

The FAO Statistics Quality Assurance Framework



Food and Agriculture Organization of the United Nations
Rome, 2014

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO, 2014

FAO encourages the use, reproduction and dissemination of material in this information product. Except where otherwise indicated, material may be copied, downloaded and printed for private study, research and teaching purposes, or for use in non-commercial products or services, provided that appropriate acknowledgement of FAO as the source and copyright holder is given and that FAO's endorsement of users' views, products or services is not implied in any way.

All requests for translation and adaptation rights, and for resale and other commercial use rights should be made via www.fao.org/contact-us/licence-request or addressed to copyright@fao.org.

FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org.

Contents

- 1 Introduction..... 5
- 2 The FAO Statistics Quality Assurance Framework (FAO SQAF)..... 6
 - 2.1 FAO SQAF definition of Quality 6
 - 2.2 FAO SQAF principles 7
 - Statistical Outputs 7
 - Statistical Processes 10
 - Institutional environment 12
 - 2.3 FAO SQAF Quality Assurance Mechanism..... 14
 - Procedures for evaluating existing statistical activities 14
 - Procedures for evaluating new data collections..... 15
 - Central coordination 15
 - Implementation plan..... 15
- Annex 1. Correspondence between FAO SQAF principles and Principles Governing International Statistical Activities 16
- Annex 2. Correspondence between FAO SQAF principles and QAF principles of other international organisations 22

1 Introduction

Statistics on food and agriculture provide the foundation for evidence-based policy making both for national governments and the international community. For FAO, a sound statistical basis plays a critical role in designing and targeting policies to reduce hunger, malnutrition and rural poverty. A sound statistical basis is also essential in monitoring progress towards national and international development goals and targets. It is therefore imperative that the data produced by FAO are of the highest possible quality.

Within the context of the recent changes to existing FAO statistics governance mechanisms, namely the creation of the position of Chief Statistician and the establishment of an Inter-Departmental Working Group on Statistics (IDWG-Statistics), improving the quality of FAO statistical outputs was identified as a priority. Indeed, the development of a corporate quality assurance framework was recognized in the Long Term Strategy (2013-2017) as one of the key areas for urgent attention of the IDWG-Statistics.

This initiative is particularly important within the current context of a decentralized statistical system, where each FAO technical department carries out its own statistical programme of work and maintains ownership of its data. In such system, and without the proper coordination mechanisms, common standards and methodologies are not consistently applied on a corporate scale, and any adoption is undertaken on a good-will basis.

A corporate quality assurance framework will complement the efforts being made to increase coordination and to improve consistency of the overall statistical programme. It will also help to ensure that sound and internationally accepted statistical concepts and definitions are adhered to, standard methodologies are adopted, and that accurate, high quality, timely and accessible data are produced by FAO.

It is worth noting that, as well as other international organizations, FAO statistics are mainly based on data supplied by national statistical authorities or by other international organizations, and consequently their quality depends also on the quality of the inputs received. This document focuses on the activities under FAO's responsibility while the quality of the input data will be addressed separately at a later time.

This document presents the Quality Assurance Framework for the FAO Statistics system (FAO SQAF). It consists of a quality framework and a mechanism to ensure the compliance of FAO statistics to the quality framework itself.

2 The FAO Statistics Quality Assurance Framework

The FAO Statistics Quality Assurance Framework (FAO SQAF) includes a definition of quality, and a series of principles to adhere to, in order to ensure the quality of FAO statistical production processes and statistical outputs. Each principle is accompanied by corresponding good practices, which provide practical guidance on how to assure compliance with the principle. Some reported good practices are already applied by the FAO statistical system, while other aspects are still being developed.

The FAO SQAF principles encompass the Fundamental Principles of Official Statistics of the United Nations Statistical Commission¹, as well as the Principles Governing International Statistical Activities endorsed by the Committee for the Coordination of Statistical Activities (CCSA)². Correspondence between the FAO SQAF and the Principles Governing International Statistical Activities is reported in Annex 1.

A primary objective the SQAF is to strengthen and sustain FAO's reputation and credibility as a centre of excellence in agricultural statistics. Successful application of the principles and good practices described in this document will contribute directly to improving the confidence of users in FAO statistical outputs.

2.1 FAO SQAF definition of Quality

Quality is a multi-faceted and subjective concept. The International Organisation for Standardization (ISO) defines quality as “the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs” (ISO No 8402; 1986, 3.1).

The most important quality characteristics depend on user perspectives, needs and priorities, which vary across groups of users. For this reason the major challenge is to achieve a compromise among the needs of the various possible users (current and potential) in order to produce and disseminate statistical outputs that satisfy the most important needs given constraints concerning available resources.

Taking stock of the work already done by several international organizations³ (Eurostat, ECB, IMF and OECD) in this area, the definition of quality in statistics, which has been tailored to the FAO framework, encompasses five quality dimensions, as described below.

