

Statistical Commission

Forty-ninth session

6 – 9 March 2018

Item 3 (a) of the provisional agenda

**Items for discussion and decision: data and indicators for
the 2030 Agenda for Sustainable Development**

Background document

Available in English only

**Guidelines on Data Flows and Global Data Reporting for
Sustainable Development Goals**

Prepared by the Inter-Agency and Expert Group on Sustainable Development
Goal Indicators

Guidelines on Data Flows and Global Data Reporting for Sustainable Development Goals

I. Introduction

1. The Millennium Development Goals' (MDG) process highlighted the importance of robust and reliable data for evidence-based decision-making as well as the need to effectively focus national development policies and programs. As a result of the increased attention to the key role of data and statistics and the statistical capacity development activities undertaken by international organizations, many countries strengthened their statistical capacities and increased their data quality and availability. The MDG process also underscored that the key concepts of cooperation, coordination and transparency between international organisations and National Statistical Systems (NSSs) are of the utmost importance in order to provide reliable, high-quality and impartial data for decision-makers at the national, regional and global levels.

2. The Sustainable Development Goals (SDGs) are universal, more complex and much broader in scope than the MDGs. As a result, they present the significant challenge of producing accurate, timely, and sufficiently disaggregated data and statistics on a wide range of topics for the full implementation and monitoring of the agenda. Therefore, it is imperative to understand the data flows and reporting structures between national and international organisations and to find common ground on how to work together in order to have harmonised and comparable statistics and data at the national, regional and international levels. These data flows and reporting structures should build and improve upon the significant amount of work that has already taken place during the MDG period. Data flows for global reporting on the SDGs should build upon this experience, while also seeking to identify the most efficient, accurate and transparent mechanisms for reporting data from the national to the international level (in some cases this means developing new reporting structures) and should take into account the already existing reporting mechanisms from countries to regional and international organisations.

3. The UN Statistical Commission, in its resolution 48/101 (I), requested the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) “to develop detailed guidelines of how custodian agencies and countries can work

together to contribute to the data flows necessary to have harmonised statistics” for global SDG data reporting.

4. The purpose of this document is to present guidelines for global SDG data reporting that ensure that high quality and internationally comparable data and statistics are used for global reporting; these guidelines also include criteria for the use of data from outside the NSSs. These guidelines are recommendations to both NSSs and international organizations on how they can better collaborate to improve the transmission and validation of data and statistics for the SDGs at the global level.

5. These guidelines build on the extensive knowledge gained from past experiences and address coordination as well as cooperation within and between National and International Statistical Systems. In order to ensure high quality international statistics, it is crucial that official statistics and data sources from NSS constitute the basis of global statistical monitoring. Differences between national and international statistical data that are not adequately explained could potentially cause confusion and damage the credibility of statistics for the 2030 Agenda, the faith that policymakers and the public place on statistics, and the agencies that produce them. Focus should be placed on enhancing a consistent and coordinated approach for processing data and metadata, particularly with regards to data validation and the communication of estimates and adjustments undertaken by national and international statistical systems to produce internationally comparable statistics.

II. Background

6. The adoption of General Assembly (GA) resolution A/RES/70/1 “Transforming our world: the 2030 Agenda for Sustainable Development” was a bold step and demonstrates the necessity to shift the world towards sustainable development, in all its dimensions. With this resolution, the international community also committed to a follow-up and review process at the national, regional and international level in order to monitor the progress made in implementing the Sustainable Development Goals and targets over the coming years.

7. In its resolution A/RES/71/313, the GA entrusted the UN Statistical Commission (UNSC) with several tasks. Some of the tasks given to UNSC include, “to coordinate the

substantive and technical work to develop international statistical standards, methods and guidelines, where necessary [...]” and “through the Inter-Agency and Expert Group on Sustainable Development Goal Indicators, to further refine and improve the global indicator framework in order to address coverage, alignment with targets, definition of terms and development of metadata and to facilitate its implementation [...]” (A/RES/71/313 para. 2 and 3).

