CONSULTANCY FOR UNITED NATIONS GENERIC QUALITY ASSURANCE FRAMEWORK

UN Statistical Quality Assurance Framework

Preliminary Version, 20 September 2015

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1 Introduction

1.1 Reasons for the UNSQAF

There is a growing awareness and appreciation of the value and need for good quality information to support and inform public policy decisions. The importance of data highlighted by recent high profile reports, such as 'A World that Counts' and the importance given to high quality indicators for the post 2015 Sustainable Development Goals strongly reinforce this trend.

Achieving and maintaining public trust in official statistics requires that those statistics are produced in an objective, transparent and professionally independent manner. The United Nations Statistical Commission preserved these and other important principles in 1994 when it adopted a set of *Fundamental Principles of Official Statistics*. Many countries around the world have subsequently adopted a national code of practice and/or statistical quality assurance framework (SQAF) (or equivalently data quality assurance framework (SQAF)) to enshrine the principles and best practice and to safeguard public trust. To support the development of SQAFs the UNSD produced a generic National Quality Assurance Framework (NQAF) that is designed to assist countries in developing their particular SQAFs. It has been endorsed by the UNSC

These principles and frameworks target national statistical organisations. For international organisations producing statistics the Committee for the Coordination of Statistical Activities (CCSA) in 2005 adopted the *Principles Governing International Statistical Activities,* which enshrines principles similar to the Fundamental Principles of Official Statistics. Several international organisations, in particular the OECD, FAO, and UNIDO have developed and implemented their own SQAFs, and others have SQAFs in draft form.

The United Nations Data Quality Assurance Framework (UNSQAF) is designed to go a step beyond the existing principles for international organisations by introducing a common understanding of quality, quality assurance and quality assessment for all the relevant *UN agencies*, i.e. agencies in the *United Nations Statistical System (UNSS)*. It also aims to clarify the status of statistics compiled by the system and address a number of aspects of statistical work germane to the system, such as data sharing between UN agencies, adjusting national data, and the use of non-official data including big data. It takes the view that every international organisation, at least all those that are part of the UNSS should have a SQAF. To facilitate this approach it is accompanied by a detailed template referred to as the *Generic Data Quality Assurance Framework (GSQAF)*, which parallels the NQAF for NSOs and which can be used as a starting point for development of a SQAF by any UN agency that does not presently have one.

In the context of UN projects emerging from the data revolution initiative and the SDG process, the timing of a UNSQAF is important. The global community needs to be reassured that the UNSS has taken all reasonable steps to protect the quality of the data underpinning the measurement of economic, social and environmental progress.

1.2 Benefits of the UNSQAF

The benefits of a UNSQAF are that it will:

- provide a systematic mechanism for facilitating the ongoing identification of data quality problems and possible actions for their resolution;
- provide a basis for creating and maintaining a data quality culture within the UNSS;
- stimulate and maximize the interaction among the UN Agencies;
- give greater transparency to the processes by which statistics are produced and their quality is assured and thereby reinforce the UNSS's image as a trustworthy provider of good quality statistics;
- provide reference material that can be helpful in establishing SQAFs in UN agencies;
- provide a mechanism for the exchange of ideas on quality assurance across agencies.

1.3 Audience for the UNSQAF

The intended readership/users of the UNSQAF are:

- managers and staff involved in statistical activities in the UN agencies – the UNSQAF provides quality principles, dimensions and general guidelines for quality assurance across the UNSS;
- senior management of the UN agencies – the UNSQAF indicates how quality is, or will be, assured and assessed across the UNSS; and
- international and national data users – the UNSQAF gives users of the statistics a general impression of the UNSS approach to quality assurance.

1.4 Scope of the UNSQAF

The UNSQAF includes all statistical development and production activities within the UNSS, whether conducted by persons with a formal role of statistician or any other role such as economist or sociologist, metadata management, statistical systems development, and whether on a full time or part-time basis.

It does not include human resource management, financial management and ICT infrastructure as these typically belong to UN agencies as a whole rather than being specific to its statistical functions

1.5 UNSQAF Components

The UNSQAF has five components.

- The first component is the set of *underlying statistical principles* that provide the basis for formulating a GSQAF.
- The second component is a set of *quality dimensions,* highlighting the various aspects of data and process quality.

