Sixth Regional Workshop on the Use of Statistical Data and Metadata Exchange

for SDGs – Advanced Level III

Amman – Jordan, 5-8 June 2023

Summary

The Economic and Social Commission of Western Asia (ESCWA) in collaboration with the United Nations Statistics Division (UNSD) and with the support of the Arab Institute for Training and Research in Statistics (AITRS), organized the Sixth Regional Workshop on the Use of SDMX for SDGs, in Amman Jordan from 5 to 8 June 2023.

The Workshop, the sixth in a series of ESCWA/UNSD joint workshops, aims to improve participants' skills in mapping and converting SDG data and metadata, raise awareness of the latest developments and promote the implementation of SDMX at the national level.

 The training encouraged interactive dialogue including sharing of national experiences in SDMX including challenges.

1. Statistical Data and Metadata eXchange (SDMX) is designed to automate data and metadata exchange between two or more entities within the same entity. The process of normalizing data exchange has improved the efficiency of sharing both statistical data and metadata across statistical organizations and entities, providing an integrated approach and enabling the interoperable implementation of exchanging, reporting, and disseminating statistical data and metadata within and between systems.

2. The Economic and Social Commission of Western Asia (ESCWA) in collaboration with the United Nations Statistics Division (UNSD) and with the support of the Arab Institute for Training and Research in Statistics (AITRS), jointly organized the 6th Workshop on the Use of the Statistical Data and Metadata Exchange (SDMX) for SDGs-Advanced Level III, in Amman, Jordan, from 5 to 8 of June 2023. The training is the sixth in a series of capacity-building workshops and the second held in person, and was also made accessible through the Teams platform to enable all remaining interested experts to participate remotely.

3. The workshop is in response to the resolution (A/RES/70/1) on the adoption of the 2030 Agenda of Sustainable Development in September 2015, to strengthen the capacity of national statistical offices and data systems to ensure access to high-quality, timely, reliable, and disaggregated data by income, sex, age, race, ethnicity, migration status, disability, and geographic location and other characteristics relevant in national contexts. It also responds to Member States' request to the 14th Statistical Committee for ESCWA to hold advanced training on SDMX emphasizing the importance of SDMX, and to the 15th Statistical Committee to bridge gaps in data flows for sustainable development indicators, to ensure the sustainability and modernization of national reporting platforms, and to exchange statistical data and metadata nationally between components of statistical systems using modern technologies, such as SDMX.

4. The objectives of the workshop are to improve countries' skills in mapping and converting SDG data, raise awareness of the latest developments and promote the implementation of SDMX at the national level.

5. The Workshop agenda covered the following items:
    *   Review of latest updates and news on SDMX developments and activities.
    *   ESCWA SDMX Converter for SDGs, and countries reporting on success and challenges using ESCWA converter.
    *   Review of SDMX mapping basics, data, flows, content constraints; and hands-on exercises.
    *   Guidelines on customization of the global DSD for national data using the ILO DSD constructor tool.

- Creating a customized national SDG DSD; hands-on exercises.
- Advanced techniques for mapping and converting SDG data using the command line interface.
- Introduction to SDMX Reference-Infrastructure.
- Demo on Monitoring Application for Reporting on SDGs (MARS).
- Demo of publishing SDMX datasets demo with. Stat suite.

6. The selection criteria for participating in the workshop were based on the successful demonstration of understanding and implementing correct mapping and converting SDG data using SDMX content constraints.

7. The five-day workshop was attended by a total of 27 participants both physically and online (14 statisticians and 13 Information Technology, which included 19 females and 8 males) of which 25 participants attended the workshop onsite (12 statisticians and 13 Information Technology, which included 17 females and 8 males). In addition, 2 experts participated online (2 Information Technology, which included 2 females and no males) that successfully completed all the exercises.

8. Discussion: main points

A quick review of the latest updates and news on SDMX developments and activities and a review of the SDMX information model including SDMX main artifacts such as concepts, concept scheme, cross-domain concepts, Data Structure Definition, Data Flow, Content Constraints, and the representation of concepts (coded, uncoded/formatted, free text).

On data validation, the latest DSD / data flow version needs to be used to validate data exchanged since data validation in previous versions may not pass, because newer versions may include more or newer codes. It is worth noting that a dataset that passes validation against DSD doesn't mean it will pass validation against data flow because DSD validates all dimensions and mandatory attributes have valid values, and all optional attributes have valid values and position types, while validation against the data flow uses content constraints, which in addition validate relationships among dimensions. Regarding attributes, some are optional and can be SKIPped, or just removed, however, mandatory attributes must always be provided. Deleting dimensions/mandatory attributes or using SKIP is not allowed, they must be mapped, in that case to a fixed value.

Content constraints are usually attached to data flows, as in the case of the SDGs, nevertheless, they can be attached to DSD. The main reason why content constraints are often attached to data flow is because data flows often impose additional restrictions, and to ensure that data flows in the future stay harmonized with content constraints.

