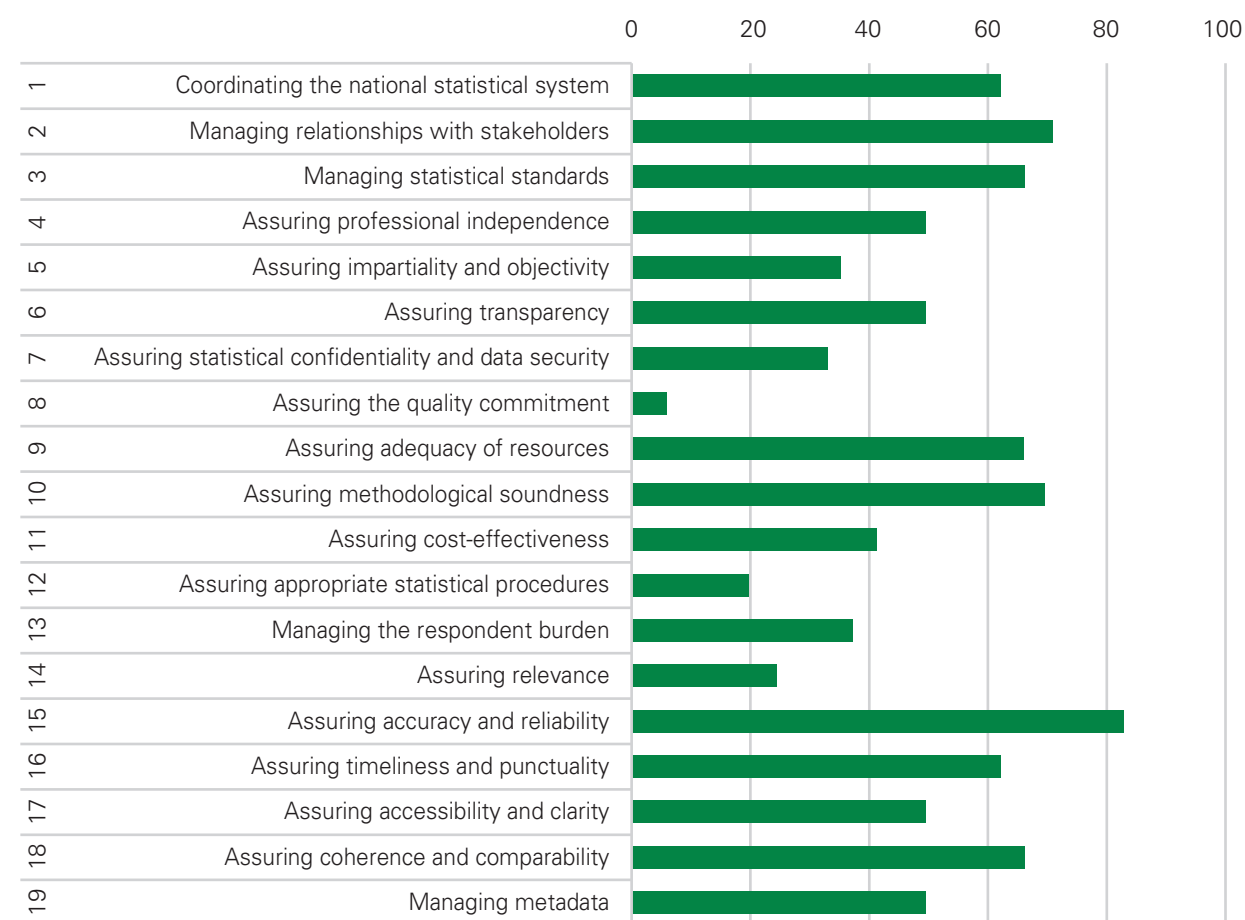
GSBPM can help countries to understand where to start and how to implement the national quality assurance framework (NQAF) by analyzing the existing statistical production processes. Box 7.1 is based on the work at the United Nations Economic Commission for Europe (UNECE) on quality indicators for the GSBPM and shows elements to be assured (indicators) related to the selection of the data source during the specify needs phase, the first phase of the statistical production process.

Assessment of National Statistical System

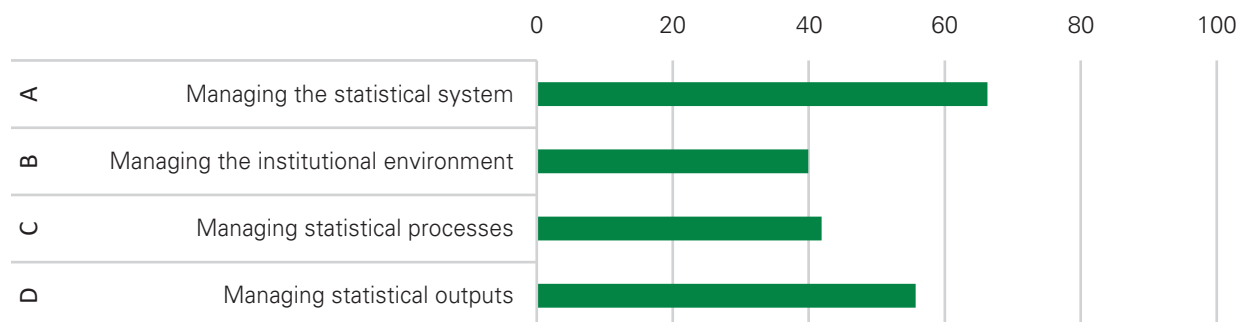
Level		Principle		Compliance Assessment					Score
				Full	Partial	No	Not assessed	Missing	
A	Managing the statistical system	1	Coordinating the national statistical system	1	3	0	0	0	63
		2	Managing relationships with stakeholders	3	4	0	0	0	71
		3	Managing statistical standards	1	2	0	0	0	67
B	Managing the institutional environment	4	Assuring professional independence	0	3	0	0	0	50
		5	Assuring impartiality and objectivity	1	3	3	0	0	36
		6	Assuring transparency	0	2	0	0	0	50
		7	Assuring statistical confidentiality and data security	1	2	3	0	0	33
		8	Assuring the quality commitment	0	1	7	0	0	6
		9	Assuring adequacy of resources	1	2	0	0	0	67
C	Managing statistical processes	10	Assuring methodological soundness	2	3	0	0	0	70
		11	Assuring cost-effectiveness	0	5	1	0	0	42
		12	Assuring appropriate statistical procedures	0	2	3	0	0	20
		13	Managing the respondent burden	0	3	1	0	0	38
D	Managing statistical outputs	14	Assuring relevance	0	2	2	0	0	25
		15	Assuring accuracy and reliability	2	1	0	0	0	83
		16	Assuring timeliness and punctuality	1	3	0	0	0	63
		17	Assuring accessibility and clarity	1	5	1	0	0	50
		18	Assuring coherence and comparability	1	2	0	0	0	67
			Managing metadata	0	3	0	0	0	50
				Overall score					50

Level		Score
A	Managing the statistical system	67
B	Managing the institutional environment	40
C	Managing statistical processes	42
D	Managing statistical outputs	56