FAO defines quality in statistics as *the degree to which its statistical outputs fulfill requirements* and the following quality dimensions are taken into account:

- **Relevance**

¹ <http://unstats.un.org/unsd/methods/statorg/FP-english.htm>

² https://unstats.un.org/unsd/methods/statorg/Principles_stat_activities/principles_stat_activities.asp

³ Annex 2 reports the mapping of FAO CQAF principles with the principles of other organizations QAFs including the Generic National Quality Assurance Framework Template (NQAF)

- Relevance is the degree to which statistics meet the current and potential user needs.
- **Accuracy and Reliability**
 - Accuracy refers to the closeness of estimates, to the true values that statistics were intended to measure.
 - Reliability refers to the closeness of the initial estimates to the subsequent or final estimates.
- **Timeliness and Punctuality**
 - Timeliness is the speed of dissemination of statistical outputs - i.e. the lapse of time between the end of a reference period (or a reference date) and the dissemination of the statistical outputs.
 - Punctuality refers to the possible time lag existing between the actual delivery date of statistical outputs and the target date when they should have been delivered, for instance, with reference to dates announced in an official release calendar or previously agreed among partners.
- **Coherence and Comparability**
 - Coherence is the adequacy of the statistical outputs to be meaningfully combined in different ways and for various uses.
 - Comparability refers to the extent to which differences between different geographical areas, non-geographical domains, or over time, can be attributed to differences between the true values of the statistical characteristics.
- **Accessibility and Clarity**
 - Accessibility is defined as the ease, the set of conditions and the modalities by which users can obtain data.
 - Clarity refers to the availability of adequate documentation: whether data are accompanied with appropriate metadata, illustrations such as graphs and maps, whether information on their quality are also available (including limitation in use), and the extent to which additional assistance is provided.

2.2 FAO SQAF principles

The FAO SQAF principles and good practices are set out in three areas: *Statistical Outputs*, *Statistical Processes* and *Institutional Environment*.

The first priority of the FAO statistical system is to meet user needs providing them high quality statistical outputs. For this reason, the principles related to *Statistical Outputs* are described first in the FAO SQAF. The second part of the FAO SQAF is devoted to principles related to *Statistical Processes*, given that high quality statistical outputs can only be produced by high quality statistical processes. The third part of FAO SQAF is dedicated to the principles which relate to the *Institutional Environment* in which the statistics are produced, which further contributes to their quality.

Statistical Outputs

With regard to its statistical outputs, FAO recognizes Principle 1 of the Principles Governing International Statistical Activities, endorsed by the Committee for the Coordination of Statistical Activities (CCSA), which states that “High quality international statistics, accessible for all, are a fundamental element of global information systems”. More specifically, the FAO SQAF includes the principles below.

FAO SQAF Principle 1: Relevance

FAO statistics meet user needs.

In order to identify user needs, and to assess if they are met, the user-producer dialogue should be regular and ongoing, and the information collected by such dialogues should be reflected in statistical activities.

Good practices

- 1.1 Procedures are in place to identify and consult the key users of FAO statistics, in order to identify new or emerging requirements, and to monitor the relevance and usefulness of existing statistics.
- 1.2 Key users are consulted by FAO when the production of new statistics, or the application of substantial changes to existing statistics are planned.
- 1.3. The FAO Statistical Programme of Work is periodically revised, in order to take into account changing user priorities.
- 1.4 User satisfaction is monitored and follow up takes place.

FAO SQAF Principle 2: Accuracy and Reliability

FAO statistics accurately and reliably portray reality.

Lack of accuracy can be due to the variability as well as to the bias associated to the estimates. In international statistics, lack of accuracy is generally due to quality of source data and errors which occur during the final production process.

When revisions are made, it is necessary to define a policy specifying the number and planned timing of revisions. Systematic analysis of revisions must also be undertaken to assess reliability.

Good practices

- 2.1 Statistical outputs are regularly assessed and validated.
- 2.2 Errors are measured and systematically documented.
- 2.3 Methods and tools for preventing and reducing errors are in place and used.
- 2.4 The revision policy adopted by FAO is made publicly available.
- 2.5 Revisions are regularly analyzed in order to improve statistical processes.

FAO SQAF Principle 3: Timeliness and Punctuality

FAO statistics are timely and punctual.

Statistical organizations should strive to produce as timely statistics as possible (non-timely statistics can easily lose relevance). However, the trade-off between timeliness and accuracy should also be taken into account. Punctuality provides added value for users.

Good practices

- 3.1 FAO strives to produce as timely statistics as possible, without unduly compromising other quality features, and systematically works on the improvement of the timeliness of its statistics.
- 3.2 FAO agrees on a reporting timetable for the submission of data with data providers, which enables FAO to define a release calendar. FAO then monitors the compliance of data providers with the reporting timetable.
- 3.3 The FAO statistics release calendar is publicly available, and FAO data releases are planned accordingly.
- 3.4 FAO provides an explanation of any delays in the release of data.