A quick overview of the ESCWA SDMX converter was demonstrated to participants, to harness the utility of such a tool to report and disseminate national SDGs data to ESCWA, as well as to validate data, the tool can be also used as a playground by users to test their data before submitting it to ESCWA or any other agencies or ministries, moreover, the ESCWA SDMX converter allows users to connect to APIs. Countries also presented challenges and good practices using the ESCWA SDMX converter, including issues encountered, and how the tool helped resolve them.

The meeting also explored different mapping position types. Participants mapped and converted their national SDG data using DSD and data flow as a validation tool, they faced challenges when it came to the UNIT_MEASURE and UNIT_MULT attributes. It was pointed out that code 0 must be used where the observation value is in simple units and recommended to refer to the SDG series content constraint [matrix](#) to review valid UNIT_MEASURE for each series transmitted.

The meeting also covered tools for customizing a national DSD, mainly using the ILO DSD Constructor, it stressed on the importance of taking ownership when changing or modifying any artifact. The versioning process includes, first, using the global structure, second, adding national codes to the code lists, third, updating the code list version and taking ownership, fourth, updating the structure version and taking ownership, and finally, publishing your customized structure.

It was noted that when a country is designing a customized SDG DSD for dissemination, it is highly recommended to check the cross-domain code lists and use standard codes for optimal interoperability.

Countries were advised to follow international standards for the data to be interoperable as much as possible. Deviations from the international standard which might be necessary for the country must be noted in footnotes and reference metadata to explain the differences with international standards to avoid misinterpretation.

Participants customized the global DSD to include their governorates and mapped and converted their national SDG data, participants also attached a dataflow to their customized DSD.

The meeting also presented advanced techniques to map and convert SDG data using SDMX, including transcoding sheets, and mapping multiple data sheets applying advanced techniques, and it featured the use of a command line interface including hands-on exercises, to further facilitate process automation.

A demo of the SDMX Reference Infrastructure SDMX-RI tool was provided to participants, SDMX-RI enables the production and dissemination of SDMX data from existing

reference/dissemination databases. It is composed of reusable building blocks that are designed to provide data and structural metadata based on mappings to each organization's dissemination data warehouse, furthermore, a demo of the .stat suite was provided to participants, and the tool allows to publish SDMX datasets.

ESCWA featured a demo of the Monitoring Application for Reporting on SDGs (MARS) to enable national statistical offices to control the data flow of around 80% of indicators from administrative sources to custodian agencies.

9. The Workshop conclusions and recommendations are as follows:

- To further strengthen national SDG Teams through effective collaboration between statisticians and IT experts to successfully compile and disseminate SDG data through SDMX tools.
- To update periodically and on a timely basis the SDG national reporting platforms as soon as data become available after every data collection process. ESCWA will prompt the countries for updates twice a year to ensure regular updating.
- To include on the SDG database disaggregated subnational-level indicators for improved policy making.
- To initiate discussion of sharing SDG data with selected ministries, in preparation for the next phase of SDMX in the Arab region. Good practices may be presented at the upcoming Global Conference to be held in Bahrain.

10. ESCWA also provided simultaneous interpretation in the Arabic and English languages during the period of the workshop. The workshop presentations and resources are available at the ESCWA website, accessible at the following link: https://www.unescwa.org/events/sdmx-training-series

11. The evaluation results received from 25 participants who attended the workshop (100% response rate) were as follows: 84% of the participants rated the workshop as excellent and 15% as very good, and 1% as good. In terms of workshop quality, 88% of the respondents found the workshop quality excellent and 12% gave a very good rating. Regarding meeting the objectives of the workshop, 88% of the participants gave an excellent rating and 12% gave a very good rating. Regarding the presenters' inputs, 80% of respondents rated the presentations as excellent and 20% rated the presentations as very good. Finally, 80% of the participants rated the logistics and organization of the workshop as excellent, 16% as very good, and 4% as good.

12. Further useful resources and links to past workshops:

- [ESCWA SDMX Converter for SDGs](#)
- [Guidelines for the Global DSD for SDGs](#)
- [Guidelines for the Customization of the Global DSD](#)
- [SDG Dataflows and Content Constraints](#)
- [SDMX SDG Page](#)
- [SDMX Global Registry](#)
- [SDG Data Matrix v 1.13](#)
- [Metadata Online Converter](#)
- [Tutorial](#) & [Materials](#)
- [SDMX Crash Course I](#)
- [SDMX Crash Course II](#)
- [SDMX Series of Trainings](#)
- [SDG Metadata Template](#)
- [SDMX Desktop Converter](#)
- [Europa SDMX Online Converter](#)
- [SDMX Tools](#)
- [SDMX Converter Error Messages](#)

13. Group photo