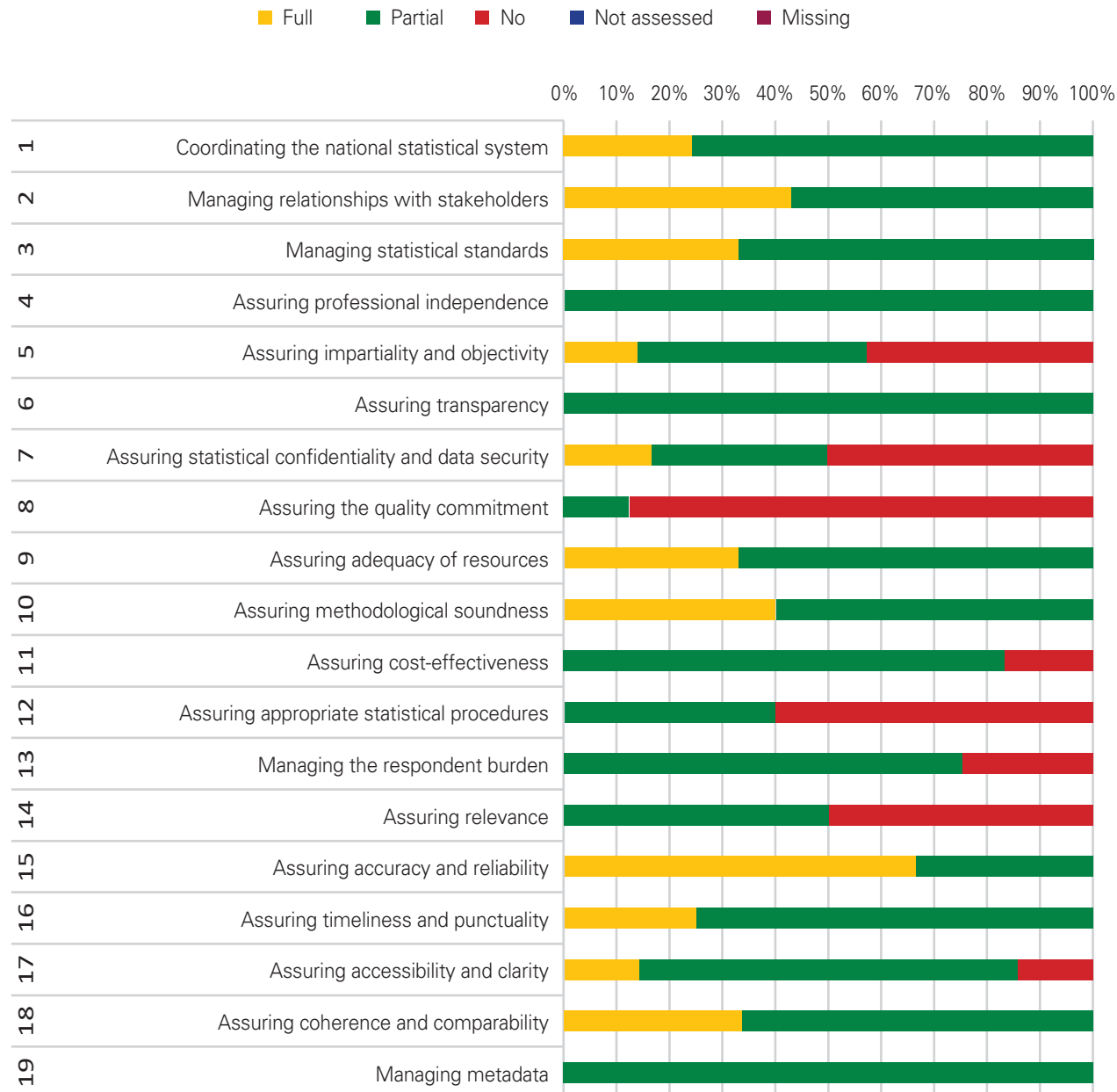
Compliance score per principle



Compliance score per level



Detailed compliance summary per principle



Assessment								
Level		Principle		Requirement		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.	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.	Partial compliance		
				1.4	There is a national plan or program for the development and production of official statistics.	Partial 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.	Partial compliance		
				2.2	The statistical agencies have a strategy and institutional arrangements to engage with their users.	Partial 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				

Assessment							
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments
				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.	Full 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.	Partial 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.	Partial 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	
		B	Managing the institutional environment	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.

Assessment							
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments
				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.	Partial 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.	Partial 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.	Partial 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.	Partial compliance	
				5.5	Statistical release dates and times are pre-announced.	No 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.	No compliance	
				5.7	The statistical agencies comment publicly on statistical issues, misinterpretation and misuse of official statistics, as appropriate.	Partial compliance	

Assessment							
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments
		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.	Partial 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.	No compliance	
				7.4	Penalties are prescribed for any willful breaches of statistical confidentiality.	No compliance	
				7.5	Security and integrity of data and their transmission is guaranteed by appropriate policies and practices.	No compliance	
				7.6	The identification risk of individual respondents is assessed and managed.	Partial 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.	Partial compliance	
				8.2	The statistical agencies promote a culture of continuous improvement.	No 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	

Assessment								
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments	
				8.5	Guidelines for implementing quality management are defined and made available to the public.	Non compliance		
				8.6	Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.	Non compliance		
				8.7	Statistical products and processes undergo periodic reviews.	Non compliance		
				8.8	Risk analyses addressing the quality of important statistical products and processes are performed.	Non 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.	Partial compliance		
				9.3	The statistical agencies' use of resources is reviewed.	Partial compliance		
C	Managing statistical processes	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.	Partial compliance		
				10.2	The statistical agencies recruit qualified staff and have regular programs to enhance their methodological skills.	Partial 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		

Assessment							
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments
				10.5	The statistical agencies cooperate with the scientific community to improve methods and promote innovation in development, production and dissemination of statistics.	Full 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.	Partial compliance	
				11.3	Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued to free up resources.	No compliance	
				11.4	Modern information and communication technologies are applied to improve the performance of statistical processes.	Partial compliance	
				11.5	Proactive efforts are made to improve the statistical potential of administrative data and other data sources.	Partial compliance	
				11.6	The statistical agencies define, promote and implement integrated and standardized production systems.	Partial 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.	Partial compliance	
				12.3	Procedures are in place to effectively use administrative and other data sources for statistical purposes.	No compliance	
				12.4	Revisions of statistics follow standard and transparent procedures.	No compliance	

Assessment							
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments
				12.5	Metadata and documentation of methods and different statistical processes are managed throughout the processes and shared, as appropriate.	Non 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.	Partial compliance	
				13.3	Sound methods including IT solutions are used in surveys to reduce or distribute respondent burden.	Partial compliance	
				13.4	Data sharing, data linkage and use of administrative and other data sources are promoted to minimize respondent burden.	Non compliance	
D	Managing statistical outputs	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.	Partial compliance	
				14.2	Users' needs and requirements are balanced, prioritized and reflected in the work program.	Partial compliance	
				14.3	Statistics based on new and existing data sources are being developed in response to society's emerging information needs.	Non compliance	
				14.4	User satisfaction is regularly measured and systematically followed up.	Non 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.	Full compliance	
				15.3	Studies and analyses of revisions are carried out and used to improve data sources, statistical processes and outputs.	Partial compliance	

Assessment							
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments
		16	Assuring timeliness and punctuality	16.1	Timeliness of the statistical agency's statistics comply with international standards or other relevant timeliness targets.	Partial compliance	
				16.2	The relationship with data providers is managed with respect to timeliness and punctuality needs.	Partial 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.	Partial compliance	
		17	Assuring accessibility and clarity	17.1	Statistics are presented in a form that facilitates proper interpretation and meaningful comparisons.	Full 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 statistics.	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.	No 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.	Partial compliance		

Assessment								
Level		Principle		Requirement		Compliance	Specify strengths, weaknesses, other comments	
		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.	Partial compliance		
				18.3	Statistics are kept comparable over a reasonable period of time and between geographical areas.	Partial compliance		
		19	Managing metadata	19.1	The metadata management system of the statistical agency is well defined and documented.	Partial 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.	Partial compliance		

Requirement		Element to be assured	Compliance	Additional comments
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.	The coordination role of the national statistical office (NSO) or other body is defined in a statistical law.	Full compliance	Section 6(k) of Statistics Act 2013, has given the coordination responsibility to BBS regarding Official Statistics.
		The statistical law specifies the requirements for official statistics and the scope of the national statistical system (NSS).	Partial compliance	a) Section 2(3) specifies the definition of Official Statistics. b) The definition of NSS and its scope have not been defined in the Act.
		Members of the NSS are identified in a formal document.	No compliance	The definition of NSS and its members have not been included in the Act.
		Responsibilities of NSS members for the development, production and dissemination of official statistics are clearly specified in the respective laws and regulations.	Partial compliance	Section 11 of Statistics Act, 2013
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.	The NSO or other body is tasked with the coordination of the NSS.	Full compliance	NDCC and NACS have such ToR
		The NSO and other statistical agencies have mechanisms to ensure coordination (including the exchange of data and statistics within the NSS) and the quality of official statistics.	Full compliance	Statistics Act, 2013
		An NSS-wide (central) coordination body (which is by default part of the NSS; typically it is the NSO) sets, monitors and reviews guidelines for the development, production and dissemination of official statistics.	Partial compliance	a) National Data Coordination Committee (NDCC) plays the role of coordination body. B) No guideline is available for the development and dissemination of official statistics.
		A central coordination body establishes and maintains engagement with advisory bodies, academic institutions and other regional and international bodies as appropriate.	Full compliance	NDCC incorporates members from National Advisory Committee for Statistics (NACS), academic institutions, custodian agency and international bodies.
		A central coordination body coordinates data collection to improve cost effectiveness and reduce respondent burden, in particular coordinating sample surveys.	Full compliance	NDCC imparts the activities.

