STATISTICS QUALITY ASSURANCE FRAMEWORK
DEFINITIONS

UNITED NATIONS
UNCTAD

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1. BASIC DEFINITIONS

1.1. OFFICIAL UNCTAD STATISTICS

All statistics compiled by UNCTAD and published on UNCTADstat or on the UNCTAD website are considered official international statistics, unless clearly stated otherwise. The designation *Official UNCTAD statistics* means these statistics are compiled in line with international statistical standards and concepts (where such international standards and concepts exist) in order to harmonise data across countries. UNCTAD reserves the right to impute national and regional estimates where those data do not exist or are not available. Thus UNCTAD statistics may not necessarily be a simple reproduction of official national statistics as published by member states.

Official UNCTAD statistics are compiled and disseminated in accordance with the *Principles Governing International Statistical Activities* formulated by the Committee for the Coordination of Statistical Activities (CCSA, 2014).

1.2. QUALITY

The term *quality* can be interpreted in a broad sense, encompassing all aspects of how well statistical processes and outputs fulfil user and stakeholder expectations. Good quality outputs are 'fit for purpose' statistics from the user perspective, meaning they are relevant, accurate, reliable, coherent, timely, accessible, and interpretable. They are produced by good quality processes, meaning processes that use sound methodology and systems and are cost-effective, within an institutional environment that recognises the need for objectivity, impartiality and transparency and for statistical coordination.

1.3. STATISTICAL ACTIVITY

The UNCTAD SQAF oversees all statistical development and production activities within UNCTAD, irrespective of whether those activities are conducted by persons with a formal role of statistician or not, and irrespective of whether those activities are conducted on a full time or part-time basis.

Statistical activity does not include human resource management, financial management and ICT infrastructure as these are not specific to the Agency's statistical activities.

For the purposes of the UNCTAD SQAF, a statistical activity is any activity in which the primary focus is on acquiring, processing, analysing, storing and/or disseminating statistical data or information, building the statistical infrastructure to support such activities, or providing quality assurance at any stage of the statistical production or analysis cycle.

UNCTAD's statistical activities are divided into two groups:
• *statistical production activities* are those activities associated with acquiring, processing, storing and disseminating specific statistical data, including the specification and design of these activities;
• *statistical infrastructure activities* are those activities associated with developing or maintaining the *statistical infrastructure* that supports production activities and that includes statistical concepts such as standard statistical classifications, and processing procedures and storage mechanisms.
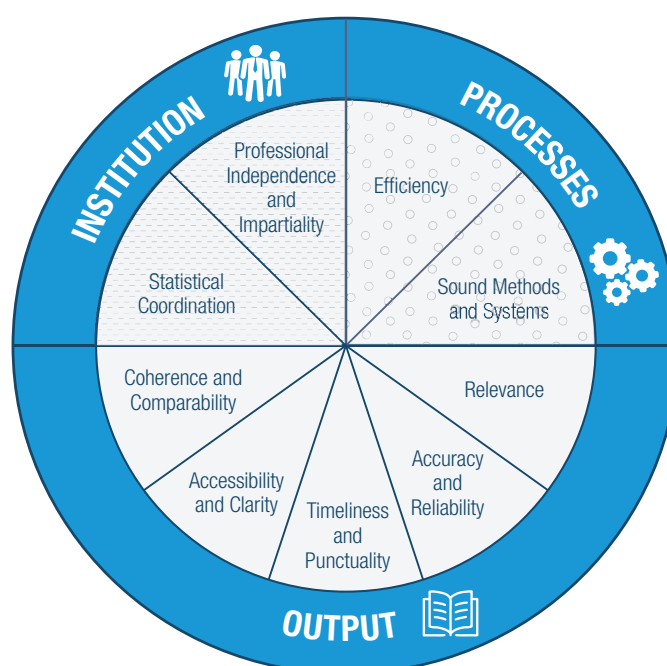
2. DEFINITION OF QUALITY DIMENSIONS

The broad quality areas for UNCTAD are those relating to *statistical output quality*; *process quality*; and *institutional quality.* Each of these quality dimensions comprises of several quality components.

