Ninth Virtual Plenary Meeting of UN-GGIM: Europe
Report from Working Group on Data Integration - 11/2021 – 06/2022

_____

Executive Summary

This report summarizes the outcome and findings for months 11/2021 to 06/2022.

In spite of social distancing restrictions due to the Corona pandemic, 40 participants from the UN-GGIM: Europe Working Group on Data Integration got together for a productive and engaged virtual event on 29-30 September 2020. The two-day meeting focused on discussing in more detail further requirements and practices for the analysis of the SDG indicators and data integration methods.

The Subgroup I on SDG Analysis has agreed to focus its attention on indicators which also include environmental aspects. The four indicators which have been analysed are:

- Access to public transport (11.2.1)
- Land degradation (15.3.1)
- Ratio of land consumption to population growth rate (11.3.1) and
- Forest area as proportion of total land area (15.1.1)

Data sources and data integration methods for these indicators have been collected and analysed. At the end of 2021, four technical guidelines for indicator computation, including recommendations, have been produced for the four selected SDG indicators and have been uploaded to the UN-GGIM: Europe's website, together with the overarching conclusions document stemming from the four SDG indicators analysis. In addition, an activity report summarizing the work developed and activities undertaken was also produced.

Subgroup II has analysed different data integration methods used across Europe like "Table Joining Services" (TJS), "Linked Data" (LD) or "geocoding" and has integrated the evaluation of the current data integration methods into the political and strategical context. The outcome and findings have been compiled within the deliverable "Data Integration Methods - Analysis of future trends in geospatial data capture, creation, maintenance and management" and have been uploaded to the UN-GGIM: Europe's website. The document particularly reflects the European strategies and developments (e.g., the European Green Deal promoting data ecosystems and data spaces, or the general concept towards a Geospatial Knowledge Infrastructure). The benefits, adequacy of each method to use cases are included, best practices identified, and realistic examples of these methods are shown. To promote the recommendations and to start a broader discussion within the geospatial and statistical community, a webinar was organised in February 2022 to guide through this document focusing on three aspects:

(1)   the importance of data integration
(2)   main tools, methods and requirements as well as
(3)   recommendations to enable data integration processes.

The Working Group has functioned as 'Advisory Group' to continuously contribute to global and regional data integration issues addressed by the IAEG SDG WG GI, the UN EG ISGI and the GEOSTAT-4-project.

The Plenary is kindly asked to accept the following proposals & recommendations by the Working Group:

#	Proposals & recommendations
1	The Plenary is kindly requested to approve the report of the Working Group as conclusion of the Tasks I and II of the Work Plan 2019-2022
2	The Plenary is kindly requested to further promote the function of the Working Group as 'Advisory Group' to continuously contribute to global and regional data integration issues addressed by global or European activities

Ninth Virtual Plenary Meeting of UN-GGIM: Europe
Report from Working Group on Data Integration - 11/2021 – 06/2022