- The third component is a summary of what the UNSS needs to do in order to better assure quality across the system and guidance on a number of issues that need to be resolved in order for harmonisation of approach.
- The fourth component is a annotated list of reference documents
- The fifth component is a glossary.

1.6 Notes on this Document

This is the first draft of the document and feedback will be much appreciated.

Sections in italic red font such as this indicate sections to be further developed or questions to be answered.

2 Underlying Statistical Principles

The underlying *Principles Governing International Statistical Activities* upon which the GSQAF is based were formulated by the Committee for the Coordination of Statistical Activities and endorsed by the chief statisticians/coordinators of statistical activities of UN agencies in 2005. They are as follows.

1. ***High quality international statistics, accessible for all, are a fundamental element of global information systems***

Good practices include:

- Having regular consultations with key users both inside and outside the relevant organisation to ascertain that their needs are met
- Periodic review of statistical programmes to ensure their relevance
- Compiling and disseminating international statistics based on impartiality
- Providing equal access to statistics for all users
- Ensuring free public accessibility of key statistics

2. ***To maintain the trust in international statistics, their production is to be impartial and strictly based on the highest professional standards***

Good practices include:

- Using strictly professional considerations for decisions on methodology, terminology and data presentation
- Developing and using professional codes of conduct
- Making a clear distinction, in statistical publications, between statistical and analytical comments on the one hand and policy prescriptive and advocacy comments on the other

3. ***The public has a right to be informed about the mandates for the statistical work of the organisations***

Good practices include:

- Making decisions about statistical work programmes publicly available
- Making documents for and reports of statistical meetings publicly available

4. ***Concepts, definitions, classifications, sources, methods and procedures employed in the production of international statistics are chosen to meet professional scientific standards and are made transparent for the users***

Good practices include:

- Aiming continuously to introduce methodological improvements and systems to manage and improve the quality and transparency of statistics
- Enhancing the professional level of staff by encouraging them to attend training courses, to do analytical work, to publish scientific papers and to participate in seminars and conferences.

- Documenting the concepts, definitions and classifications, as well as data collection and processing procedures used and the quality assessments carried out and making this information publicly accessible
- Documenting how data are collected, processed and disseminated, including information about editing mechanisms applied to country data
- Giving credit, in the dissemination of international statistics, to the original source and using agreed quotation standards when reusing statistics originally collected by others
- Making officially agreed standards publicly available

5. Sources and methods for data collection are appropriately chosen to ensure timeliness and other aspects of quality, to be cost-efficient and to minimise the reporting burden for data providers

Good practices include:

- Facilitating the provision of data by countries
- Working systematically on the improvement of the timeliness of international statistics
- Periodic review of statistical programmes to minimise the burden on data providers
- Sharing collected data with other organisations and collecting data jointly where appropriate
- Contributing to an integrated presentation of statistical programmes, including data collection plans, thereby making gaps or overlaps clearly visible
- Ensuring that national statistical offices and other national organisations for official statistics are duly involved and advocating that the Fundamental Principles of Official Statistics are applied when data are collected in countries

6. Individual data collected about natural persons and legal entities, or about small aggregates that are subject to national confidentiality rules, are to be kept strictly confidential and are to be used exclusively for statistical purposes or for purposes mandated by legislation

Good practices include:

- Putting measures in place to prevent the direct or indirect disclosure of data on persons, households, businesses and other individual respondents
- Developing a framework describing methods and procedures to provide sets of anonymous micro-data for further analysis by bona fide researchers, maintaining the requirements of confidentiality

7. Erroneous interpretation and misuse of statistics are to be immediately appropriately addressed

Good practices include:

- Responding to perceived erroneous interpretation and misuse of statistics
- Enhancing the use of statistics by developing educational material for important user groups

8. Standards for national and international statistics are to be developed on the basis of sound professional criteria, while also meeting the test of practical utility and feasibility

Good practices include:

- Systematically involving national statistical offices and other national organisations for official statistics in the development of
- international statistical programmes, including the development and promulgation of methods, standards and good practices
- Ensuring that decisions on such standards are free from conflicts of interest, and are perceived to be so
- Advising countries on implementation issues concerning international standards
- Monitoring the implementation of agreed standards

9. Coordination of international statistical programmes is essential to strengthen the quality, coherence and governance of international statistics, and avoiding duplication of work