Requirement		Element to be assured	Compliance	Additional comments
		A central coordination body monitors the use of agreed standards, concepts, classifications and methods throughout the NSS.	Full compliance	NDCC monitors the activities.
		A central coordination body promotes and enhances data sharing within the NSS and liaisons with members of the extended data ecosystem regarding the sharing of data.	Full compliance	NDCC Promotes and data sharing within the NSS.
		A central coordination body promotes sharing of technical knowledge and good statistical practices and ensures the provision of training, including on the production of official statistics and SDG indicators	Full compliance	NDCC shares knowledge and good statistical practices among the NSS.
		The coordination role of the national statistical office (NSO) or other body is defined in a statistical law.	Partial compliance	a) All the statistics of NSO are evaluated in the Technical Committee. b) Most of the statistics generated by other members of NSS are evaluated by NOC (No Objection Committee) Committee.
1.3	There is a mechanism for considering statistics produced outside the national statistical system, and if appropriate, for these statistics to become official.	The body coordinating the NSS evaluates statistics produced outside the NSS for use as official statistics or alongside official statistics. Examples of such statistics are some of the Sustainable Development Goal (SDG) indicators.	Full compliance	
		The NSS-wide (central) coordination body or a task force composed by members of various statistical agencies can be given the responsibility for the evaluation of the quality of relevant statistics outside the NSS (e.g. some SDG indicators) as needed.	Partial compliance	NDCC Technical committee validates the outside NSS statistics
		There is a unit such as a task force that discusses and provides support for the use of new data sources within the NSS.	No compliance	
1.4	There is a national plan or program for the development and production of official statistics.	There is a multi-annual national plan for the development and production of official statistics which can take the form of a National Strategy for the Development of Statistics (NSDS).	Full compliance	NSDS 2013 is available.
		The multiannual national plan for the development and production of official statistics covers the entire NSS.	Partial compliance	

Requirement		Element to be assured	Compliance	Additional comments
		The multiannual national plan should address quality assurance.	Full compliance	The multiannual national plan in NSDS addresses quality assurance.
		Annual plans for the NSS members supplement the multiannual NSS-wide plan.	No compliance	
		The multiannual national plan is established in close consultation with statistics producers, users and data providers.	Full compliance	
		The multi-annual national plan for the development and production of official statistics is approved for implementation by a NSS-wide governance body and/or a higherlevel government or a legislative body.	Full compliance	NSDS was approved by Cabinet in 2013.
		The programs and activities of the multiannual national plan are monitored on a regular basis by the NSS-wide (central) coordination body.	No compliance	
2.1	Stakeholders are identified and consulted regarding their interests, needs and obligations.	The statistical agencies clearly identify all their stakeholders.	Partial compliance	Not clearly identified.
		There are processes in place to consult stakeholders on their concerns, interests, needs and obligations.	Partial compliance	BBS consults stakeholders.
		Stakeholders are kept informed on actions taken to address their needs and concerns.	Partial compliance	BBS keep informed stakeholders through the consultation workshop.
2.2	The statistical agencies have a strategy and institutional arrangements to engage with their users.	User needs and how to engage with users are reflected in the statistical agencies' strategies such as the strategy for the development of statistical outputs, the dissemination strategy as well as for NSS wide relevant strategies such as the NSDS.	Partial compliance	NSDS is available but dissemination strategies for the NSS not specified.
		Service agreements or similar arrangements with the main users of the statistics are in place (e.g. with respect to what will be supplied by the agency, the quality of the statistics, the dissemination format etc.).	Partial compliance	Few agreements are in place and some others are in process.
		Statistical agencies have press offices, hotlines and a central email contact that responds to all user inquiries in a timely manner.	No compliance	No press office, hotline and a central email contact are available.

Requirement		Element to be assured	Compliance	Additional comments
		Users can engage with statistical agencies and request information in their preferred way of communication such as through telephone, email and other common means of communication.	Full compliance	Such systems are in practice.
		There are processes and arrangements (such as a user committees) in place for users to advise statistical agencies about their emerging needs and priorities and during the development of new or review of existing statistics.	No compliance	No such committee available.
2.3	The statistical agencies continuously maintain and develop co-operation with funding agencies, academic institutions and international statistical organizations, as appropriate.	The statistical agency's workplans and budgets are shared with the funding agency as appropriate to ensure mutual understanding of funding requirements and trade-offs.	Full compliance	Workplans and budgets are shared with the funding agency.
		Statistical agencies maintain and develop cooperation with the scientific community to develop new statistics, improve methodology and to promote the use of statistics.	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.	The statistical law provides appropriate provisions to guarantee the NSO and if appropriate other statistical agencies the right to collect data for statistical purposes through surveys and censuses.	Full compliance	The Statistics Act 2013 provides such provisions.
		Based on the legislation, the statistical agencies are able to apply appropriate sanctions such as fines if response to obligatory statistical surveys or censuses is not received.	Full compliance	law covers this component but not in regular practice
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.	The statistical law provides appropriate provisions to guarantee the NSO and if appropriate other statistical agencies the right to obtain or access administrative data in a timely manner.	Full compliance	Section 12 of Statistics Act 2013, has the provision.
		Where statistical agencies do not have a legal right to obtain administrative data, memoranda of understandings are in place that provide such access.	Full compliance	
		The statistical agencies' access to administrative data are free of charge.	Partial compliance	Few of the administrative data requires fee/charges.
		Agreements with owners of administrative data are in place to operationalize data access describing technical conditions for access and the possibility to link the data with data from other administrative data sources.	Partial compliance	MoU have been done in few cases.

Requirement		Element to be assured	Compliance	Additional comments
		The statistical agencies are involved in the design and development of administrative data sets, in order to make them suitable for statistical purposes; this involvement extends to the possible discontinuation of such data sets.	No compliance	No such mechanism available for the administrative data in order to make them suitable for statistical purposes.
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 nongovernmental organizations for statistical purposes on a regular basis, including for testing and experimentation.	The statistical law provides appropriate provisions to guarantee the NSO and, if appropriate, other statistical agencies the right to timely obtain or access data held by private corporations or other nongovernmental organizations (NGOs) for statistical purposes (e.g. all corporations that provide services to individuals and legal entities residing in the country).	Full compliance	The Statistics Act, 2013 provides such provisions to obtain or access data held by private corporations or other nongovernmental organizations (NGOs) for statistical purposes.
		The statistical law foresees adequate sanctions to ensure access to privately held data where appropriate (such as fines for not granting such access).	Full compliance	
		Where statistical agencies do not have a legal right to obtain access to data maintained by corporations or other NGOs, memoranda of understanding are in place that provide such access.	Not applicable	
		The statistical agencies consider the relevance and the scope of data requested.	Full compliance	
		The access and use of privately held data follow procedures agreed between the statistical agencies and owners or holders of the data.	Full compliance	Limited in practice
2.7	The national statistical office cooperates with and provides support and guidance to data providers.	The NSO regularly consults with data providers and maintains cooperation with the providers of administrative data and with corporations, businesses and other organizations that hold data to strengthen the statistical value and usage of these sources.	Full compliance	
		Quality reports for administrative data are developed in cooperation with the NSO and the data owner and describe accuracy, completeness, timeliness, and punctuality, among others. ⁹⁴	No compliance	Generation of quality reports for administrative data is not in practice.
		Holders of administrative data, businesses and other organizations receive feedback on the quality of the data provided allowing for further improvements.	Not applicable	As quality reports are not generated, feedback on the quality report is not applicable.
		Partnership agreements with data providers are in place.	Partial compliance	In few cases, it is in practice.

Requirement		Element to be assured	Compliance	Additional comments
3.1	The statistical agencies cooperate in the development and implementation of international, regional and national statistical standards.	The NSO actively works with other statistical agencies and international and regional statistical organizations in developing, reviewing, promoting and implementing statistical standards.	Full compliance	
		The NSO has an organizational unit responsible for facilitating and coordinating the adoption and development of international, regional and national statistical standards and for supporting statistical programs/domains in their efforts to adopt and develop such standards.	No compliance	Need to set up a unit.
		All relevant staff in statistical agencies are aware of statistical standards and any changes made to them.	Partial compliance	Most of the relevant staff are aware of statistical standard.
		There is a repository and a list of all standard classifications available in all statistical agencies.	Partial compliance	NSO follows the activities, not all statistical agencies.
		The process for originating, developing and approving statistical standards involves statistics producers, data providers and data users.	Full compliance	
		The impact of the adoption of new statistical standards is assessed, documented and communicated to users; where applicable conversion tables are being provided.	Partial compliance	There is gap communication to user.
		The statistical agencies use conceptual frameworks, such as the System of National Accounts, that provide a basis for integrating statistical information.	Full compliance	
		Statistical standards (concepts, definitions, classifications, etc.) are regularly reviewed.	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.	The NSO monitors the extent to which statistical standards are used by data providers and producers of official statistics.	Full compliance	Monitoring mechanism only for statistical activities.
		Periodic reports are prepared on the compliance with international, regional and national statistical standards.	No compliance	
		Statistical standards are communicated and made available to all data providers and producers of official statistics.	Full compliance	
		Plans and schedule for the development and application of new standards are communicated in advance.	Partial compliance	Most of the plans and scheduled are not communicated in advance.
		The NSO assists other statistics producers and data providers to implement international, regional and national statistical standards as appropriate.	Full compliance	