FAO SQAF Principle 4: Coherence and Comparability

FAO statistics are consistent internally, and over time. FAO statistics are internationally comparable, and can be used in conjunction with statistics provided by other statistical organizations.

Comparability is a key issue for international statistics. The adoption of standards on concepts and definitions is fundamental to achieving comparability. FAO fosters the development and implementation of international standards on agriculture statistics

Good practices

- 4.1 FAO statistics are internally consistent.
- 4.2 FAO statistics are consistent or reconcilable over time.
- 4.3 FAO Statistics are based on internationally agreed standards on concepts and definitions, and enable international comparisons to be drawn. Conceptual differences, if any, are explained clearly to public.
- 4.4 Statistics from different sources, and from different time periods, are compared and reconciled.

FAO SQAF Principle 5: Accessibility and Clarity

FAO statistics are easily accessible to all users on an impartial basis, are presented in a clear and understandable format, and are accompanied by relevant supporting metadata.

Ensuring that users are able to easily access statistics is a fundamental part of the statistical process. FAO works to continuously improve the accessibility of its statistics, taking into account new possibilities offered by IT developments. Metadata accompanying data dissemination improve the clarity and interpretability of statistics.

Good practices

- 5.1 All users have equal and simultaneous access to statistical releases. Key statistics are freely available for users.
- 5.2 FAO statistics and corresponding metadata are presented in a format that facilitates proper interpretation, meaningful comparisons and machine-processing.
- 5.3 Concepts, definitions and classifications, as well as data collection and processing procedures used, and the quality assessments carried out, are properly documented, and this information is publicly accessible.
- 5.4 In the dissemination of international statistics, FAO gives credit to the original source of data, and uses agreed quotation standards when re-using statistics originally collected by others.

Statistical Processes

The way statistical processes are conducted directly affects the quality of statistical outputs. FAO is committed to continuously improving the quality of its statistical processes.

FAO SQAF Principle 6: Sound methodology and appropriate statistical procedures

In developing and compiling statistics, FAO uses sound statistical methodologies, and applies effective and efficient statistical procedures throughout the statistical process.

FAO defines its methodological framework in accordance with established and internationally agreed scientific principles, and ensures its implementation across all the statistical processes. Highly competent staff are needed to develop and successfully apply such sound methodology.

Good practices

- 6.1 The FAO methodological framework complies with international standards, guidelines and good practices.
- 6.2 Procedures are in place to ensure that standard concepts, definitions and classifications are consistently applied across FAO.
- 6.3 Procedures are in place to ensure that sound methodologies are applied across FAO statistical processes.
- 6.4. The FAO statistical system recruits highly competent staff from relevant disciplines and with appropriate qualifications.
- 6.5 FAO staff participate in training courses, conferences, and international meetings, and publish in peer-reviewed professional journals, to ensure that their methodological knowledge is up-to-date within the limitations of budget constraints.
- 6.6 FAO cooperates with the scientific community to improve methodology.
- 6.7 Procedures are in place to decide whether a new statistical process should be implemented and how this should be done.
- 6.8 The statistical procedures applied in data collection, data validation, processing, analyzing and dissemination are regularly documented, monitored and revised.

- 6.9 Data collection forms and questionnaires are systematically tested prior to data collection.
- 6.10 Revisions follow standard, well-established and transparent procedures.
- 6.11 FAO appropriately chooses the sources of data using strictly professional considerations to ensure high quality statistical outputs. Official statistics is typically the best source of information for data, however FAO can refrain from publishing official data in cases of reasonable doubts on their quality. FAO can use non-official sources to fill gaps or to improve data quality and comparability. When using non-official statistics, FAO strictly follows internationally agreed recommended practices.

FAO SQAF Principle 7: Cost-effectiveness

Efforts are made to continuously identify new and improved cost-effective approaches for carrying out FAO statistical processes.

The establishment of a corporate monitoring mechanism is an essential way of ensuring that the most cost-effective approaches are adopted at FAO.

Good practices

- 7.1 FAO promotes and implements standardized solutions that increase cost efficiency and effectiveness.
- 7.2 Information and communication technology (ICT) tools are used to optimize the different phases of the statistical processes.
- 7.3 Cost-benefit and risk analysis including maintenance burden is carried out before new, or substantially enhanced, statistics processes are put into regular production.
- 7.4 Procedures are in place to monitor, document and review the way in which resources are used and to encourage collaboration and joint activities where appropriate.

FAO SQAF Principle 8: Non excessive burden on respondents

FAO adopts strategies for monitoring and reducing respondents burden over time.

The FAO appropriately chooses sources and data collection methods, to minimise the reporting burden for data providers. The challenge of meeting user needs is balanced with managing the burden placed on respondents.