_____

1. General management issues

The Working Group "Data Integration" is chaired by Germany and deals with the integration of geospatial data (including cadastral parcels) with other information. Currently 20 European UN Member States comprising 25-30 National Mapping and Cadastral Authorities, or National Statistical Institutes are members of the Working Group. Eurostat as well as the Joint Research Centre (JRC) actively cooperates in the Working Group since the beginning in 2014. The European Environment Agency (EEA) joined the Working Group in 2017.
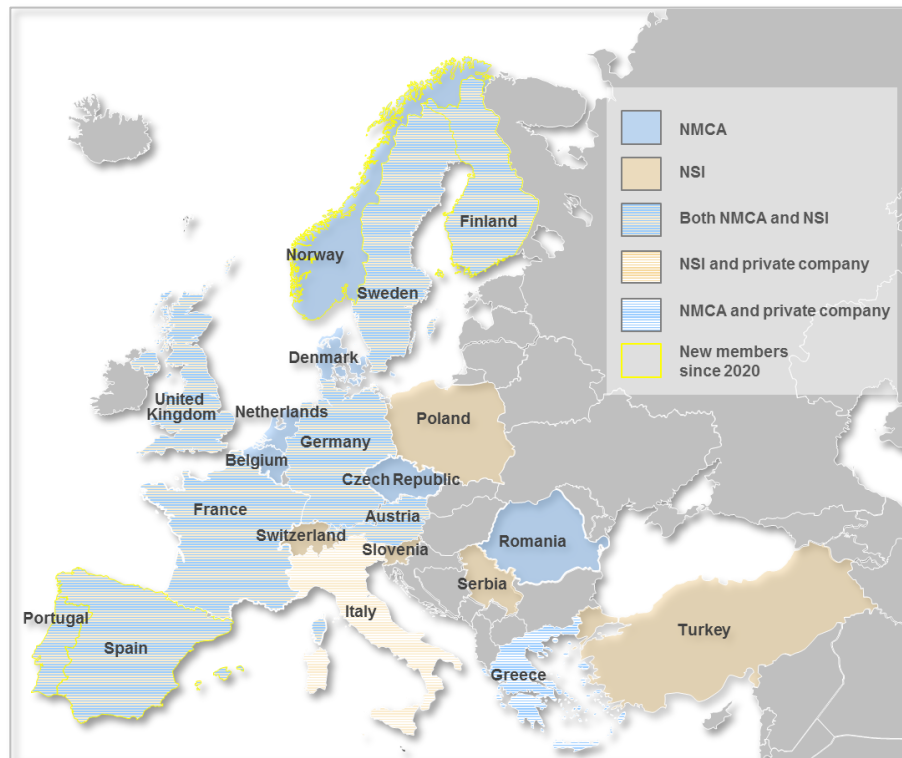
Figure 1: Current members of the UN-GGIM: Europe Working Group on Data Integration

In spite of social distancing restrictions due to the Corona pandemic 40 participants from the UN-GGIM: Europe Working Group on Data Integration got together for a productive and engaged virtual event on 29-30 September 2020. The two-day meeting focused on discussing in more detail further requirements and practices for the analysis of the SDG indicators and data integration methods.

Furthermore, several virtual meetings took place since then.

_____

2. Progress according to the new work plan 2019 – 2022

2.1. Subgroup I / Task I

NSI Portugal leads this Subgroup I / Task I – SDG Indicator Analysis. The task was completed by the end of 2021.

The aim of the task of Subgroup I was to provide methodological, operational and technical guidance in the use of geospatial data and statistics to compute SDG indicators, with a European and national perspective, and reflecting on solutions which may contribute to reduce statistical burden and increase the level of detail of SDG indicators.

The aim was to provide a comparative analysis between pan-European and national methodologies, data sources and results as well as an analysis of the combination of pan-European with national data sources to extract new relevant information for the indicators computation.

Amongst others, an assessment matrix comprising 10 indicators was filled out by the members of the Working group in March 2020 indicating their national relation to each indicator and their preferences/interest in contributing to this work.

The following indicators were assessed:

3.6.1 | Death rate due to traffic injuries (tier I)

6.6.1 | Change in the extent of water-related ecosystems over time (tier I)

11.2.1 | Accessibility to public transports (tier II)

11.3.1 | Ratio of land consumption rate to population growth (tier II)

11.6.2 | Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (tier I)

11.7.1 | Access to public / green areas (proxy) (tier II)

14.5.1 | Coverage of protected areas in relation to marine areas (tier I)

15.1.1 | Forest area as a proportion of total land area (tier I)

15.3.1 | Proportion of land that is degraded over total land area (tier I)

15.4.1 | Coverage by protected areas of important sites for mountain biodiversity (tier I)