Good practices include:

- Designating one or more statistical units to implement statistical programmes, including one unit that coordinates the statistical work of the organisation and represents the organisation in international statistical meetings
- Participating in international statistical meetings and bilateral and multilateral consultations whenever necessary
- Working systematically towards agreements about common concepts, classifications, standards and methods
- Working systematically towards agreement on which series to consider as authoritative for each important set of statistics
- Coordinating technical cooperation activities with countries between donors and between different organisations in the national statistical system to avoid duplication of effort and to encourage complementarities and synergy
- to the improvement of statistics in the organisations and in countries

10. Bilateral and multilateral cooperation in statistics contribute to the professional growth of the statisticians involved and to the improvement of statistics in the organizations and in countries

Good practices include:

- Cooperating and sharing knowledge among international organisations and with countries and regions to further develop national and regional statistical systems
- Basing cooperation projects on user requirements, promoting full participation of the main stakeholders, taking account of local circumstances and stage of statistical development
- Empowering recipient national statistical systems and governments to take the lead
- Advocating the implementation of the Fundamental Principles of Official Statistics in countries
- Setting cooperation projects within a balanced overall strategic framework for national development of official statistics.

(A question to be answered is whether the Principles should supplemented or changed to incorporate more recent ideas, for example the need for an Agency to nominate a chief statistician and have a coordinating mechanism for statistical activities.)

3 Quality Dimensions

3.1 Introductory Remarks

It is generally agreed that, whilst *statistical product quality* can be summarized in line with the definition in the ISO 9000 Series for any product as *fitness for use*, there is a need to elaborate this definition in terms of the various quality aspects or *dimensions*. Many versions of quality dimensions have been proposed over the last 20 years, most of which contain essentially the same ideas and all of which include a significant expansion of the original narrow interpretation of quality as simply *accuracy*.

In developing the following set of dimensions particularly influential documents were:

- the UN's Generic Statistical Quality Assurance Framework (the primary source);
- the *OECD Quality Framework and Guidelines*
- the European Statistical System quality dimensions that are incorporated in the *European Statistics Code of Practice*.

Other reference documents are listed in the Annex.

The Agency quality dimensions are in two groups: those relating to *data quality* that apply to a data product and those relating to *process quality.* The latter group is important as well designed and executed processes provide the basis for data quality.

3.2 Data Quality Dimensions

Relevance

The *relevance* of a data product is the degree to which the data serve to address the purposes for which they are sought by users. Relevance has three aspects: coverage of the required population (completeness); inclusion of the appropriate content: and use of appropriate concepts. Relevance is further characterised by the merit of the data uses in terms of the the Agency mandate.

Typically a data product has multiple users and uses. Thus, measuring relevance requires the identification of user groups and their needs, whilst recognizing that these may change over time.

Relevance may be indirectly assessed by ascertaining whether there are processes in place to determine the views of users and the uses they make of the data.

Users of the Agency data may be divided into two main groups;

- *internal users* - primarily analysts within the Agency divisions; and
- *external users* - including other UN organisations, other international organisations, national governments, national statistical offices and other national organisations, ICT operators and other businesses, academic institutions and the media.

Whilst internal users are the very important, it is essential that the content and format of published outputs be adapted to the full range of potential users.

Accuracy

The *accuracy* of a data product is the degree to which the data correctly estimate or describe the quantities or characteristics they are designed to measure. Accuracy refers to the closeness between the values provided in the product and the (unknown) true values. Accuracy has many attributes, and, in practical terms, there is no single overall measure of it. Typically, accuracy is described in terms of the errors, or the potential significance of errors, introduced at various stages in the production process from initial acquisition of the data to dissemination of aggregates.

In the case of data from sample surveys, the major sources of error are coverage, sampling, non-response, response, processing, and seasonal adjustment. For data from censuses there are no sampling errors. For data from administrative sources, there are also no sampling errors, but there are additional problems due to mismatching of administrative concepts or classifications to statistical requirements.

The accuracy of the data produced by the Agency is largely determined by the accuracy of the data received from the contributing organisations. However, Agency activities can also improve accuracy; for example, quality checks may result in detection and correction of errors in data provided by contributing organisations and thus lead to improvements in the data. Agency activities may also have an adverse effect, for example by introducing errors during the processing stages.