Good practices

- 8.1 FAO requests to data providers are limited to only what is absolutely necessary.
- 8.2 Mechanisms are in place to assess the necessity of undertaking new data collection.
- 8.3 Existing statistics are regularly monitored to ascertain whether the respondent burden can be further reduced.
- 8.4 Data sharing and overall coordination within FAO is generalised to avoid duplication of processes and to identify where the burden on data providers can be reduced.
- 8.5 FAO is committed to making providing data easier for countries.
- 8.6 FAO coordinates with other organizations for data sharing and, where appropriate, collects data directly from other international organizations, in order to reduce the response burden on national organizations.

Institutional environment

Compliance with the following principles ensures that FAO statistics are produced in an environment that supports and promotes the improvement of process and output quality.

FAO SQAF Principle 9: Professional independence and impartiality

FAO produces and disseminates statistics adopting scientific and professional independence from other policy, regulatory or administrative departments and bodies, as well as from private sector operators. This is done in an objective, impartial, professional and transparent manner.

Good practices

- 9.1 The selection of data sources, as well as the collection, compilation and dissemination of FAO statistics are undertaken according to strictly scientific and professional statistical considerations, and on an objective and impartial basis.
- 9.2 Information on the sources, methods and procedures used in statistical processes is publicly available.
- 9.3 The FAO Statistical Programme of Work is regularly published and evaluated.
- 9.4 Statistical releases are issued separately from political/policy statements.
- 9.5 Press releases on statistical data are objective, impartial and accessible to a wide range of audiences.
- 9.6 Erroneous interpretation and misuse of statistics are immediately and appropriately addressed.
- 9.7 Errors discovered in published statistics are corrected as quickly as possible.
- 9.8 Advance notice is given on major revisions or changes in methodologies.

FAO SQAF Principle 10: Statistical Confidentiality

All data subject to national confidentiality policies (e.g. concerning people and legal entities, or small aggregates) are kept strictly confidential, and are used exclusively for statistical purposes, or for purposes mandated by legislation.

Good practices

- 10.1 The FAO confidentiality policy on statistics is made available to the public.
- 10.2 FAO staff involved in statistical work sign a confidentiality agreement.
- 10.3 Guidelines and instructions are provided to staff regarding the protection of statistical confidentiality in the production and dissemination processes.
- 10.4 Physical, technological, methodological and organizational provisions are in place to protect the security and integrity of statistical databases.
- 10.5 FAO promotes the definition and adoption of formal agreements with data providers to support data exchange, which ensure that confidentiality is respected whilst also permitting proper statistical analysis.
- 10.6 A framework describing methods and procedures for exchanging micro-data with data providers is adopted.
- 10.7 FAO supports national data providers in complying with their legal commitments concerning data confidentiality.

FAO SQAF Principle 11: Quality Commitment

FAO is highly committed to quality. The strengths and weaknesses of FAO statistics are systematically and regularly monitored to continuously improve the quality of both processes and products.

Good practices

- 11.1 The FAO quality policy for statistics is defined and made available to the public.
- 11.2 The FAO Inter-Departmental Working Group on Statistics the FAO Chief Statistician, and the FAO SQAF with its methods, tools and implementation plan play all a key role in quality management.
- 11.3 Procedures are in place to monitor the quality of statistical production processes.
- 11.4 Product quality is regularly monitored, assessed with regard to possible trade-offs, and reported according to the FAO SQAF.
- 11.5 The FAO training programme includes training courses designed to support its quality policy.
- 11.6 FAO quality guidelines for statistics are publicly available.

FAO SQAF Principle 12: Development of international standards

FAO contributes to, and promotes, the definition and implementation of international statistical standards in all fields of work within FAO's mandate. Standards for international statistics are to be developed on the basis of sound professional criteria, while also addressing issues of practical utility and feasibility.

Good practices

- 12.1 FAO systematically involves national statistical offices and other national, regional and international organizations for official statistics in the development and promulgation of methods, standards and good practices.
- 12.2 FAO systematically works with other organizations towards agreements on common statistical concepts, classifications, standards and methods.
- 12.3 FAO ensures that decisions on international standards on statistics are free from conflicts of interest, and are perceived to be so.
- 12.4 FAO advises countries on implementation issues concerning international standards, and monitors the implementation of agreed standards.

FAO SQAF Principle 13: Cooperation with data providers

In order to produce high quality statistics, FAO promotes cooperation with data providers, including undertaking capacity development initiatives aimed at improving the quality of statistics produced by Member Countries.

Good practices

- 13.1 Formal agreements are in place with Member Countries for the provision of data and metadata to FAO.
- 13.2 FAO advocates the application of Fundamental Principles of Official Statistics when data are collected in countries.

13.3 FAO promotes bilateral and multilateral cooperation in sharing knowledge (e.g. supporting training, project and guideline development) with countries and regions to further develop national and regional statistical systems.

FAO SQAF Principle 14: Coordination with other international organisations producing statistics

FAO promotes coordination with other statistical organizations in the development of international statistical programmes.

Good practices

14.1 FAO promotes coordination with other statistical organizations in the development of coordinated international statistical programmes, in order to avoid overlaps and duplication of work.