8. Since national ownership is a key factor for this transformation at all levels, Member States need to play a central role in the Agenda 2030 process. In accordance with A/RES/70/1 para. 74, a commitment was made to respect national realities, capacities and policy priorities in the follow-up and review process. At the same time, the GA emphasises the importance of a strong and revitalised global partnership, which “brings together Governments, the private sector, civil society, the United Nations system and other actors” (A/RES/70/1 para. 39).

9. As the global review is to be primarily based on official statistics and data from NSSs, the GA stresses “the role of national statistical offices as the coordinator of the national statistical system.” (A/RES/71/313 para. 6)

10. A critical aspect in measuring progress towards the achievement of the 2030 Agenda is to make high-quality official statistical information available. Therefore, all members of international organizations, NSSs and other national authorities engaged in the work of compiling data for the SDGs must adhere to the Fundamental Principles of Official Statistics. In addition, international and supranational organisations are expected to follow the Principles Governing International Statistical Activities¹.

11. The Generic National Quality Assurance Framework template, which was fully endorsed by the UNSC at its forty-third session in 2012, gives guidance to countries on ensuring these quality requirements.

12. The United Nations Economic and Social Council (ECOSOC) states that imputation of statistics by all international agencies should be avoided “unless specific country data are available for reliable imputations following consultations with concerned countries and through transparent methodologies” (ECOSOC Resolution 2006/6 para. 5c).

¹ https://unstats.un.org/unsd/accsub-public/principles_stat_activities.htm

13. For the SDGs, the GA “urges international organizations to base the global review on data produced by National Statistical Systems and, if specific country data are not available for reliable estimation, to consult with concerned countries to produce and validate modelled estimates before publication” (A/RES/71/313 para. 7). UNSC also recommends that in cases where country data are adjusted or estimated, this should be done in full consultation with the concerned country and through transparent mechanisms (UNSC 48/101 para. l).

14. Furthermore, the GA “urges that communication and coordination among international organizations be enhanced in order to avoid duplicate reports, ensure consistency of data and reduce response burdens on countries, and urges international organizations to provide the methodologies used to harmonize country data for international comparability and produce estimates through transparent mechanisms” (A/RES/71/313 para. 7).

15. The UN Statistical Commission further requested that custodian agencies provide “a list of national agencies providing the data to the international system and share data collection calendars in order to ensure the full traceability of data used in international sources” (48/101 (k)). These calendars would allow National Statistical Offices (NSOs) to better track and plan for national reporting and data submissions to international organizations.

16. Finally, the report “A world that counts” elaborates nine key principles for the data revolution for sustainable development. The report underlines the necessity of periodic audits by professional and independent third parties in order to demonstrate the high quality and integrity of statistical information, especially in light of non-traditional data sources such as big data and geospatial information (Independent Expert Advisory Group on a Data Revolution for Sustainable Development, 2014).

III. Overarching principles in global reporting of the SDGs

17. All activities of the global statistical system must be conducted in full adherence to the Fundamental Principles of Official Statistics and the Economic and Social Council resolution 2006/6 (A/RES/71/313 para. 6).

18. International agencies also adhere to the Principles Governing International Statistical Activities, endorsed by the Committee for the Coordination of Statistical Activities on 14 September 2005 and reaffirmed by the Committee in March 2014.

19. These two sets of principles provide overarching guidance on the production, dissemination and harmonization of data and statistics that all parties involved in the global data reporting process must follow.

20. Some key guiding principles that are especially important for data reporting and harmonization of global SDG indicators are the principles of:

- a) **Transparency:** Data and metadata should be openly shared and all adjustments or estimates for purposes of global reporting should be done in a transparent manner and methodologies used should be shared with all parties;
- b) **Collaboration and communication:** Collaboration and open communication among NSOs, NSSs, custodian agencies and other involved parties are essential for ensuring an effective flow of internationally comparable data that meet the highest international standards. Open communication should allow all parties to have a full and complete understanding of what occurs at each stage of the process; and
- c) **Professional and scientific standards:** Concepts, definitions, classifications, sources, methods and procedures employed in the production of international statistics are chosen to meet professional and scientific standards and are made transparent for the users.