Requirement		Element to be assured	Compliance	Additional comments
3.3	Divergences from the international, regional or national statistical standards are kept to a minimum, documented and explained to all stakeholders.	Concordance tables to international, regional and national standard classifications are developed and made available in case diverging standards are used.	Full compliance	
		The adopted standards (concepts, definitions, classifications etc.) are explained to all stakeholders.	Full compliance	
		Stakeholders are informed about the compliance with international, regional and national statistical standards.	Partial compliance	Stakeholder awareness should be enhanced.
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.	The professional independence of the NSO and other producers of official statistics such as statistical units within ministries, departments and agencies at the different levels of governments is guaranteed by the laws and regulations under which the ministries, departments and agencies operate.	Partial compliance	Professional independence is not specifically mentioned in existing Statistics Act, 2013 and regulation.
		If there is no law nor formal provision declaring the necessity of professional independence, there are traditions or cultures of professionalism, historical precedents or conventions which are clearly recognized as essential to the credibility of the statistical results of the statistical agencies.	Full compliance	Traditions or cultures of professionalism, historical precedents are followed.
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.	National legislation provides clear and detailed description of the procedure for appointment and dismissal of the head of the NSO.	Full compliance	

Requirement		Element to be assured	Compliance	Additional comments
		The rules applied for appointing, assigning position and responsibilities and dismissing the heads of the statistical agencies are based on professional competence, transparent and free from political considerations.	Partial compliance	Professional competency are not always considered.
		Processes are in place to ensure that the heads of the statistical agencies are of the highest professional caliber	No compliance	Processes are not in place to ensure highest professional caliber.
		The head of the NSO has sufficiently high hierarchical standing to ensure access to the political and administrative leadership of government bodies.	Partial compliance	The hierarchy of head of the NSO should be equivalent like other NSO in practice.
		The heads of statistical units within other statistical agencies have the necessary qualifications, knowledge and capacity.	Partial compliance	Not all agencies.
		The basis and process for the termination or removal of the head of the NSO and statistical units within government producing official statistics are specified in the legal framework and administrative regulations. These cannot include reasons affecting professional or scientific independence.	Full compliance	Existing Govt. act & rules covers the termination or removal process.
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.	The head of the NSO and statistical units within government producing official statistics, decides independently and based on professional considerations on the statistical methods, standards and procedures for the development, production and dissemination of official statistics.	Full compliance	
		The reporting of the NSO to its administratively superordinate government bodies and to ministries, department and agencies does not affect its professional independence.	Partial compliance	Most of the cases does not affect professional independency.
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.	Professional cultures and traditions assure the impartiality and objectivity of the statistics produced by the statistical agencies independently from the existence or absence of any laws or formal provisions.	Partial compliance	
		The objectivity and impartiality of official statistics is recognized (and not disputed) by neutral observers and the public (e.g. measured by image studies).	Partial compliance	Sometimes neutral observer does not follow impartiality.

Requirement		Element to be assured	Compliance	Additional comments
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.	There are ethical guidelines or a code of conduct for assuring impartiality and objectivity.	No compliance	
		The guidelines are available to the public.	No compliance	
		The implementation of the guidelines is followed up.	No compliance	
5.3	Data sources and methodologies are chosen on an objective basis.	Data sources, concepts, methods and processes for the development, production and dissemination are chosen on the basis of statistical considerations, national and international principles and best practices.	Full compliance	
5.4	Statistical releases are clearly distinguished from political/policy statements.	Statistical releases and statements made to the media are objective and strictly based on the available evidence and not taking any position on a political issue.	Full compliance	
		Appropriate internal and external communication strategies exist that include recognizable logos, designs or formats for statistical agencies' products to identify them as not being associated with any political or policy bodies.	Full compliance	
5.5	Statistical release dates and times are preannounced.	A publicly available and easily accessible release calendar containing information on the releases planned in the upcoming 12-month period exists.	Full compliance	It is under process.
		Statistics are released at a fixed date and time.	No compliance	It is under process.
		Changes in the release calendar are announced in advance and their reasons are explained.	No compliance	It is under process.
		The sharing of statistical results ahead of the official release (privileged prerelease) is kept to a minimum, well-justified, strictly controlled and documented.	Full compliance	Such practices are followed.
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.	There is an established policy on how to correct published data when errors are discovered. The error treatment policy is publicly available.	No compliance	There is no established policy.

Requirement		Element to be assured	Compliance	Additional comments
5.7	The statistical agencies comment publicly on statistical issues, misinterpretation and misuse of official statistics, as appropriate.	There is a formal policy or well-established custom entitling statistical agencies to comment publicly on statistical issues, criticisms, and misuses of official statistics.	Partial compliance	Though there is no formal policy, misinterpretations are addressed in cases.
		The statistical agencies respond, as appropriate, to negative media reporting to facilitate fair reporting of its position.	Partial compliance	Though there is no formal policy, misinterpretations are addressed in cases.
6.1	The terms and conditions for producing and disseminating official statistics are available to the public.	There is a standard procedure for ensuring that respondents understand the legal basis for a survey and the confidentiality provisions for the data that are collected.	Full compliance	
		Information on data sources, statistical concepts and methods used for the development, production and dissemination of official statistics are publicly available.	Full compliance	
		The information on statistical standards are available to the public.	Full compliance	
		Advance notice of major changes in methodology, source data, or statistical techniques is given.	Partial compliance	It is partially in practice.
		The dissemination policy is shared with the public.	No compliance	There is no such practice.
		It is disclosed if there is a privileged prerelease of statistical results.	Not applicable	
6.2	The terms and conditions for the governance and management of statistical agencies are available to the public.	The procedures to be followed for the appointment and dismissal of heads of the statistical agencies and the hiring and release of staff are publicly available.	Full compliance	
		The reporting and dialogue of statistical agencies with administratively superordinate government bodies is well defined, established and known to the public.	Full compliance	
		The work programs of the statistical agencies and periodic reports to describe progress are made available to the public on a regular basis.	No compliance	The work programs and periodic reports are not made available.
7.1	Statistical confidentiality is guaranteed by law.	There is a law or some other clear formal provision in force that mandates the proper management of information received from respondents and data providers to ensure statistical confidentiality and data security.	Full compliance	Section 12 of the Statistics Act, 2013 ensure statistical confidentiality and data security.

Requirement		Element to be assured	Compliance	Additional comments
7.2	Appropriate standards, guidelines, practices and procedures are in place to ensure statistical confidentiality.	Guidelines and instructions on the protection of statistical confidentiality throughout the statistical business process are provided to all staff of the statistical agencies.	Partial compliance	There is no written guideline. But Section 12 of the Statistics Act, 2013 ensure statistical confidentiality and data security.
		There are regular and continuous training programs for all staff on the concept of statistical confidentiality and best practices to ensure the privacy of the information provided.	No compliance	
		The organizational structure and arrangements for the development and implementation of practices for ensuring statistical confidentiality is adequate to cope with the needs.	Full compliance	
		The staff sign confidentiality agreements upon their appointment, which is valid also after staff leaves the agency.	No compliance	There is no such practice.
7.3	Strict protocols to safeguard data confidentiality apply to users with access to microdata for research or statistical purposes.	Clear conditions for granting researcher access to confidential data for scientific purposes are set in the statistical law or other formal provision.	No compliance	No clear condition has been mentioned in the Statistics Act, 2013 or other formal provision.
		Confidentiality rules, disclosure control and microdata access procedures apply throughout the statistical business process.	Partial compliance	Only microdata access procedures are available.
		The statistical agencies monitor the use of microdata sets to identify any circumstances in which data confidentiality may be breached, for example, through file matching, and take immediate corrective action to address such a situation.	No compliance	There is no such practice.
7.4	Penalties are prescribed for any willful breaches of statistical confidentiality.	There are legal or other provisions in place that allow administrative, penal and disciplinary sanctions for the violation of statistical confidentiality.	No compliance	In Statistics Act, 2013 maintaining of confidentiality has been mentioned. But penalty for the violation of statistical confidentiality are not mentioned.
		Information on the provisions that allow sanctions for the violation of statistical confidentiality is shared with all staff and is available to the public.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
7.5	Security and integrity of data and their transmission is guaranteed by appropriate policies and practices.	An IT security policy is in place and known to the staff.	No compliance	There is no IT security policy.
		Following the IT policy, appropriate physical security measures and processes are in place to ensure data and database security, in accordance with best practices and international standards.	No compliance	There is no IT security policy.
		Regular security audits of the data security system are carried out.	No compliance	There is no such practice.
		All access to data repositories and transmission channels are monitored.	Partial compliance	It is monitored through administrative process.
		While data are being transferred, risk of a breach is assessed, and appropriate procedures are applied to eliminate or minimize this risk.	Partial compliance	In few cases, it is maintained.
7.6	The identification risk of individual respondents is assessed and managed.	There should be a balance between the acceptable level of risk of identification of individual respondents and usability of the data.	Full compliance	
		Appropriate processes are in place to assess the risk of disclosure of sensitive information and the risk that individual respondents can be identified from the public release of statistics or of microdata, and procedures are applied in line with the data dissemination policy to minimize this risk.	Partial compliance	There is no such dissemination policy but it is in practice.
		All procedures that are taken to adequately reduce the risk of identification are properly documented and made available as part of the metadata related to the statistical dataset.	No compliance	There is no such practice.
		Users are made aware that procedures to reduce the risk of identification have been implemented and that this could lead to a loss of information.	No compliance	Such practices are not available.
8.1	There is a quality policy or a statement of the statistical agency's commitment to quality, which is publicly available.	The statistical agency's policy, declaration or message about its commitment to quality of statistics is made publicly available and clearly conveys and promotes the shared concern for quality of all of its staff and includes information about trade-offs affecting the statistical work program.	Full compliance	The Statistics Act, 2013 section 6 (A) (B) describes the commitment.
		The statistical agency has quality guidelines that are made available to external users, at least in a summary version.	No compliance	There is no such written guideline.