14.2 FAO promotes bilateral and multilateral cooperation in sharing knowledge with international organizations to further develop national and regional statistical systems.

14.3 FAO participates in international statistical meetings and bilateral and multilateral consultations for the development of international statistical programmes, whenever necessary.

2.3 FAO SQAF Quality Assurance Mechanism

In order to ensure the compliance of statistical processes, and corresponding outputs with its product and process principles, FAO is developing a series of tools and procedures to evaluate both existing and new statistical processes. In addition, a set of institutional activities are being established and promoted so that FAO meets all the principles which relate to the institutional environment.

Procedures for evaluating existing statistical activities

The procedure for evaluating existing statistical processes is two-fold, and consists of a combination of self-assessment and audit. Self-assessment is applied to most on-going processes, while usage of audit procedures is limited to complex and key corporate statistical processes.

In the **self-assessment** the officer responsible for the statistical process evaluates the adherence of the process and its outputs to the principles stated in the SQAF, and to the good practices reported in the **FAO Quality Guidelines**. A **checklist** facilitates the completion of this task. Self-assessment results are summarized in a final **report**, highlighting strengths and weaknesses of the processes and related outputs. Weaknesses then need to be addressed through a series of improvement actions.

Audit is carried out by a team of auditors (2 or 3 internal experts) who study the supporting documentation on the process, and then meet the officer responsible of the process to further investigate some issues. Auditors summarize the assessment results in a final report,

which highlights the strengths and weaknesses of the processes and the related outputs. Weaknesses then need to be addressed through a series of improvement actions proposed by the officer responsible for the audited statistical process.

Procedures for evaluating new data collections

When new statistical activities involving new data collection are planned, the assessment process aims to evaluate whether conditions are met in setting up the new process in terms of relevance (user needs) and respondent burden, and overlap with other existing statistical activities. Information concerning relevance, data sources and response burden is collected. Basic information on how the new process would be carried out, and a cost-benefit analysis, are also produced. This framework provides the foundation of the approval process.

Coordination

All assessment activities related to new or existing processes (self-assessment and audit) are supported and coordinated by a team of experts that reports to the Inter-Departmental Working Group (IDWG) on Statistics and the Office of the Chief Statistician. The same team coordinates and promotes the implementation of improvement actions to ensure quality at institutional level, in line with priorities set by the IDWG.

Implementation plan

The implementation of the described activities requires prior development of a set of tools, such as quality guidelines or the checklist for self-assessment. These tools and the detailed work plan are described in the document “FAO SQAF implementation plan” that includes also a preliminary schedule for the application of the FAO SQAF after the preparatory phase.

Annex 1. Correspondence between FAO SQAF principles and Principles Governing International Statistical Activities

FAO SQAF principles	Principles Governing International Statistical Activities (CCSA) ⁴
FAO SQAF Principle 1: Relevance	<p>Principle 1 High quality international statistics, which are accessible to all, are a fundamental element of global information systems.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • Regular consultations with both internal and external key users to ascertain that their needs are being met. • Periodic review of statistical programmes to ensure their relevance.
FAO SQAF Principle 2: Accuracy and Reliability	<p>Principle 4 Concepts, definitions, classifications, sources, methods and procedures employed in the production of international statistics meet professional scientific standards, and are made transparent for users.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • 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.
FAO SQAF Principle 3: Timeliness and Punctuality	<p>Principle 5 Sources and methods for data collection are appropriately chosen to ensure timeliness and other aspects of quality, to be cost-efficient and to minimize the reporting burden for data providers.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • Working systematically on improving the timeliness of international statistics.
FAO SQAF Principle 4: Coherence and Comparability	<p>Principle 9 Coordination of international statistical programmes is essential to strengthen the quality, coherence and governance of international statistics, and to avoid duplication of work.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • Working systematically towards agreements on common concepts, classifications, standards and methods. • Working systematically towards agreement on which series should be considered as authoritative for each important set of statistics.
FAO SQAF Principle 5:	<p>Principle 1 High quality international statistics, which are accessible to</p>

⁴ http://unstats.un.org/unsd/methods/statorg/Principles_stat_activities/principles_stat_activities.htm