IV. Guidelines for data reporting from the National to International Statistics Systems for SDG indicator

21. These guidelines outline the responsibilities of all organisations involved in the global follow-up and review process of the SDGs (applying to the compilation and harmonization of data and statistics for global reporting on SDG indicators), including NSOs, other national government departments and agencies, and international organisations as they relate to the transmission, estimation and validation of data and statistics used in global monitoring. It is important to keep in mind that these activities are also part of the more general data reporting activities between the NSSs and international organizations. The responsibilities of the different parties are not always the same, and these guidelines identify the specific responsibilities of each party (NSOs and other members of the NSSs and international organizations). These guidelines may entail additional resources committed by both custodian agencies and NSOs/NSSs.

22. All parties involved in the process of data reporting on the SDGs are requested to comply with the following:

- a) Global reporting on SDG indicators should be primarily based on data and statistics produced by NSSs.
- b) The coordinating role of NSOs in the NSSs should be encouraged and central to the reporting process, while also respecting and promoting the existing data reporting arrangements between other actors in the NSS and custodian agencies in a transparent manner.
- c) The use of appropriate data transmission standards and tools that enable the automation of data exchanges, such as Statistical Data and Metadata eXchange (SDMX) and web Application Program Interfaces (APIs), for the collection and exchange of SDG data in an open data format should be promoted.
- d) Metadata for all indicators should always be provided according to scientific standards that includes (at a minimum) information on the sources, definitions, methods of data collection and computation, and in the case of custodian agencies, the method for global harmonization, aggregation and interpretation. The provision of this metadata increases the transparency of the reporting process. This encompasses:
 - i. Metadata and methodological guidance should be provided by the custodian agencies to the NSSs for the production of accurate and internationally comparable statistics. The metadata should be in line with the global metadata template approved by the IAEG-SDGs, emphasising how the NSSs can collect the data and compile the indicator. Updates made to the metadata are expected to be documented in order to ensure transparency.
 - ii. National metadata are expected to be submitted by the national data provider to the custodian agencies at the same time as data are submitted to ensure the dissemination of accurate and internationally comparable data. In cases where no metadata is made available by the national data provider or the metadata provided does not include the necessary information, the custodian agency will contact the national data provider to request the necessary metadata within a reasonable timeframe, but at a minimum one month.

- iii. Global metadata are provided by the custodian agencies to the United Nations Statistical Division for an increased understanding of the data in global data reporting. To facilitate and standardize metadata submissions, custodian agencies are expected to use the metadata template for global SDG indicators that was agreed upon by the IAEG-SDGs. The metadata is expected to include, inter alia, adjustments made to national data, the methodology used for these adjustments, and the methodologies used for any imputation of missing values. Furthermore, the metadata will be disseminated jointly with the corresponding time series published in the UNSD SDG Indicator Global Database.
- e) For all global indicators that require national level data, NSOs can identify a SDG data contact person(s), who will be informed systematically through email on the times when custodian agencies are collecting, processing and disseminating data for Sustainable Development Goal indicators, including in those cases where the custodian agency's primary contact is in a line ministry. In cases where no contact person is identified, the NSO should be considered the focal point until a final decision is reached between the country and the custodian agency. These contact persons in the NSO are expected to respond to requests from custodian agencies in a timely manner and facilitate the coordination of data transmission within the NSSs for global reporting on the SDGs. The NSO should be informed about, and if appropriate, consulted or closely involved when custodian agencies carry out pilot studies or household surveys for SDGs.
- f) A lead custodian agency should be identified for each SDG indicator, including a data focal point in the corresponding agency. In cases of co-custodianship of indicators, the custodian agencies should jointly determine the focal points(s). The determination of these focal points will depend on the nature of the specific indicator. A list of custodian agency data focal points is available on the United Nations Statistics Division (UNSD) SDGs website² and updated as necessary.
- g) Custodian agencies will establish and publish a timetable for the collection of primary data and statistics used in global reporting for the SDGs from NSSs, including timeframes for harmonisation and approval procedures, while coordinating

² <https://unstats.un.org/sdgs/dataContacts/>

and arranging data requests and technical consultations in a workable and timely manner that foresees at least one month for data providers to respond. This data collection calendar is available on UNSD's SDGs website³ and any updates to these timetables should be communicated to the data providers and the national SDG data contact person in the NSO, if provided.