Requirement		Element to be assured	Compliance	Additional comments
8.2	The statistical agencies promote a culture of continuous improvement.	Methodology and processes are regularly documented.	Full compliance	
		Good statistical practices are exchanged among and between statistical agencies.	Partial compliance	There are few practices.
		Procedures are in place to ensure that the required documentation on quality is regularly updated.	No compliance	There is no such practice.
		A quality assurance plan or similar mechanism is in place that describes the work standards, the formal obligations (such as laws and internal rules) and quality control actions to prevent, monitor and evaluate errors and to control the statistical production process.	No compliance	There is no written documentation.
		Work plans, schedules and standard forms or templates are used for facilitating the updating of the documentation of quality assurance procedures and actions in a consistent way.	No compliance	There is no such documentation.
		Statistical agencies use a national quality assurance framework (NQAF) as a basis for regular quality assessments (self-assessments and other assessments).	No compliance	It is required.
		Statistical agencies use a NQAF which is based on one of the accepted global or regional framework.	No compliance	There is no NQAF.
		General quality systems or frameworks such as Total Quality Management (TQM) and International Organization for Standardization (ISO) 9000 are utilized in conjunction with the NQAF.	No compliance	There is no NQAF.
		Quality initiatives of international and regional statistical bodies such as the European Statistical System (ESS) are followed up, as appropriate.	No compliance	There is no such practice.
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.	A quality manager, quality committee, unit or group of coaches or advisers is assigned responsibility for quality management.	Partial compliance	There is no specific quality committee as agencywise ; but there are committee according to census/survey activitieswise.
		An agency-wide data quality task force is established and meets regularly.	No compliance	
		Quality issues are discussed with and by management regularly (for example at an annual quality review meeting)	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
8.4	The national statistical system staff receives training on quality management.	Staff training and development programs are in place to ensure that staff are aware of the statistical agency's quality policy including the use of a NQAF, and that staff have an understanding as to how quality is assured.	No compliance	There is no such practice.
		A staff awareness "campaign" is undertaken to emphasize the statistical agency's commitment to quality.	No compliance	There is no such practice.
8.5	Guidelines for implementing quality management are defined and made available to the public.	Guidelines for implementing quality management are produced and issued which: describe the quality principles and framework followed; describe the entire statistical process and identify relevant documentation for each stage of production; describe the methods for monitoring the quality at each stage of the statistical production process; identify the indicators (quality measures) for evaluating the quality of the main stages of production, including indicators for source data.	No compliance	There are no written guidelines on such issue.
		The guidelines, methodological manuals and handbooks on recommended practices for quality assurance are made available to the public.	No compliance	There are no guidelines on such issue.
		Mechanisms are in place to assure the quality of data collection (including the use of administrative data and other sources) and data editing.	Partial compliance	Only census/survey data are available but not for administrative data.
8.6	Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.	Quality reports which are serving both producer and user perspectives are prepared, published as appropriate, and updated regularly.	No compliance	There are no quality reports.
		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.	Partial compliance	Not all quality indicators.

Requirement		Element to be assured	Compliance	Additional comments
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.	No compliance	There is no such practice.
		Reviewing teams where both internal and external experts can participate are set up.	Partial compliance	Participants of external expert are ensured in other form.
		The statistical agency's internal reviewers are trained in auditing methods and tools.	No compliance	There is no such practice.
		Improvement actions arising from the result of quality reviews are defined and scheduled for implementation.	No compliance	There is no such practice.
		Top management is informed of the results of reviews to follow up improvement actions.	No compliance	Not in all cases.
		Benchmarking of key statistical processes with other statistical agencies are carried out to identify good practices.	No compliance	There is no such practice.
		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).	No compliance	There is no such practice.
		Tradeoffs within quality are systematically examined (e.g. tradeoffs between accuracy, timeliness and costs).	No compliance	There is no such practice.
		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.	Partial compliance	In selected cases, external experts conduct.
8.8	Risk analyses addressing the quality of important statistical products and processes are performed.	Risk and quality management are closely coordinated (e.g. by institutional arrangements and regular meetings if responsibilities for these activities are placed differently).	No compliance	There is no institutional arrangement.
		Risks linked to core recommendations and principles of the NQAF (e.g. for lack of independence and confidentiality breaches) are analyzed and measures taken if needed to improve compliance.	No compliance	NQAF has not been prepared.
		Risk analyses addressing the quality of different stages of the statistical production are conducted according to the GSBPM.	No compliance	Such practice is not available.
		Risk analyses addressing the quality of important statistical products such as population statistics and censuses, national accounts and Consumer Price Index (CPI) are performed (e.g. risk of poor accuracy expressed by errors, poor timeliness and lack of comparability).	No compliance	No such risk analysis are addressed.

Requirement		Element to be assured	Compliance	Additional comments
9.1	Financial, human and technological resources are sufficient to implement the statistical work and development program.	A resource mobilization strategy such as a NSDS is in place.	Full compliance	
		The annual work plan is feasible given the available resources.	Full compliance	
		Costs (staff costs and other costs) of each stage of the production processed are measured.	Full compliance	
9.2	Planning and management principles are aimed at the optimal use of available resources.	Information technology is employed to increase efficiency.	Full compliance	
		Standardization, integration and automatization of statistical production and dissemination are pursued to increase efficiency of operations and to save costs.	Partial compliance	In few cases, Standardization, integration and automatization of statistical production and dissemination are pursued.
9.3	The statistical agencies' use of resources is reviewed.	Indicators on the use of human and financial resources are monitored centrally and regularly reported to management.	Full compliance	
		The use of human re-sources is evaluated annually based on established guidelines and procedures. The evaluation covers allocation, performance and training needs of staff.	No compliance	There is no such practice.
		Staff opinion/satisfaction surveys are conducted regularly.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
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.	Organizational structures for the development and application of sound statistical methods are com-mensurate to the needs.	Partial compliance	S o m e t i m e Organizational structures are not adequate.
		There are review and reporting processes in place that allow the management of the statistical agency to be assured that sound methodological approaches have been adopted and applied throughout the production process.	No compliance	There is no such practice.
		The methodologies of surveys and the use of administrative data and other sources of data are evaluated periodically.	No compliance	There is no such practice.
		Sampling design is based on sound methodology	Full compliance	
		Proper follow-up procedures are planned and implemented in the case of nonresponse.	Partial compli-ance	In few surveys, it is followed.
		Statistical editing procedures and imputation methods are based on sound methodology.	Full compliance	
		When statistical modelling is used in the statistical production process (e.g. for seasonal adjustment), the validity of model as-sumptions is carefully considered and the impact on final estimates evaluated.	Full compliance	
		Statistical agencies review the methods used by external partners for the compilation of data and the production of statistics.	Full compliance	Agencies take permission from NSO according to Statistical Act 2013.
10.2	The statistical agencies recruit qualified staff and have regular programs to enhance their methodological skills.	Staff of the statistical agency are recruited based on their academic back-ground, qualifications and experience.	Partial compli-ance	Experience is not considered for recruiting staff.
		Appropriate qualifications requirements are specified for all posts.	Full compliance	
		Training and development programs are in place to ensure the staff acquires and continuously update their methodological knowledge.	Partial compli-ance	Not continuously update.
		Staff skills are regularly updated so that staff is able to utilize new data sources and tools, and able to easily change positions.	Partial compli-ance	Not regularly update.
		Attendance of staff at relevant training courses and/or to national or international conferences is encouraged.	Full compliance	