<p>Accessibility and Clarity</p>	<p>all, are a fundamental element of global information systems.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • Providing equal access to statistics for all users. • Ensuring free public access to key statistics. <p>Principle 4</p> <p>Concepts, definitions, classifications, sources, methods and procedures employed in the production of international statistics meet professional scientific standards, and are made transparent for users.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • 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. • In the dissemination of international statistics, giving credit to the original source, and using agreed quotation standards when re-using statistics originally collected by others. • Making officially agreed standards publicly available.
<p>FAO SQAF Principle 6: Sound methodology and appropriate statistical procedures</p>	<p>Principle 4</p> <p>The concepts, definitions, classifications, sources, methods and procedures employed in the production of international statistics meet professional scientific standards, and are made transparent for the users.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • Aiming to continuously introduce methodological improvements and systems to manage and improve the quality and transparency of statistics. • Enhancing the professional competencies of staff by encouraging them to attend training courses, to do analytical work, to publish scientific papers, and to participate in seminars and conferences. • In the dissemination of international statistics, giving credit to the original source, and using agreed quotation standards when re-using statistics originally collected by others.
<p>FAO SQAF Principle 7: Cost-effectiveness</p>	<p>Principle 5</p> <p>Sources and methods for data collection are appropriately chosen to ensure timeliness and other aspects of quality, to be cost-efficient and to minimize the reporting burden for data providers.</p>
<p>FAO SQAF Principle 8: Non excessive burden on respondents</p>	<p>Principle 5</p> <p>Sources and methods for data collection are appropriately chosen to ensure timeliness and other aspects of quality, to be cost-efficient and to minimize the reporting burden for data providers.</p> <p>Good practices include:</p> <ul style="list-style-type: none"> • Facilitating the provision of data by countries. • Periodic review of statistical programmes to minimize the

	<p>burden on data providers.</p> <ul style="list-style-type: none"> • Sharing collected data with other organisations and collecting data jointly where appropriate
<p>FAO SQAF Principle 9: Professional independence and impartiality</p>	<p>Principle 1 High quality international statistics, which are accessible to all, are a fundamental element of global information systems. Good practices include:</p> <ul style="list-style-type: none"> • Compiling and disseminating international statistics based on impartiality. <p>Principle 2 To maintain trust in international statistics, production should be impartial and based strictly on the highest professional standards. Good practices include:</p> <ul style="list-style-type: none"> • Using strictly professional considerations for decisions regarding methodology, terminology and data presentation. • Developing and using professional codes of conduct. • In statistical publications, making a clear distinction between statistical and analytical comments on the one hand, and policy-prescriptive and advocacy comments on the other. <p>Principle 3 The public has a right to be informed about organizations' mandates for carrying out statistical work. Good practices include:</p> <ul style="list-style-type: none"> • Making decisions about statistical work programmes publicly available. • Making documents for, and reports of, statistical meetings publicly available. <p>Principle 7 Erroneous interpretation and misuse of statistics are to be immediately and appropriately addressed. Good practices include:</p> <ul style="list-style-type: none"> • Responding to perceived erroneous interpretation and misuse of statistics. • Enhancing the use of statistics by developing educational material for important user groups.
<p>FAO SQAF Principle 10: Statistical Confidentiality</p>	<p>Principle 6 Individual data collected about people 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:</p> <ul style="list-style-type: none"> • Putting measures in place to prevent the direct, or indirect, disclosure of data about people, households,

	<p>businesses and other individual respondents.</p> <ul style="list-style-type: none"> • Developing a framework which sets out the methods and procedures for providing sets of anonymous micro-data for further analysis by bona fide researchers, whilst maintaining the confidentiality requirements.
FAO CQAF SQAF Principle 11: Quality Commitment	<p>Principle 1 High quality international statistics, which are accessible to all, are a fundamental element of global information systems</p>
FAO CQAF SQAF Principle 12: Development of international standards	<p>Principle 4 Concepts, definitions, classifications, sources, methods and procedures employed in the production of international statistics meet professional scientific standards, and are made transparent for users. Good practices include:</p> <ul style="list-style-type: none"> • Making officially agreed standards publicly available. <p>Principle 8 Standards for national and international statistics are to be developed on the basis of sound professional criteria, while also addressing issues of practical utility and feasibility. Good practices include:</p> <ul style="list-style-type: none"> • Systematically involving national statistical offices and other national organizations 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.
FAO CQAF SQAF Principle 13: Cooperation with data providers	<p>Principle 5 Sources and methods for data collection are appropriately chosen to ensure timeliness and other aspects of quality, to be cost-efficient and to minimize the reporting burden for data providers. Good practices include:</p> <ul style="list-style-type: none"> • Ensuring that national statistical offices and other national organizations for official statistics are duly involved, and that they advocate the application of the Fundamental Principles of Official Statistics when data are collected in countries. <p>Principle 9 Coordination of international statistical programmes is essential to strengthen the quality, coherence and governance of international statistics, and to avoid duplication of work. Good practices include:</p> <ul style="list-style-type: none"> • Coordinating technical cooperation activities in countries