- h) NSOs and NSSs will collect data according to the Fundamental Principles of Official Statistics and provide these data and metadata in a timely manner to custodian agencies for use in global reporting. NSOs and NSSs should, when possible and consistent with national priorities and realities, use internationally agreed standards, methodologies and definitions in their data and statistical production in order to avoid the need for international harmonization of national data/statistics as much as possible.
- i) Custodian agencies and NSSs are expected to work together towards ensuring the most transparent and efficient way of reporting SDG indicators for both National and International Statistical Systems. This means utilizing national SDG indicator reporting platforms, where available. The national SDG indicator reporting platforms should contain the underlying data and metadata of the indicators so users can understand how they are compiled. Already well-established data reporting mechanisms also need to be considered. In certain cases, countries in a region may also choose to declare a regional database as the primary source for custodian agencies to retrieve national data.
- j) In cases where no national data are provided by the NSS and/or there is no other effective and well-established data reporting mechanism, the custodian agency will discuss with the NSO/NSS:
 - i. The availability of other data sources, including those outside the NSS and/or new data sources;
 - ii. The national plans for future production of these data and statistics; and
 - iii. Reach an agreement with the NSO and/or NSS on a mechanism to validate and transmit these data and statistics. In the case of new data

sources, the custodian agency should ensure that capacity is built within the NSS and that data development is coordinated, coherent and aligned with other national activities.

- k) If adjustments and estimates of country data are made, custodian agencies are strongly recommended to undertake consultations with countries through a fully transparent mechanism. National counterparts have the responsibility to review the information provided by the custodian agency during the designated time frame and notify the custodian agency if any issues are identified. If a national counterpart requires additional time to review this information, they will notify the custodian agency in advance to allow for a mutually agreeable solution to be identified. If there is no response from the contact person and/or the NSO within one month and with courtesy reminders from the custodian agency, this will be taken as agreement with the statistics shared by the custodian agency and these values can be reported in the UNSD SDG Indicators Global Database.
- l) International agencies and NSSs are strongly recommended to coordinate their data collection work and to establish effective and efficient data sharing arrangements to avoid duplication of efforts. Data for SDG global monitoring provided to the custodian agencies by the NSSs shall only be shared after the harmonisation procedure is finalised in order to ensure consistency of data and statistics. In cases where the SDG indicators are used by custodian agencies as well as by partner agencies in thematically connected publications and databases, the identical data sets from the UNSD SDG Indicators Global Database should be used.
- m) Custodian agencies should coordinate the data updates in the UNSD SDG indicators Global Database with their own data dissemination in order to ensure consistency of the global data series.

23. A guiding principle for National and International Statistical Systems that are involved in global SDG data flows and reporting is to ensure high quality statistical information by:

- a) Promoting the use of international standards for data production in accordance with the UN Classifications Registry or other standards adopted by the UN Statistical Commission and other international bodies, and selecting the most appropriate

statistical methods and data sources exclusively on the basis of scientific and statistically robust considerations, including transparent documentation and adhering to the Fundamental Principles of Official Statistics and the Principles Governing International Statistical activities for custodian agencies.

- b) In cases where data are provided by an entity outside of the NSS (international data collection, other government offices, other data source), the custodian agency is expected to consult with the data provider, the national contact person and/or NSO to ensure that there is agreement on the data and metadata being used. The representative(s) from the NSO/NSS are expected to actively engage in these consultations in order to ensure a solution agreeable to all parties is adopted. This consultation is especially important in cases where there exist multiple national data sources for the same indicator and the custodian agency, working together with the NSO/NSS, must determine what data source is most appropriate to use for global monitoring. The decision on whether to utilise the data set shall be taken in consensus with the listed national contact person and/or the NSO and should take into account the professional and scientific independence of the data provider, the use of scientific methods and impartiality, while also keeping in mind the two important principles of country ownership of SDG monitoring and the value of internationally comparable data and statistics. If no agreement is reached between the custodian agency and the NSO/NSS, the national data for this indicator should not be included in the UNSD's global SDG database, but may be used for the calculation of regional and global aggregates.
- c) Quality assurance within the NSS should be complemented by a harmonisation check that is carried out by custodian agencies in order to ensure international comparability and the results and methodologies of these harmonization checks should be made available to the NSS.

