



Economic and Social Council

Distr.: General
5 May 2023

English only



Food and Agriculture Organization of the United Nations

Economic Commission for Europe

Food and Agriculture Organization

Committee on Forests and the Forest Industry

European Forestry Commission

Joint ECE/FAO Working Party on Forest Statistics,

Economics and Management

Forty-fourth session

Geneva, 31 May -2 June 2023

Item 4 (d) of the provisional agenda

**Digital transformation of forest data collection, processing
and dissemination**

Revising data collection, processing, validation, storage and dissemination

Note by the secretariat

This document provides detailed information on the secretariat's plans to implement the "*Data Strategy of the Secretary General for Action by Everyone, Everywhere: With Insight, Impact and Integrity*". This includes in particular the interactive interface for the Joint Pan-European Data Collection, improved data collection, processing, validation, storage and dissemination linked to the Joint Forest Sector Questionnaire, how to best include other datasets in the central data repository and the future role of the INForest platform.

In the following document, the term "secretariat" refers exclusively to the ECE part of the Joint UNECE/FAO Forestry and Timber Section, since the collection, processing, validation, storage and dissemination of data are exclusively covered by ECE resources.

Revising data flow, collection, processing, validation, storage and dissemination

1. Background

1. The Joint ECE/FAO Forestry and Timber Section collects and disseminates data on sustainable forest management and sustainable production and consumption of wood, wood products and wood energy from member States. Excellent cooperation with member States is critical in collecting high-quality data.

2. The main datasets collected and published by the secretariat include information on annual production, trade and consumption of wood products (annually since 1964), data on forests and sustainable forest management (currently every five years since 1990), detailed information on wood energy supply and consumption (every second year since 2005) as well as data sets on forest ownership, modeling results of the outlook studies and other ad-hoc assessments.

3. Together with partner organizations and individual experts, the secretariat maintains these databases, knowledge platforms, and websites which are published in various formats, such as Excel tables, CSV files, PDF tables or online databases. The main databases are the Joint Forest Sector Questionnaire and the Timber Forecast Questionnaire, the “Joint pan-European data set”¹ (hosted by FAO), the Forestry² module on the ECE Statistical Database as well as a variety of data sets related to forest ownership, wood products and wood energy³.

4. These data sets are scattered and available in various places on the ECE website or partner organizations. In 2020, the secretariat launched the “INForest”⁴ database in a first attempt to create an easily accessible single online knowledge platform to retrieve the main information of these various datasets in one place. The launch of the INForest platform was a great success. Today, it is available in 6 languages and the Czech Republic uses the platform structure as their national data platform.

5. In May 2020, the Secretary-General of the United Nations, António Guterres, presented his data strategy with the vision of “*building a whole-of-UN ecosystem that unlocks our full data potential: For better decisions and stronger support to people and planet – in the moments that matter most*”. The Secretariat, in close cooperation and communication with its member States, aims at aligning its work on data in order to best contribute to the strategy’s expected outcomes of “*better approaches to data (that) will deliver better outcomes for everyone: Stronger decision-making and policy advice, greater data access and sharing, improved data governance and collaboration, robust data protection and privacy, enhanced efficiency (...), greater transparency and accountability, and better services for people and planet*” (www.un.org/en/content/datastrategy).

6. Based on the above, the secretariat assessed its current practices in collecting, validating, processing and sharing data. It was found that modernized, tailored central data platforms, with some degree of automation, could unlock significant gains in efficiency in the secretariat’s data collection, evaluation, processing and publication. The new interactive interface for the Joint Pan-European Data Collection is an excellent example of how ECE has already started to organize a more efficient and integrated data collection from member States⁵.

¹ <https://fra-data.fao.org/assessments/panEuropean/2020/FE/home/overview>.

² <https://w3.unece.org/PXWeb/en/Pivot/>.

³ <https://unece.org/forests/joint-wood-energy-enquiry>.

⁴ <https://forest-data.unece.org/>.

⁵ More information about the interface will be provided under agenda Item 5(a) of the Joint Working Party.

2. Joint Forest Sector Questionnaire: Improved data collection, processing, validation, storage, and dissemination

7. In 2022 the secretariat started to critically assess its current data collection and digital communication practices. This included an overview of data-related activities and the identification of actionable items for improvement. This will form the basis for a medium- and long-term strategy, with the primary focus on data collection, processing, validation, storage, dissemination and related products.

8. Changing data collection, processing, validation, storage and dissemination of JFSQ data will lead to major efficiency gains for the secretariat and its member States and contribute directly to the Data Strategy of the United Nations. Therefore, it is the prioritized first intervention in the ECE secretariat's data strategy.