Figure 2: SDG indicators as a reference for Subgroup I

From this assessment and with input by EEA in April 2020 four indicators were chosen to be further analysed by the subgroup. The subgroup started a call to the whole UN-GGIM: Europe community at the end of 2020 asking for input and interest. The contributions are displayed in the graphics:

_____

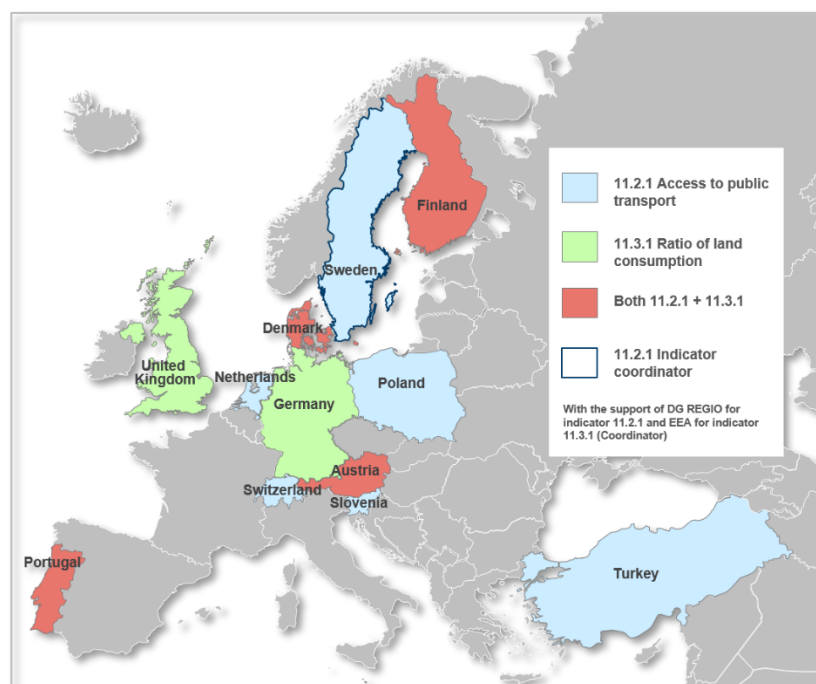*Figure 3: European contributions to Indicator 11.2.1 and 11.3.1*
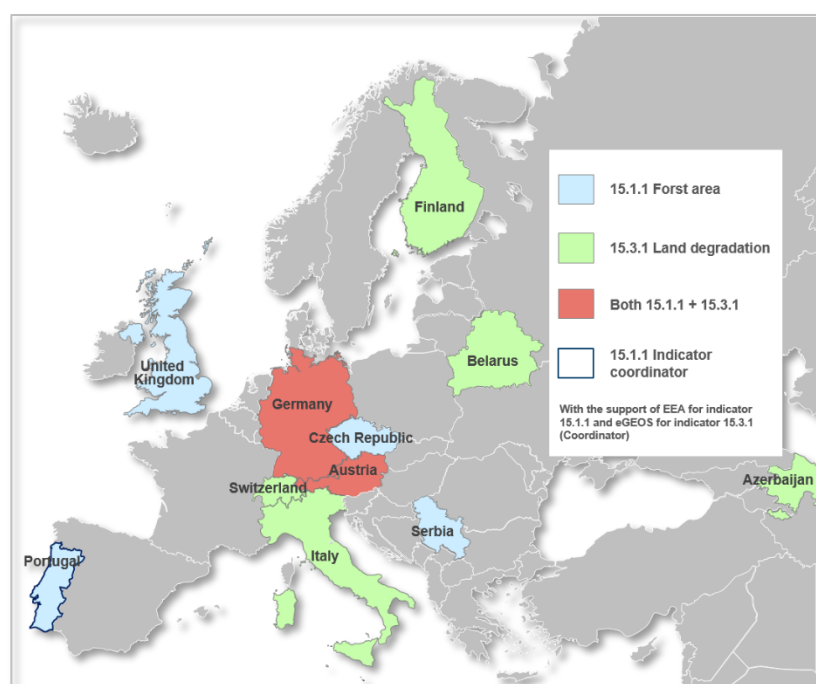
Figure 4: European contributions to Indicator 15.1.1 and 15.3.1

_____

On the basis of the assessment and selection of indicators, four technical guidelines for indicator computation, including recommendations, were produced for the four selected SDG indicators and uploaded to the UN-GGIM: Europe's website, together with the overarching conclusions document stemming from the four SDG indicators analysis. In addition, an activity report summarizing the work developed and activities undertaken was also produced.