Requirement	Element to be assured	Compliance	Additional comments
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	There is no constant evaluation process
	Quality has to be assessed when using administrative data or other data sources. Ideally, when using administrative data, it should be assured that: the population is consistent with the statistical output requirements; the classifications are appropriate; the underlying concepts are appropriate; the records are complete and up to date; the geographical coverage is complete and the measurement units are appropriately defined/identified.	Partial compliance	Not always.
	When using other data sources (such as big data), the specific methodological challenges such as the ones linked to the statistical population and the veracity and volatility of such data have to be considered.	Partial compliance	The practice is on process.
10.4	The registers and the frames for surveys are frequently evaluated and adjusted.	Full compliance	
	For all surveys the appropriate statistical population frames are updated regularly.	Full compliance	
	Information gathered during the conduct of surveys is used to assess and improve the quality of the frame, especially its coverage and the quality of the contact variables and the auxiliary information (variables used in the sampling design).	Partial compliance	Not in all survey.
10.5	The statistical agencies cooperate with the scientific community to improve methods and promote innovation in development, production and dissemination of statistics.	Full compliance	
	There are agreements with academic institutions on cooperation and the exchange of qualified personnel.	No compliance	There is no such practice.
	Staff collaborate on methodological issues with colleagues at international level.	Full compliance	
	Regular participation and presentations at relevant national and international conferences is encouraged for exchange of knowledge and experiences.	Full compliance	
	National and international conferences, seminars, workshops, or similar events with the participation of the scientific community are organized by the statistical agencies.	Full compliance	

Requirement		Element to be assured	Compliance	Additional comments
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.	There is a system for registering cost and time used for all statistical products, and it should be possible to estimate time used on the main processes.	No compliance	There is no such practice.
		The costs of producing the statistics are well documented at each stage of the production process, and regularly reviewed and analyzed across statistical products to assess the effectiveness of their production	Partial compliance	Not regularly reviewed and analyzed.
		Cost-benefit analyses are carried out to determine the appropriate trade-offs in terms of data quality.	No compliance	There is no such practice.
		The cost-effectiveness of every statistical survey is assessed.	No compliance	There is no such practice.
		The need for each survey variable to be collected is justified.	Full compliance	
		There is an ongoing review process that considers whether a particular program is still operating in the most cost-effective way to meet its stated requirements.	No compliance	There is no such practice.
		Data collection instruments are designed to minimize coding and editing cost and time.	Full compliance	
11.2	Procedures exist to assess and justify demands for new statistics against their cost.	Demands for new statistics are regularly registered and assessed by statistical experts with respect to the proposed methodology and associated costs, and discussed by management, based on inputs from users and in cooperation with other stakeholders.	Partial compliance	Depends on the fund availability and prior to stakeholder's demand.
		Before contemplating a new data collection, there are mechanisms to review whether already available data sources can be utilized with minimal impact on their purpose and quality.	Partial compliance	Sometime it is considered.
		When introducing new statistics, a cost-benefit analysis is conducted.	No compliance	There is no such practice.
11.3	Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued to free up resources.	There are regular discussions by management on the usefulness of all statistics, based also on inputs from users such as the results of user satisfaction surveys.	Partial compliance	Not regularly but stakeholders' suggestions are considered.
		The usage of different statistical products including statistical databases is monitored and assessed to evaluate their relevance.	No compliance	There is no such practice.
		Users and stakeholders are informed and consulted about the possible discontinuation of statistical outputs.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
11.4	Modern information and communication technologies are applied to improve the performance of statistical processes.	An appropriate IT strategy exists and is regularly reviewed and updated to improve effectiveness and efficiency of the statistical processes.	No compliance	There is no IT strategy.
		The IT architecture and hardware infrastructure are regularly reviewed and updated, and possibilities for innovation and modernization are identified.	Partial compliance	The IT architecture and hardware infrastructure are not regularly reviewed and updated
		Routine clerical operations and statistical processes (e.g. data capture, coding, data editing, data validation, data exchange) are automated where possible and are regularly reviewed.	Partial compliance	Not all operations are automated and regularly reviewed.
		Centralized IT and methodological units exist and provide possibilities for pooling of resources and investments.	Partial compliance	There is Computer Wing. But no pooling of resources and investments.
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.	Partial compliance	Section 13 of the Statistics Act, 2013 ensures the accessibility but not in practice.
		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.	Partial compliance	In few cases, it is followed.
		An assessment of possible administrative data sources is carried out prior to launching any new survey.	Partial compliance	Not always in practice.
		Datalinking and integration methods are pro-actively pursued while ensuring data security and privacy.	Full compliance	
		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.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
11.6	The statistical agencies define, promote and implement integrated and standardized production systems.	The statistical agencies have developed strategies to move to a more integrated and standardized statistical production system within their organization.	No compliance	There are no such strategies in practice.
		The statistical agencies promote, share and implement standardized solutions that increase effectiveness and efficiency.	Partial compliance	Not fully in practice.
		The statistical business architecture of the statistical agency is based on international standards and tools such as the GSBPM, the Generic Activity Model for Statistical Organizations (GAMSO), the Common Statistical Production Architecture (CSPA), and the Statistical Data and Metadata eXchange (SDMX).	Partial compliance	Not in all statistical activities.
12.1	Statistical processes are tested before implementation.	The testing strategy is developed as part of the design phase of the statistical business process model.	Partial compliance	
		Data capture procedures and data collection tools and instruments such as electronic systems are tested to ensure simplicity and minimal intrusion on privacy and are adjusted if required before their implementation.	Full compliance	
		Survey questionnaires are tested using appropriate methods (e.g. pilot survey, focus groups etc.).	Full compliance	
		Collection systems for administrative and other data are tested before used.	No compliance	There is no such practice.
		Data treatment and data processing procedures are tested and adjusted, if required and possible, prior to the actual application.	Full compliance	
		Test results are taken into account in the implementing of the production process and signed off.	Full compliance	
		In the case of integrating data from one or more sources, the quality of the linkage procedures is tested.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
12.2	Statistical processes are well established and regularly monitored and revised as required.	The statistical agencies have documented procedures and guidelines with recommendations for appropriate methodologies to be used at the different steps of the statistical production process.	Full compliance	
		Documentation of production processes should follow the GSBPM.	No compliance	There is no such practice.
		A policy for archiving data and statistics is in place and is followed.	Partial compliance	Archiving in practice but no policy.
		Statistical procedures employ internationally recognized statistical techniques.	Full compliance	
		Data of all data sources are reviewed and validated to identify potential problems, errors and discrepancies such as outliers, missing data, and miscoding.	Partial compliance	Not in all statistical activities.
		When coding is done through an automated process, a team of welltrained coders is assigned to verify the automated coding and to handle uncoded cases.	Partial compliance	In some cases, it is followed.
		The effects of data editing and imputation are analyzed as part of assessing the quality of the data collection.	No compliance	There is no such practice.
12.3	Procedures are in place to effectively use administrative and other data sources for statistical purposes.	Statistical agencies use tools and guidelines to assess the quality of the data of administrative and other data sources.	No compliance	There is no such practice.
		Appropriate processes and software applications for the collection, processing and analyses of data of administrative and other data sources have been developed and implemented.	Partial compliance	Not in all statistical activities.
		Owners or holders of administrative and other data sources inform the statistical agencies of any changes in the data production process.	No compliance	There is no such practice.
		Metadata related to administrative or other data sources is available to the statistical agencies. This includes concepts and definitions, classifications, coverage compared to target population and other quality aspects.	Partial compliance	In some cases, it is followed.
12.4	Revisions of statistics follow standard and transparent procedures.	A revision policy that follows international standards and recommendations exists and is made public.	No compliance	There is no revision policy.
		Guidelines for revisions exist and are followed.	No compliance	There is no Guideline.
		Revisions of the published statistics are accompanied by metadata that provide necessary explanations.	Full compliance	
		Indicators expressing the amount and types of revisions are computed and evaluated for improvement.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
12.5	Metadata and documentation of methods and different statistical processes are managed throughout the processes and shared, as appropriate.	There is a policy on metadata documentation linked to the statistical production processes.	No compliance	There is no such policy on metadata documentation.
		The policy and standards for maintaining and updating metadata are being followed.	No compliance	There is no such practice.
		Work on preparing statistics and their related metadata should be done in parallel.	Partial compliance	Metadata does not done in parallel.
		Metadata is captured throughout the statistical business process following the GSBPM and stored in a metadata management system.	No compliance	There is no such practice.
13.1	The range and detail of requested information is limited to what is necessary.	Availability and suitability of existing surveys and administrative or other data sources are explicitly considered before suggesting a new survey.	Partial compliance	Not explicitly considered.
		Before establishing a new survey, it is examined whether the required data can be produced with less respondent burden by modifying or amending an existing survey or by linking the new survey with an existing survey (integrated survey system).	Full compliance	
		The collection of each data item of a survey has to be explained and justified.	Full compliance	Not each data item are explained.
		The collection of any data items that are identical or similar to those collected in another surveys is limited to what is considered necessary for verification and possible data linkage purposes.	Partial compliance	Not in all cases.
		When possible, surveys or parts of the information to be collected in the surveys are extracted or derived from available administrative registers.	Partial compliance	Not derived from available administrative registers.
		The burden on respondents is measured and included in a set of quality indicators and in the quality reports.	No compliance	There is no such practice.