Reliability

The *reliability* of data is the closeness of the initially released values to subsequently revised values that are released. The sources of revision are typically include (1) replacement of preliminary source data with later data, (2) replacement of projections with source data, (3) changes in definitions or estimating procedures, and (4) updating of the base year for constant-price estimates.

Sometimes reliability is considered as an aspect of accuracy.

Coherence

The *coherence* of a data product reflects the degree to which it is logically connected and mutually consistent with other data products. Coherence implies that the same term should not be used without explanation for different concepts or data items; that different terms should not be used without explanation for the same concept or data item; and that variations in methodology that might affect data values should not be made without explanation.

Coherence in its loosest sense implies the data are "at least reconcilable." For example, if two data series purporting to cover the same phenomena differ, the differences in time of recording, valuation, and coverage should be identified so that the series can be reconciled.

Coherence has four important sub-dimensions.

- *Coherence within a dataset* implies that the elementary indicators are based on compatible concepts, definitions, and classifications and can be meaningfully combined. Incoherency within a dataset occurs, for example, when indicator values that should add up to a total do not.
- *Coherence across datasets* implies that the data are based on common concepts, definitions and classifications, or that any differences are explained and can be allowed for. An example

of incoherency across datasets would be if household ICT usage could not be reconciled with ICT supply. Unexplained inconsistencies across datasets could seriously reduce the interpretability and credibility of the Agency statistics.

- *Coherence over time* implies that the data are based on common concepts, definitions, and methods over time, or that any differences are explained and can be allowed for. Incoherence over time refers to breaks in a series resulting from changes in concepts, definitions, or methodology.
- *Coherence across countries* implies that, from country to country, the data are based on common concepts, definitions, classifications and methodology, or that any differences are explained and can be allowed for. Ensuring coherence across countries, commonly referred to as *harmonization*, is one of the major sources of value added by the Agency.

Metadata plays a fundamental role in explaining possible changes in concepts or methodologies over time and across countries.

Timeliness

The *timeliness* of a data product is the length of time between its availability and the event or phenomenon it describes. Timeliness is assessed in terms of a time scale that depends upon the period for which the data are of value, i.e., are sufficiently timely to be acted upon. The concept applies equally to short-term or structural indicators, the only difference is the time scale.

Although the Agency processes themselves can have an adverse effect, for the most part the timeliness of the Agency data products is determined by the timeliness of the data it receives from the contributing organisations.

Punctuality

The *punctuality* of a data product implies the existence of and adherence to a *data product dissemination schedule.* A data product is punctual if it is disseminated in accordance with the schedule. In the case of data published externally the schedule may comprise a set of target release dates or may involve a commitment to release data within prescribed time period. (Here "release date" refers to the date on which the data are first made publicly available, by whatever medium, typically, but not inevitably the web site).

A dissemination schedule assists:

- internal users, by enhancing their capacity to plan their work based on target internal dissemination dates for data they require;
- external users, by improving their capacity to make timely use of the Agency statistics;

There may be occasions when the Agency simply cannot adhere to the dissemination schedule due to the late acquisition of data from input sources. In such circumstances advance warning regarding the delay in dissemination should be communicated to users.

Sometimes, but not here, timeliness and punctuality are grouped together in a single quality dimension, first, because their separate achievements are heavily inter-related and, second, to be in line with international standards and practices.

Accessibility

The *accessibility* of a data product reflects how readily the data can be discovered, located and accessed from within the Agency data holdings. It includes the suitability of the formats in which the data are available, the media of dissemination, the availability of metadata and user support services, and, in the event that there is a charge, the affordability of the data to users.

From the perspective of data availability, the Agency users are divided into two very distinct groups: internal users; and external users. Typically, because of the differences in access methods, internal users can access data earlier and in more detail than external users. Thus these two groups may have quite different perceptions of accessibility.

The range of different external users leads to the need for multiple dissemination formats and selective presentation of metadata. A publication policy should be articulated and made publicly known.

Interpretability

The *interpretability* (sometimes called *clarity*) of a data product reflects the ease with which users can understand and properly use the data. The degree of interpretability is largely determined by the adequacy of the definitions of concepts, target populations, indicators and other terminology describing the data, and its limitations.