	<p>with resource partners and different organizations in the national statistical system, to avoid duplication of efforts and to encourage complementarities and synergies.</p> <p>Principle 10 Bilateral and multilateral cooperation in statistics contributes to the professional growth of the statisticians involved, and to the improvement of statistics within countries and the organizations involved. Good practices include:</p> <ul style="list-style-type: none"> • Cooperating and sharing knowledge among international organizations and with countries and regions to further develop national and regional statistical systems. • Basing cooperation projects on user requirements, promoting the full participation of the main stakeholders, taking account of both local circumstances and the level 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 the development of national official statistics.
<p>FAO CQAF SQAF Principle 14: Coordination with other international organizations producing statistics</p>	<p>Principle 5 Sources and methods for data collection are appropriately chosen to ensure timeliness and other aspects of quality, to be cost-efficient and to minimize the reporting burden for data providers. Good practices include:</p> <ul style="list-style-type: none"> • Contributing to an integrated presentation of statistical programmes, including data collection plans, thereby making gaps or overlaps clearly visible <p>Principle 9 Coordination of international statistical programmes is essential to strengthen the quality, coherence and governance of international statistics, and to avoid duplication of work. Good practices include:</p> <ul style="list-style-type: none"> • Designating one or more statistical units to implement statistical programmes, including one unit that coordinates the statistical work of the organization and represents the organization in international statistical meetings. • Participating in international statistical meetings and bilateral and multilateral consultations whenever necessary. <p>Principle 10 Bilateral and multilateral cooperation in statistics contributes to the professional growth of the statisticians involved, and to the improvement of statistics within</p>

	<p>countries and the organizations involved.</p> <p>Good practices include:</p> <ul style="list-style-type: none">• Cooperating and sharing knowledge among international organizations and with countries and regions to further develop national and regional statistical systems.
--	--

Annex 2. Correspondence between FAO SQAF principles and QAF principles of other international organisations

NQAF	FAO	ECB	Eurostat	IMF	OECD
NQAF1. Coordinating the national statistical system	FAO SQAF 13: Cooperation with data providers	SQF 1 Independence and accountability (2,3,4) SQF 2 Mandate for Data Collection SQF 5 Coordination and cooperation among the members of the ESCB and with European and international organisations SQF 6 Resources and efficiency (1,2)	CoP. 2 Mandate for data collection CoP. 3. Adequacy of resources (3.3-3.4)	DQAF. 0.1 Prerequisites for quality – Legal & Institutional Environment (0.1.1-0.1.2)	
NQAF2. Managing relationships with data users and data providers	FAO SQAF 1: Relevance FAO SQAF 8: Non Excessive burden on respondent FAO SQAF 13: Cooperation with data providers FAO SQAF 14: Coordination with other international organizations producing statistics	SQF 2 Mandate for Data Collection SQF 8 Cost-effectiveness and non-excessive burden on reporting agents (2,3) SQF 9 Relevance of the statistical output (1,2,5) SQF13 Accessibility and Clarity of the statistical output (3)	CoP. 2 Mandate for data collection (2.3) CoP. 7 Sound methodology (7.7) CoP. 9 Non-excessive burden on respondents CoP. 11 Relevance CoP. 15 Accessibility and Clarity (15.6-15.7)	DQAF. 5.3 Accessibility - Assistance to users (5.3.1)	QF (h),(i)
NQAF3. Managing statistical standards	FAO SQAF 4: Coherence and Comparability FAO SQAF 6: Sound methodology and appropriate statistical procedures FAO SQAF 13:	SQF 7 Sound methodology and appropriate statistical procedures (1,2,3,4) SQF 8 Cost-effectiveness and non-excessive burden on reporting	CoP. 7 Sound Methodology (7.1-7.2) CoP. 10 Cost Effectiveness (10.4) CoP. 14 Coherence & comparability (14.3)	DQAF. 3.1 Accuracy & Reliability – Source data (3.1.2)	

NQAF	FAO	ECB	Eurostat	IMF	OECD
	Development of international standards FAO SQAF 14: Coordination with other international organizations producing statistics	agents (3) SQF 11 Consistency (or coherence) and comparability of statistical outputs (5)	CoP. 15 Accessibility & Clarity (15.5)		
NQAF4. Assuring professional independence	FAO SQAF 9: Professional independence and impartiality	SQF 1 Independence and accountability	CoP. 1 Professional Independence	DQAF. 1.1. Assurance of Integrity – Institutional Integrity (1.1.2-1.1.3)	QF (a)
NQAF5. Assuring impartiality and objectivity	FAO SQAF 9: Professional independence and impartiality	SQF 3 Impartiality and objectivity	CoP. 6 Impartiality & Objectivity	DQAF. 1.1. Assurance of Integrity – Institutional Integrity (1.1.1)	QF (a)
NQAF6. Assuring transparency	FAO SQAF 2: Accuracy and Reliability FAO SQAF 9: Professional independence and impartiality	SQF 3 Impartiality and objectivity (2,3,7,8) SQF 10 Accuracy and Reliability (including stability) of the statistical output (4,5)	CoP. 6 Impartiality & Objectivity (6.3-6.6) CoP. 8 Appropriate statistical procedures (8.6)	DQAF. 1.2. Assurance of Integrity – transparency (1.2.1-1.2.4)	QF (d)
NQAF7. Assuring statistical confidentiality and security	FAO SQAF 10: Statistical Confidentiality	SQF 4 Statistical confidentiality	CoP. 5 Statistical confidentiality	DQAF. 0.1 Prerequisites for quality – Legal & Institutional environment (0.1.3)	QF (c), (s)
NQAF8. Assuring the quality commitment	FAO SQAF 11: Quality Commitment	SQF 7 Sound methodology and appropriate statistical procedures (3) SQF 9 Relevance of the statistical output (4)	CoP. 4 Commitment to quality	DQAF. Prerequisites for quality – Other quality management (0.4.1-0.4.2)	QF (g)
NQAF9. Assuring adequacy of resources		SQF 6 Resources and efficiency (1,2)	CoP. 3 Adequacy of resources	DQAF. 0.2 Prerequisites for quality – Resources (0.2.1)	