Requirement		Element to be assured	Compliance	Additional comments
13.2	Mechanisms are in place to promote the value and use of statistics to respondents.	Information packages that provide respondents with important and necessary information about the survey and that explain the value of official statistics are made available.	Full compliance	
		Respondents are provided with the final reports or result of the census or sample survey in which they participated.	Partial compliance	Not in all cases.
		Initiatives with community groups, schools, business advocates and others are undertaken to raise awareness of the value of official statistics.	Full compliance	
		Electronic products are developed that give necessary statistical information to businesses and individuals, and these products are promoted through initiatives with communities and respondents.	Partial compliance	It is followed in census.
		Social media is being used to promote participation in surveys and censuses.	Partial compliance	Social media is being used in censuses.
		There are standard practices to obtain feedback from respondents and to respond to their requests and complaints in a regular manner.	Partial compliance	Only doing in census.
13.3	Sound methods including IT solutions are used in surveys to reduce or distribute respondent burden.	Appropriate sampling techniques are used to minimize sample sizes to achieve the target level of accuracy.	Full compliance	
		Sample surveys are coordinated to distribute the burden on respondents.	Full compliance	
		Multiple modes of collection are offered to respondents, including electronic surveys.	No compliance	Single mode is followed.
		Collection of data is done at the most appropriate time of the day and the year.	Full compliance	In most of the cases, it is followed.
13.4	Data sharing, data linkage and use of administrative and other data sources are promoted to minimize respondent burden.	Documentation of data already available within the NSS, including archived data, exists and is shared.	Full compliance	
		Procedures and technical tools for data sharing and data linkage within the NSS (e.g. formal agreements, web services, common databases) exist.	No compliance	There is no such practice.
		Data repositories are shared between statistical agencies for production of official statistics and in compliance with confidentiality policies.	No compliance	There is no such practice.
		Information of the quality of data to be linked exists (e.g. on coverage and linkage possibilities).	No compliance	There is no such practice.

Requirement	Element to be assured	Compliance	Additional comments
14.1	Procedures are in place to identify users and their needs and to consult them about the content of the statistical work program.	No compliance	No formal provision but consultation with users in practice.
	Structured and periodic consultation processes (e.g., advisory council and committees or working groups) with key stakeholders and users are in place to review the content of the statistical program and the usefulness of existing statistics, and to identify requirements for new statistics.	Full compliance	NACS has overall guidance.
	Feedback from user support service, center or hotline is analyzed to understand and identify user needs.	Partial compliance	
	Data on the use of statistics (for example web analytics, number and types of downloads, subscribers of reports) are collected and analyzed to improve statistical outputs.	Partial compliance	Not in all parameters.
14.2	Users' needs and requirements are balanced, prioritized and reflected in the work program.	Partial compliance	Sometimes it is followed.
	Procedures are in place to prioritize between different users' needs in the work program and strategic goals.	Partial compliance	In few cases, it is followed.
	The data on the use of statistics are analyzed to support priority setting.	No compliance	There is no such practice.
	A periodic evaluation of the work program is carried out to identify emerging needs and lower priorities.	No compliance	There is no such practice.
	There are processes in place to monitor and consult with stakeholders the relevance and practical utility of existing statistics (with respect to scope, level of detail, cost, etc.) according to current and emerging user needs.	Partial compliance	In ad-hoc basis, it is followed in few cases.
14.3	Statistics based on new and existing data sources are being developed in response to society's emerging information needs.	No compliance	There is no such practice.
	Cooperation with the scientific community and owners or holders of new data sources is established to experiment with and pioneer the use of these data sources.	Partial compliance	In few cases, it is followed.
	Possibilities of exploiting new data sources are regularly discussed by management.	No compliance	There is no such regular practice.

Requirement		Element to be assured	Compliance	Additional comments
14.4	User satisfaction is regularly measured and systematically followed up.	User satisfaction surveys and user studies are regularly carried out and analyzed.	Partial compliance	Baseline of User Satisfaction Survey is available, but not regularly.
		Improvement actions arising from the user satisfaction surveys and user studies are identified and implemented.	Partial compliance	There are no such user studies.
		User satisfaction surveys include questions on the opinions of users about metadata availability.	No compliance	There is no such practice.
		Measures to assess satisfaction of main users with particular products are in place (e.g. specific user satisfaction surveys and indicators on product level).	No compliance	There is no such practice.
15.1	Source data, integrated data, intermediate results and statistical outputs are regularly as-sessed and validated.	Systems for assessing and validating source data, integrated data, intermediate results and statistical outputs are developed and managed.	Partial compliance	
		Data are systematically checked and compared with data from other sources and over time.	Full compliance	
		Results of statistics are compared with other existing information in order to ensure validity.	Full compliance	
15.2	Sampling errors are measured, evaluated and documented. Non-sampling errors are described and, when possible, estimated.	Procedures and guidelines are available on how to measure and manage (e.g. to reduce or balance) errors.	Full compliance	Standard guidelines are followed though there is o written guideline.
		Sources of possible sampling errors are identified and described.	Partial compli-ance	No written guidelines are available.
		Sampling errors are measured and evaluated.	Full compliance	
		Non-sampling errors (errors from all sources, such as response errors, coverage errors, errors linked to measurements, processing, analyses etc.) are identified, described and evaluated.	Partial compli-ance	In few cases, it is followed.
		Errors are analyzed to identify improvement measures.	Full compliance	
		Information about the sampling and nonsampling errors is made available to users as part of the metadata.	Full compliance	

Requirement		Element to be assured	Compliance	Additional comments
15.3	Studies and analyses of revisions are carried out and used to improve data sources, statistical processes and outputs.	Preliminary and revised data and statistics are clearly identified.	Full compliance	
		Explanations about the timing, reasons for and nature of revisions are made available.	Partial compliance	In few cases, it is followed.
		The revision policy follows standard and transparent procedures.	Partial compliance	There is no revision policy; but it is in practice.
		Information on the size and direction of revisions for key indicators is used to improve the statistical processes.	Full compliance	In most of the cases , it is followed.
		Information on the size and direction of revisions for key indicators is provided and made public.	Partial compliance	In few cases, it is followed.
16.1	Timeliness of the statistical agency's statistics comply with international standards or other relevant timeliness targets.	The timeliness of the statistical agency's statistics complies with dissemination standards of international organizations such as the International Monetary Fund (IMF) or other relevant timeliness targets (e.g. requirements for Agenda 2030).	Partial compliance	Not all cases.
		Divergences from international timeliness targets are monitored and actions are taken to comply with these if targets are not met.	Full compliance	
		The overall trade-offs between timeliness and other dimensions of quality (e.g. accuracy, cost and respondent burden) are given consideration when setting targets.	Partial compliance	It is not in regular practice.
16.2	The relationship with data providers is managed with respect to timeliness and punctuality needs.	There are agreements with data providers on the planned delivery dates and delivery format.	Partial compliance	In few cases, there are agreements.
		Procedures are in place to ensure the effective and timely flow of data from providers and to statistical agencies.	Partial compliance	In most of the cases, it is followed.
		Follow-up procedures are in place to ensure timely receipt of data from providers.	Full compliance	In most of the cases, it is followed.
16.3	Preliminary results can be released when their accuracy and reliability is acceptable.	The possibility and necessity of releasing preliminary data for key statistics is evaluated, while also considering data accuracy and reliability.	Full compliance	
		When preliminary statistics are released, they are clearly identified as such.	Full compliance	
		Users are provided with appropriate information on the quality of the preliminary statistics.	Full compliance	
		Preliminary results are revised according to the established revision policy.	Partial compliance	There is no revision policy; but it is in practice.
		Final results are clearly distinguished from preliminary results.	Full compliance	

Requirement	Element to be assured	Compliance	Additional comments
16.4	Punctuality is measured and monitored according to planned release dates, such as those set in a release calendar.	Partial compliance	There is no release calendar; but it is in practice.
	Information on the punctuality of the released statistics is discussed by management and made available to users.	Partial compliance	Not made available to users.
17.1	Statistics are presented in a form that facilitates proper interpretation and meaningful comparisons.	Full compliance	
	Guidelines that describe the appropriate content and preferred formats and style (layout and clarity of text, tables, and charts) of the agency's outputs are available to authors of statistical publications and databases.	Partial compliance	No written guidelines are available
	Published statistics are open for free use and redissemination, given that reference is made to the responsible agency.	Full compliance	
	Staff training and development programs are in place on writing about statistics (for press releases, publication highlights or other explanatory texts).	Full compliance	
	Up-to-date methodological documents (on concepts, scope, classifications, basis of recording, data sources, compilation methods and statistical techniques), as well as quality reports and the work program of the statistical agency are made available to the public.	Full compliance	
	Explanatory texts that accompany the statistics are reviewed for clarity and readability.	Full compliance	
	Meaningful comparisons are included in the publications when appropriate.	Full compliance	
	Preliminary and revised data are identified and explained in published statistics.	Full compliance	
	Metadata needed to understand and use the statistics are published together with the statistics.	Full compliance	
	A policy for archiving published statistics is in place.	Partial compliance	There is no archiving policy.