If there are several dissemination mechanisms they should be harmonised in order to avoid confusing users.

Coping with the needs of the broad range of external users leads to the use of metadata presentation in layers of increasing detail. The content and format of published products should be adapted to the different target groups.

Credibility

The *credibility* of a data output refers to the confidence that users place in that product based primarily on their image of the data producer and the product, i.e., the *brand image*. It is based on the users' *perceptions* of accuracy as well as the actual accuracy.

Credibility is built over time. An important aspect is trust in the objectivity of the data. This implies that the data are perceived to be produced professionally in accordance with appropriate statistical standards, and that policies and practices are transparent. In particular, data are not manipulated, nor their release timed in response to political pressure.

Another aspect of credibility is trust in the integrity of the production process. To obtain complete coverage the Agency may impute data for missing countries; to improve accuracy it may adjust data received. The extent to which this is well done and well understood affects credibility. Also, once agreement between the Agency and an organisation has been reached on how data will be provided or imputed, the agreement should not be subsequently withdrawn in response to political pressure.

Balancing Data Quality Dimensions

The data quality dimensions are not mutually exclusive in the sense that there are relationships between the factors that contribute to them. Factors leading to improvements with respect to one dimension may result in deterioration with respect to another. Thus, in designing a data

collection and products, it is often necessary to trade-off quality in one dimension with quality in another. The most significant trade-offs to consider are as follows.

- *Accuracy and timeliness.* This is probably the most frequently occurring and important quality trade-off. Improvement in timeliness can be obtained by terminating data acquisition earlier and compiling products based on a smaller number of countries and/or reduced editing. However, as this reduces accuracy, there needs to be a trade-off. For major products a compromise is to disseminate a preliminary version of the data product based on partial acquisition and then one or two revised products based on successively more acquisition and editing. The size of the revisions between preliminary and revised products is an indicator of degree of accuracy that is being sacrificed in order to produce the increased timeliness.
- *Relevance and accuracy*. Relevance can be increased by acquiring more data items, but accuracy may be diminished because the additional data are less reliable. Conversely elimination of inaccurate data items will increase accuracy but reduce relevance.
- *Relevance and timeliness*. Timeliness may be improved by reducing the number of data items collected or by replacing those that are difficult to collect by ones that are easier. This will have a negative effect on relevance.
- *Relevance and coherence*. Improvements in relevance, for example by redefining the indicators for which data are collected, or moving to a later version of a classification, will reduce comparability over time, perhaps to the point of requiring a series break. Conversely, the desire to retain comparability over time may inhibit changes in content required to improve relevance.
- *Accuracy and coherence*. Improved methods may increase accuracy but reduce coherence by introducing changes in data that are attributable to changes in methods not in what is being measured. Conversely, the desire to retain coherence may inhibit changes required to improve accuracy.

3.3 Process Quality Dimensions

Sound Methods and Systems

Sound methods refers to the use of international standards and best practices through all stages of a data collection from identification of requirements, through design, data collection, processing, analysis, dissemination, archiving and evaluation. Application of standards and best practices not only engenders the Agency process and product quality, it fosters comparability across organisations and countries.

Sound systems refers to the use of international standards and best practices in systems development, including liaising with systems developers in other statistical organisations and making optimum use of off-the-shelf or shared statistical products where available.

Sound methods and systems also includes both theory and its application in the sense of ensuring that methods and systems are well designed, developed, implemented and documented, and that staff are well trained in their use.

Cost-Efficiency

The *cost-efficiency* with which data products are produced is a measure of the costs incurred and resources expended relative to the benefits of the products. The aim is to produce a specified set of products of specified quality at minimum cost.

Efficiency can affect all dimensions of product quality in the sense that, if a product can be produced more efficiently with the same quality, then the resources released can be used to improve any dimension of the quality of that product or other products, or to create new products.

Two types of costs are incurred:

- the costs to the Agency of acquiring, processing and disseminating the data;
- the costs incurred by the national providers from which the data are acquired. These costs depend significantly on whether or not they actually collect and use the data for their own purposes. If they do, then the costs are essentially those of repackaging and transmitting data already collected. Otherwise they are the full costs of data collection.

The Agency never collects data directly from basic units (operators, households, and individuals) to which the data refer and that provide the original primary data. Thus their costs in responding are of only indirect concern.