V. Guidelines on the production of international data series for SDG indicators

- 24. In case the custodian agency sees a need to adjust or estimate country-specific values to ensure compliance to internationally agreed concepts, definitions or

classifications; to fill data gaps; or to harmonize data from different national official sources, the following guiding principles shall apply:

- a) The custodian agency selects the most appropriate statistical methods and data sources, exclusively on the basis of scientific and statistically robust considerations, in order to calculate the adjusted values. The potential errors, the adjusted values and the chosen methodological approach and all technical documentation are strongly recommended to be provided to the NSO and the national data provider in a transparent manner in order to facilitate validation and the replicability of the numbers.
- b) The custodian agency invites the listed national contact person in the relevant government agency and/or the NSO to participate in technical consultations with the aim to validate the adjusted or estimated values. The national contact person is expected to review the information provided and communicate any comments or concerns to the custodian agency within one month. If an agreement is reached on the methodology used for internationally comparable indicators, or if no response is received during this time period with a courtesy reminder the corresponding values will be published in the global SDG database and all thematically connected international publications in order to avoid discrepancies. The same methodology will be adopted for subsequent years until the country is able to compile the indicator according to international standards and definitions.
- c) If a country disagrees with the methodology used to produce the internationally comparable indicators or the indicator value itself, the contact person and/or NSO is expected to provide the reasons for its non-acceptance to the corresponding custodian agency. Custodian agencies and the NSO/NSS should discuss this disagreement in an open manner and try to reach a mutually agreeable solution. If after having these discussions no agreement is reached on the methodology used and/or the indicator value, the country's national data for the indicator should not be included in the UNSD SDG Global database, but may be used for the calculation of regional and global aggregates.

25. In case the custodian agency sees no need for adjustments, the data provided by NSS can be directly transmitted to the United Nations Statistics Division Global SDG

Database via the custodian agency. The custodian agency should copy the SDG contact persons when transmitting the data to the UNSD SDG Indicators Global database.

26. Technical assistance should be provided to countries by custodian agencies in areas where data are not available, are of low quality, differ due to different methodologies and definitions, are not compliant with international standards, there is insufficient technical capacity, or where indicators are not yet calculated but the underlying data exist. This technical assistance will strengthen national data systems and enable countries to produce their own data in the long run.

Glossary of Terms

Note on terms included in glossary: The definitions of the terms included below are intended to clarify the meaning of these terms as they are used in these guidelines. Different governments and national statistics systems may have their own definitions of these terms inscribed in national laws and the definitions included in these guidelines in no way supersede those nationally agreed definitions. In addition, the definitions provided below are not endorsed by the United Nations Statistical Commission nor does the IAEG-SDGs request such an endorsement of the definitions of these terms.

- **Official statistics and data from National Statistical Systems** - Official data from NSSs refer to qualitative or quantitative data including non-traditional types of data produced and/or disseminated by an official national institution such as the NSO or other governmental agency or department. *Official Statistics from NSSs* refer to statistics disseminated by the NSS, excepting those that are explicitly stated not to be official.
- **Non-traditional data** - Data that are produced by non-governmental national sources including private sector, NGOs, academic research.
- **Internationally comparable data and statistics** (or *International data series*) – *Data*, statistics, indicators or aggregates produced by a UN agency or other international organisation in accordance with the Principles Governing International Statistical Activities formulated by the Committee for the Coordination of Statistical Activities.
- **Custodian agency** – An international or regional organization that collects data for global SDG indicators from countries, compiles internationally comparable data in the different statistical domains, supports increased adoption and compliance with internationally agreed standards and strengthens national statistical capacity, compiles international data series, calculates global and regional aggregates and provides data and metadata to the Statistics Division for inclusion in the UNSD SDG Indicators Global Database.

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