Requirement		Element to be assured	Compliance	Additional comments
17.2	A data dissemination strategy and policy exist and is made public.	The public are made aware that customdesigned outputs, statistics not routinely disseminated, and longer time series can be provided on request when feasible, and they are instructed how the data can be ordered. These outputs are made public if possible.	Partial compliance	In selected cases, it is followed.
		Catalogues of publications and other services are made available to users.	Full compliance	
		While official statistics are normally free and accessible for everyone, statistics that need to be produced on request might have a cost corresponding to the extra work it requires. Pricing of special requests is fully transparent.	Full compliance	
		A strategy has been developed and agreed upon with stakeholders for the release of anonymized data and microdata.	Partial compliance	No written strategies, but in practice.
17.3	Modern information and communication technology is used for facilitating easy access to statistics.	Statistics are disseminated in various ways suitable for all different users, with the agency's website providing a central entry point.	Full compliance	
		Users are able to extract data from statistical databases through public interfaces in the most appropriate and common formats (xlsx, csv, html, etc.).	Partial compliance	In few cases, users can extract data.
		Statistical data can be accessed via an Application Programming Interface (API).	Partial compliance	In few cases, Statistical data can be accessed via API.
		Statistics are disseminated in ways that facilitate redissemination by the media.	Full compliance	In most of the cases, it is in practice.
		The statistical agency consults users on a regular basis to find out about the formats of dissemination that they most prefer.	Full compliance	Not in regular basis.
		Agreements with key users are established for efficient and regular transmission of statistics and data.	Partial compliance	In few cases, agreements with key users are established.
		Technical solutions for access to anonymized data are available.	Partial compliance	Practice is required.
		Explicit consideration has been given to tradeoffs between accessibility and confidentiality (i.e. level of detail in tables).	Full 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.	The statistical agency controls or monitors the access of researchers to microdata by providing them in a secure environment.	Partial compliance	There is no written such type of strategy.
		Researchers are regularly consulted about the effectiveness of the microdata access arrangements.	Partial compliance	It is not in regular practice.
		Remote access facilities are available for accessing microdata, with appropriate control.	Partial compliance	It is not in regular practice.

Requirement		Element to be assured	Compliance	Additional comments
17.5	Mechanisms are in place to promote statistical literacy.	The statistical agencies have a strategy to manage media relationships and maintain regular contact with the media.	No compliance	There is no such type strategy.
		The statistical agencies arrange regular training and outreach for journalists.	Partial compliance	It is conducted in Adhoc basis; not regular.
		The statistical agencies arrange training for students on how to use statistics.	No compliance	It is not in practice.
		The publication of articles on statistical issues, and how statistics should be used properly, is encouraged.	Partial compliance	There is no publication of Articles; but articles on statistical issues and how statistics should be used properly is encouraged.
17.6	The statistical agencies have a dedicated focal point that provides support and responds to inquiries from users in a timely manner.	There are well-known user support services available to give prompt assistance to users to help them access and interpret the data.	Partial compliance	It is in practice.
		User support services are appropriately staffed to support a wide range of users.	Partial compliance	There is no such mechanism; but it is in practice.
17.7	Users are kept informed about the quality of statistical outputs.	Standard quality reports harmonized for the NSO and as appropriate for the NSS, and tailored for different users' needs, are defined.	Partial compliance	Tailored for different users' needs are not defined.
		Published statistics are accompanied by standard quality reports, including information on the periodicity of the statistics, data sources, production methods and quality, i.e. about accuracy and reliability, timeliness and punctuality, coherence and comparability, accessibility and clarity.	Partial compliance	All parameters are not included.
		Results from quality assessments or reviews are made public.	Partial compliance	Applicable for census only.
18.1	International, regional and national standards are used with regard to definitions, units, variables and classifications.	Statistical agencies promote the adoption of national, regional or international statistical standards.	Full compliance	
		Guidelines, a common repository of statistical concepts, definitions of units and variables and classifications and other mechanisms exist.	Full compliance	Most of the area covers.
		The compliance with international, regional or national standards for statistical production are periodically assessed. Any deviations from these standards are made identified and included in the publicly available metadata, along with reasons for such deviations.	Partial compliance	Deviations are not made identified and included in the publicly available metadata.

Requirement		Element to be assured	Compliance	Additional comments
18.2	Procedures or guidelines are in place to ensure and monitor internal, intrasectoral and cross sectoral coherence and consistency.	Statistics derived from different sources or with different periodicities (e.g. monthly, quarterly and yearly) are compared and any differences are explained and reconciled, as appropriate.	Partial compliance	It is not in practice.
		Cooperation and the exchange of knowledge between individual statistical programs and domains is promoted.	Partial compliance	Not always.
		Process-specific procedures and guidelines are available to ensure that outputs are internally coherent.	Partial compliance	It is not in practice.
		Before new statistics or statistical programs are being launched the conceptual and methodological relationship with existing statistics is analyzed.	Full compliance	Not always.
		Statistical outputs are compared with results of other statistical or administrative sources that provide the same or similar information on the same subject matter, and divergences are identified and explained to users.	Partial compliance	Within agency in practices but not others.
		Internal procedures or guidelines are developed in order to ensure and monitor internal coherence and consistency.	Full compliance	
		Procedures and guidelines are developed in order to ensure that results from different sources can be combined. Compliance is periodically assessed.	Full compliance	
18.3	Statistics are kept comparable over a reasonable period of time and between geographical areas.	Changes in methods of data compilation are clearly identified, described and analyzed to facilitate the interpretation of the results.	Full compliance	
		Quality reporting includes a section on the assessment of internal consistency and comparability over time and with related statistics.	Partial compliance	Not always.
		Breaks in the series are explained and the methods for ensuring reconciliation over a period of time are made publicly available.	Partial compliance	It is not in regular practice.
		Effects of changes in methodologies on final estimates are assessed and appropriate information is provided to users.	Full compliance	
		Significant changes in the society and phenomena to be measured are reflected by appropriate changes to concepts, classifications, definitions and target populations.	Partial compliance	It is not in regular practice.
		Differences within geographical areas or at the country level due to different concepts or methodologies are explained.	Full compliance	

Requirement		Element to be assured	Compliance	Additional comments
19.1	The metadata management system of the statistical agency is well defined and documented.	A strategy, guidelines and procedures are in place for metadata management and dissemination.	Partial compliance	No strategy, guidelines and procedures are in place; but it is in practice.
		Metadata management is recognized as responsibility of all staff.	Partial compliance	Not always.
19.2	Metadata are documented, archived and disseminated according to internationally accepted standards.	International, regional, national or internal standards are used for metadata documentation, management and archiving.	Partial compliance	No internal standards are used for metadata documentation, management and archiving.
		Procedures are in place to ensure that metadata are documented according to standardized metadata systems, and regularly updated.	Partial compliance	It is not in regular practice.
		Metadata are made available at the same time as the data and statistics to which they pertain.	Full compliance	
		The dissemination of metadata is tailored to different needs, such as those of producers and users of statistics.	Partial compliance	In some cases, it is followed.
		A systematic way for archiving metadata is available which also ensures that they are accessible for reuse in the future.	Partial compliance	It is in practice but not systematic way.
		A glossary of statistical concepts is publicly available.	Full compliance	
19.3	Staff training and development programs are in place on metadata management and related information and documentation systems.	Process managers are trained to properly document the data and describe the relevant processes.	Partial compliance	Not always.

Annexure

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