4 Assuring Quality across the UNSS

This section is to be developed based on feedback from discussions.

4.1 Actions to Assure Quality across the UNSS

The primary action will be to promote and monitor the development and implementation of SQAFs by the UN agencies.

4.2 Harmonisation of Approach across the UNSS.

In order to ensure a harmonised approach there are a number of issues to be addressed in the UNSQAF, including the following.

The definition of "official statistics" at national level

There is not a common understanding of what are and are not *official statistics* at national level.

Provisional definition – official statistics are all statistics produced by the national statistical office (NSO) plus all statistics that have been produced by another national or regional organisation and in some sense certified or considered acceptable by the NSO.

The definition of official statistics at international level

There is not a common understanding of what are or are not *official statistics* at international level.

Provisional definition – official statistics are statistics produced by an international organisation that have been validated by the national or regional organisations that provided them or to whose activities they are relevant.

"Validated" is taken to include failure to comment when given the ample opportunity.

Data values disputed by a national organisation are not considered official, but can be disseminated with appropriate metadata to warn users of the dispute.

Adjusting national official data

The issue is to what extent should data received from the NSO or other national organisation in a country be adjusted and what approach should be taken when a country disputes the adjustments.

Provisional approach. Country data should be adjusted in either or both of two circumstances: they have to be adjusted to standard classifications, definitions or methods in order to be harmonised with data from other countries; and/or they are clearly in error or at least implausible either due to internal inconsistencies or in comparison with data from similar countries.

The use of non-official national data in producing international statistics

Two questions are as follows.

- Can statistics based on non-official data can be considered as official? *Provisional answer no.*
- Can statistics based on non-official data can be published? *Provisional answer yes*.

Data sharing within a UN agency

This is an issue only in the sense that it does not always happen when it should. It is not unknown for staff in an agency to use data from another agency rather than data on the same topic produced by their own agency.

Provisional approach – data sharing within an agency is sufficiently important to be defined as a process quality dimension in the UNSQAF and GSQAF.

Data sharing between UN agencies and with other international organisations

This is an issue only in the sense that it does not always happen when it should. It is related to multiple production of the same data.

Provisional approach – lack of data sharing between agencies and other international organisations should be detected when examining coherence and cost-efficiency during a quality assessment.

Multiple production of the same data

Whilst efforts have been made by international organisations to collect any given set of data only once from a country source, this has not reduced the incidence of dissemination of different sets of values for the same data by different organisations. For example different estimates of GDP per capita are produced by several agencies. This is an issue that merits further attention.

Provisional approach – within UN agencies, at least, there should be one and only one definitive source of data for any given indicator. This does not preclude the possibility of an earlier estimate being produced by another agency provided that estimate is acknowledged as preliminary and not definitive.

Use of UN Agency data by a third party

This refers to the case where the user is not a national statistical organisation or an international statistical organisation. It does not appear to be much of an issue.

Provisional approach – third party use of data is actively encouraged on the understanding that the UN agency is acknowledged as the source of the data.

Use of commercial data

By and large UN agencies do not use commercial data in producing their statistics. The issue is whether they should consider doing so.

Provisional approach – There seems to be no reason whatever why a UN Agency should not use commercial data if by doing so it can improve the quality of its statistics in terms of relevance, accuracy, timeliness, or interpretability. Of course all sources should be acknowledged. Depending upon the extent of the use, the resulting statistics may not qualify as official.

Use by the UN of data under copyright

This does not seem to be much of an issue.

Provisional approach –UN agencies should be prepared to use data under copyright if these data improve the resulting statistics, of course respecting the conditions of the copyright

The impact and possible use of big data

Big data are a potential source of statistics. The potential for use of big data has become a major discussion topic in recent years. For example, at the recent 2015 World Statistics Congress it was the subject of several papers, and mentioned in many others, The issue seems to be that the term *big data* was invented and popularised by non-statisticians, and has received a lot of media attention, and the statistical community feels it is being outflanked on its own territory.

Provision approach - big data should not be treated any differently from any other potential data sources. Each big data source should be evaluated for its potential in producing multi-country statistics in the same way as any other commercial data source.

5 Reference Documents

The following documents are informative in developing a SQAF.