NQAF	FAO	ECB	Eurostat	IMF	OECD
NQAF10. Assuring methodological soundness	FAO SQAF 6: Sound methodology and appropriate statistical procedures	SQF 7 Sound methodology and appropriate statistical procedures (1,2,3)	CoP. 7 Sound methodology CoP. 8 Appropriate Statistical procedures (8.2- 8.6)	DQAF. 2. Methodological Soundness	QF (n)
NQAF11. Assuring cost-effectiveness	FAO SQAF 7: Cost-effectiveness	SQF 8 Cost-effectiveness and non-excessive burden on reporting agents	CoP. 10 Cost effectiveness	DQAF. 0.2 Prerequisites for quality – Resources (0.2.2)	QF (g), (j), (t) (u)
NQAF12. Assuring soundness of implementation	FAO SQAF 6: Sound methodology and appropriate statistical procedures	SQF 7 Sound methodology and appropriate statistical procedures (4,5,6)	CoP. 8 Appropriate statistical procedures	DQAF. 3.1. Accessibility & reliability – Source Data (3.1.1) DQAF. 3.3. Accessibility & reliability – Statistical Techniques	QF (k)
NQAF13. Managing the respondent burden	FAO SQAF 8: Non Excessive burden on respondent	SQF 8 Cost-effectiveness and non-excessive burden on reporting agents (3)	CoP. 8 Appropriate statistical procedures (8.7-8.9) CoP. 9 Non-excessive burden on respondents	DQAF. 0.1 Prerequisites for quality – Legal & Institutional Environment (0.1.4)	QF (i), (j), (l)
NQAF14. Assuring relevance	FAO SQAF 1: Relevance	SQF 9 Relevance of the statistical output	CoP. 11 Relevance	DQAF. 0.3 Prerequisites for quality – Relevance (0.3.1)	QF (g) (l)
NQAF15 Assuring accuracy and reliability	FAO SQAF 2: Accuracy and Reliability	SQF 10 Accuracy and Reliability (including stability) of the statistical output	CoP. 8 Appropriate statistical procedures (8.6) CoP. 12 Accuracy & Reliability	DQAF. 3.2. Accessibility & reliability – Assessment of source Data (3.2.1) DQAF. 3.4. Accessibility & reliability – Assessment and validation of intermediate data and statistical outputs DQAF. 3.5 Accessibility &	QF (g)

NQAF	FAO	ECB	Eurostat	IMF	OECD
				reliability – Revision studies DQAF. 4.3 Serviceability - Revision policy and practices	
NQAF16. Assuring timeliness and punctuality	FAO SQAF 3: Timeliness and punctuality	SQF 12 Timeliness (including punctuality) of the statistical output	CoP. 13 Timeliness & punctuality	DQAF. 3.1 Accessibility & reliability – source Data (3.1.3) DQAF. 4.1 Serviceability – Periodicity and Timeliness DQAF. 5.1 Accessibility – Data accessibility (5.1.3)	QF (g)
NQAF17. Assuring accessibility and clarity	FAO SQAF 5: Accessibility and Clarity	SQF13 Accessibility and Clarity of the statistical output	CoP. 15 Accessibility & Clarity	DQAF. 5.1 Accessibility – Data accessibility DQAF. 5.2 Accessibility – Metadata accessibility DQAF. 5.3 Accessibility – Assistance to users (5.3.2)	QF (g), (o), (q), (r), (t) (u)
NQAF18. Assuring coherence and comparability	FAO SQAF 4: Coherence and Comparability	SQF 11 Consistency (or coherence) and comparability of statistical outputs	CoP. 14 Coherence & comparability	DQAF. 4.2 Serviceability - Consistency	QF (g)
NQAF19. Managing metadata	FAO SQAF 5: Accessibility and Clarity	SQF13 Accessibility and Clarity of the statistical output (1)	CoP. 15 Accessibility & Clarity (15.1-15.2)		QF (g) (o) (q) (r)

This comparison is partly based on the work carried out in developing the Guidelines for the template of the UN Generic National QAF⁵

⁵ Mapping of UN generic NQAF with others QAF can be found here <http://unstats.un.org/unsd/dnss/docs-nqaf/MAPPING%20OF%20THE%20NQAF%20.xls>