FIGURE 1: QUALITY COMPONENTS & DIMENSIONS

3. DEFINITION OF QUALITY COMPONENTS: INSTITUTIONAL ENVIRONMENT

3.1. PROFESSIONAL INDEPENDENCE AND IMPARTIALITY

Professional independence and impartiality for official UNCTAD statistics means that: statistical methods and outputs are determined only by statistical considerations and not due to pressure from data providers, member states, or other users or stakeholders; statistical reports and press releases are objective and non-partisan; all the important decision, acts, regulations concerning statistical production processes are publicly available; all the methodologies and standards being adopted are well documented and made available to users; and that users are informed about the quality policy and quality framework adopted by the agency.

3.2. STATISTICAL COORDINATION

UNCTAD statistics should be harmonised in the sense that they use common concepts, classifications and definitions wherever possible. This is achieved through coordination of statistical activities within UNCTAD. For UNCTAD, coordination of statistical activities can be defined to mean those activities included under the mandate of the UNCTAD Statistical Coordination Task Force.

4. DEFINITION OF QUALITY COMPONENTS: STATISTICAL OUTPUTS

4.1. RELEVANCE

The relevance of a statistical output 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 users' needs (completeness); inclusion of the appropriate content; and use of appropriate concepts.

4.2. ACCURACY

The accuracy of a statistical output 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.

To a large degree, the accuracy of official UNCTAD statistics is determined by the accuracy of the data received from member states. However, UNCTAD takes all reasonable steps to ensure and if necessary improve the accuracy of national and regional estimates.

4.3. RELIABILITY

Reliability is the closeness of the initially released values of a statistical output to the values that are subsequently released for the same reference period. The second release may be a planned revision to take into account more complete or accurate observation data, or an ad-hoc revision to correct erroneous values.

An update is a regular and periodic refreshment of a dataset to incorporate new data, for example, adding a new quarter or year. These regular updates may, or may not, incorporate revisions to data made by member states.

A revision is an irregular amendment to a dataset to correct an error. A revision is not the same as an update. A revision should be clearly highlighted. Some explanation as to why error occurred should be provided. The extent or magnitude of the change should be provided so that users can appreciate the impact of the revision.

4.4. COHERENCE AND COMPARABILITY

The coherence of a statistical output reflects the degree to which it is logically connected and mutually consistent with other statistical outputs. Coherence implies that the same term should not be used without explanation for different concepts; that different terms should not be used without explanation for the same concept; 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".

Coherence (and comparability) has four important sub-dimensions:

• *Coherence within a dataset* implies that elementary data are based on compatible concepts, definitions, and classifications. Incoherence within a dataset occurs, for example, when a data set integrates data from different sources and component values provided by one source do not add up to a total provided by another source.
• *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.
• *Comparability 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. Incomparability over time refers to breaks in a series resulting from changes in concepts, definitions, or methodology.
• *Comparability 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.

4.5. TIMELINESS

The timeliness of a statistic 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 statistic is of value. To a large extent the timeliness of UNCTAD statistics is determined by the timeliness of data and statistics received from member states or made available by other contributing organisations.

4.6. PUNCTUALITY

Punctuality and timeliness are inter-related. The punctuality of a statistic implies the existence of and adherence to an output dissemination schedule or calendar. A statistical output is punctual if it is disseminated in accordance with that schedule. The schedule will typically comprise a target release date or a commitment to release data within a prescribed time-period.

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

4.7. ACCESSIBILITY

The accessibility of a statistical output reflects how readily statistics can be discovered, located and accessed from UNCTADstat or the UNCTAD website. A dissemination policy should be articulated and made publicly known.

4.8. CLARITY

The clarity or interpretability of a statistical output reflects the ease with which users can understand and properly use the published statistics. The degree of clarity is largely determined by the adequacy of the metadata that accompany the statistics, including definitions of concepts, target populations, indicators and other terminology describing the output and its limitations. The content and format of published outputs should be adapted to the different target groups.

5. DEFINITION OF THE QUALITY COMPONENTS: STATISTICAL PROCESSES

5.1. SOUND METHODS AND SYSTEMS

Sound methods refer to the use of international standards and best practices through all stages of a statistical process from identification of requirements, through design, data collection, processing, analysis, dissemination, and evaluation. Sound systems refer 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.

5.2. EFFICIENCY

The efficiency with which statistical outputs are produced can be defined as 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 output of specified quality as efficiently as possible.