Fundamental Principles of Official Statistics (1994), UN Statistics Division

- indicating how national statistical systems should be organized in order to produce appropriate and reliable data that adhere to appropriate professional and scientific standards.
- http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx

Principles Governing International Statistical Activities (2005), UN Statistics Division

- comprising principles and practices that were developed and publicized by the CCSA and that should underpin the production of statistics by an international organisation
- http://unstats.un.org/unsd/methods/statorg/Principles_stat_activities/principles_stat_activities.htm

National Quality Assurance Framework (NQAF) Template and Guidelines (2012), UN Statistics Division

- the template is a tool to provide the general structure within which countries can formulate and operationalize national quality frameworks of their own or further enhance existing ones.
- the guidelines support the template providing lists of tools and references specific to sections 3 and 4 of the template, and a detailed mapping showing the correspondence to several existing quality frameworks, and links to the online NQAF glossary.
- http://unstats.un.org/unsd/dnss/QualityNQAF/nqaf.aspx

European Statistics Code of Practice (2011), Eurostat

- the Code is based on 15 principles concerning the institutional environment, statistical processes and outputs. It aims to ensure that statistics produced within the European Statistical System are not only relevant, timely and accurate but also comply with principles of professional independence, impartiality and objectivity.
- http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/code_of_practice

European Statistical System Quality Assurance Framework (ESS QAF) (2011), Eurostat

- developed by Eurostat
- the framework identifies possible activities, methods and tools that provide guidance and evidence for the implementation of the European Statistics Code of Practice by European NSOs and Eurostat
- http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/QAF_2012/EN/QAF_2012-EN.PDF

Data Quality Assessment Framework (SQAF) (2003), International Monetary Fund

- developed by the IMF Statistics Division for use by NSOs and other national government agencies collecting and disseminating statistics.
- https://www.imf.org/external/np/sta/dsbb/2003/eng/dqaf.htm

Quality Framework and Guidelines for OECD Statistical Activities (2011), OECD

- developed by the OECD for managing quality within its own organisation.
- http://www.oecd.org/std/qualityframeworkforoecdstatisticalactivities.htm

European Central Bank Statistics Quality Framework (ECB SQF)

- developed by the ECB for managing quality within its own organisation.

UNIDO Data Quality: A quality assurance framework for UNIDO statistical activities

- developed by UNIDO Statistics Unit as a framework of data quality assurance for UNIDO
- covers major quality aspects of statistics produced by UNIDO, including the key quality dimensions applicable to UNIDO's statistical activities.

The FAO Statistics Quality Assurance Framework (FAO-SQAF)

- Developed within the context of the creation of the position of Chief Statistician and the establishment of the Inter-Departmental Working Group on Statistics (IDWG-Statistics).
- Comprises a quality framework and a mechanism to ensure the compliance of FAO statistics.

The UNCTAD Statistical Quality Framework (USQF) (Draft)

- To address quality and efficiency concerns in a harmonised way.
- Presents a commonly understood definition of quality and its dimensions, agreement on quality and performance indicators, and a quality assessment program.

Quality Assurance Framework Humanitarian Data Exchange (Draft)

- A descriptive report on the data quality assurance framework that will be adopted by the Humanitarian Data Exchange (HDX) platform.
- Builds on existing best practices within internationally recognised quality management frameworks.

Generic Statistical Business Process Model (GSBPM) Version v5.0 (2013), UNECE

- developed by UNECE and endorsed by the UN Statistical Commission;
- describes and defines the set of business processes needed to produce official statistics;
- provides a standard framework and harmonised terminology to help statistical organisations to modernise their statistical production processes, as well as to share methods and components.
- http://www1.unece.org/stat/platform/display/metis/The+Generic+Statistical+Business+Process+Model

6 SQAF Related Glossary

This section is in development

There are a number of key terms that need to be defined and commonly understood for the purposes of the UNSQAF and GSQAF but are not. The problem is not the shortage of internationally recognised glossaries but the number of them, the differences between them and the numbers of synonyms and near synonyms. Also some key terms are not defined, even something as simple as the name of the unit or group of units within an international organisation that are collectively responsible for the production of the organisation's statistical products.

The aim is develop a glossary specifically for the UNSQAF and GSQAF containing all the terms that needed in order to have a common understanding it the key points. Definitions from existing internationally recognised glossaries will be used to the extent possible.