9. Currently, the JFSQ is an annual data collection exercise, using Excel for the data collection, processing and validation and an Access database for storage. Both applications require a high share of manual work and have very weak data outreach capacities. The Access database used to store data and analyse data trends requires urgent replacement since it has reached its technical limits in terms of data volume and technical requirements for modern data processing, exchange, management and sharing. The current setup does not allow for easy revisions and publication of historical datapoints. The secretariat normally updates its data set twice a year on its website as Excel tables and provides it to the Food and Agriculture Organization of the United Nations (FAO) for uploading into its statistical database FAOSTAT.

10. Improved data collection, processing, validation, storage and dissemination linked to the JFSQ will :

- Strengthen capacity for timely data processing and quality assurance
- Make use of automatized data exchange
- Be more flexible for partial data set submission, updating and publication (as data is available)
- Allow for easier revision of datapoints and historical data
- Provide more detailed metadata
- Allow for automatic update of graphs and tables (INForest, other platforms)
- Allow for more flexible assessment of trends and their drivers
- Enhance the possibility for more systematic data analytics for publication.

11. Automatic data exchange or “*application programming interfaces*” (APIs) are not used for the JFSQ data processing or any of the data available at the secretariat today. APIs are already widely used for collecting, publishing and exchanging data. In order to make full use of an API, the future data collection system of the secretariat will eventually require member States to commonly agree on a standard API for JFSQ data reporting. Member States can then push JFSQ datasets or a group of datapoints to the receiver(s). Countries whose statistical systems are not yet able to provide API addresses for JFSQ data will continue with the Excel based reporting format for a transition period.

12. Using the API to its full extent will enable the secretariat to accept partial datasets or the revision of single datapoints or historical timeseries more easily.

13. Maintaining the option of Excel-based data collection allows the system to upload data from other data-collection exercises that are not yet automated, such as the Timber Forecast Questionnaire, ad-hoc surveys, price statistics or other data sources.

14. The new database will continue with its bottom-up data structure. This approach requires a full set of disaggregated data since the database generates the aggregates. This approach also complies with the structure and setup of the FAOSTAT database.

15. The new database will create APIs for its data so that these can be used more widely. At this stage, it is not planned to integrate a visualization into the database. Rather, the new set-up tool will rapidly update data in the INForest platform which in turn allows for visualization.

3. INForest platform: future role

16. Since its launch in 2020, the INForest platform has become a successful example of a platform that displays relevant data and is an easy to use, visually appealing and transparent data dissemination and visualization tool. Therefore, the ECE secretariat has identified the INForest platform as a backbone of its future data management and dissemination strategy.

17. To implement the aforementioned improvements the current INForest platform will require updating and revamping. Therefore, the ECE secretariat will consult with member States on the extent and the scope of data (including JFSQ ones) visualized through the INForest tools, such as specific graphs, tables, indicators. The enhanced INForest platform will accelerate data availability through the automated exchange between the new data repository and the INForest platform.

4. Interactive group discussions

18. The secretariat's data strategy and related work will not only offer new opportunities to the ECE secretariat but mostly to countries and any stakeholder and person interested in accurate and timely information on forests and forest products related data. It is therefore very important that countries be part of the changes envisaged and share their various national systems for forest and forest products related to data collection, verification, processing, storage, sharing and visualization.

19. Presentations: The interactive group discussions will be preceded by presentations of select country systems and provide details on available capacities, possible changes planned and experiences with electronic data exchange platforms. The presentations will also highlight the capacity of member States to create JFSQ specific APIs.

20. Interactive group discussions: the plenary will then be split into small groups which will be led by one of the presenters and a representative from the secretariat. Group members will be invited to share and discuss the current situation in their country, compare their situation with the situation in the presentations, describe the main challenges they are facing at the moment related to forest and forest products data and assess how realistic it would be for their country to automatize data exchange in the coming five years and to phase out an Excel tables based JFSQ.

5. The Joint Working Party is invited to:

- (i) Take note of the data collection of the Joint Pan-European Data Collection and the Global Forest Resources Assessment
 - (ii) Provide feedback, guidance and possible resources for the secretariat's data strategy and related work
 - (iii) Invite heads of delegation to inform the secretariat of (a) national focal point(s) who may be consulted during the secretariat's work to implement the data strategy and related work
 - (iv) Request that the secretariat consult with the Team of Specialists on Forest Products and Wood Energy Statistics regarding improvements to the JFSQ data cycle
 - (v) Engage in the interactive group discussions and consider presenting national cases.
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