The Plenary is kindly requested to approve the conclusion of the Task I according to the Work Plan 2019-2022.

2.2.   Subgroup II / Task II

Eurostat has led this Subgroup II / Task II – Data Integration Methods until the end of October 2020. Due to new professional tasks of the leader Nikolaos Roubanis, the leadership has been transferred to NMCA Belgium (Ms. Nathalie Delattre) in collaboration with NMCA Austria (Mr. Markus Jobst). The task was completed by the end of 2021.

The aim of Subgroup II / Task II was to analyse different data integration methods used across Europe like "Table Joining Services" (TJS), "Linked Data" (LD) or "geocoding". The benefits, adequacy of each method to use cases have been scanned and best practices have been identified and realistic examples of these methods are shown.

For these tasks the following work needs have been done:

- Evaluate former deliverables of the WG Data Integration
- Evaluate links to the GSGF and GSGF-Europe and connect with GEOSTAT-4
- Identify best practices for data input, creation, maintenance and management
- Consider economic, political and social level of each method
- Determine Pros and Cons of each methods and recommendations

The aim of the Subgroup II / Task II was to integrate the evaluation of the current data integration methods into the political and strategical context. New technologies will require a next-generation geospatial infrastructure.

Therefore Subgroup II / Task II has evaluated the national examples in the context of the new developments, identified the key methods for a proper data integration process and provided recommendations for the future data integration of geospatial and statistical data. The outcome and findings reflect the European strategies and developments (e.g., the European Green Deal promoting data ecosystems and data spaces or the general concept towards a Geospatial Knowledge Infrastructure).

The outcome deliverable is dedicated to senior advisers/managers. The deliverable "Data Integration Methods - Analysis of future trends in geospatial data capture, creation, maintenance and management and recommendations for amplified use of good practices" has been approved by the Executive Committee. To promote the deliverable and to start a broader discussion within the geospatial and statistical community, a webinar was organised in February 2022 to guide through this document focusing on three aspects:

(1)   the importance of data integration
(2)   main tools, methods and requirements as well as
(3)   recommendations to enable data integration processes.

Actually, an evaluation report summarizing the outcome of the webinar is compiled and will be distributed timely.

The Plenary is kindly requested to approve the conclusion of the Task II according to the Work Plan 2019-2022.

It is worth noting, that both new tasks have been continuously cross-checked with the UN-GGIM Secretariat, other working groups, and ongoing activities (e.g., UNECE, GEO).

3. Related Activities of the WG supporting the work plan 2019 – 2022

According to the Work Plan the WG continues to contribute to following activities.

3.1. Contribution to the global IAEG SDG WG GI

Two Working Group members (Denmark, Italy) are represented in the IAEG SDG WG GI and do regularly provide updates on the current work. At the last virtual meeting of the Working Group on 30 March 2022, one member of the IAEG SDG WG GI gave a presentation about the current status of the global working group.

The Plenary is kindly requested to further promote the function of the Working Group as 'Advisory Group' to continuously contribute to global and regional data integration issues addressed by the IAEG SDG WG GI.

3.2. Contribution to the UN EG ISGI and to the GEOSTAT-4 project

This consultancy and advice comprise to involve geospatial experts of the Working Group for reviews and requests.

As for GEOSTAT-4, a request by Eurostat to discuss the content of the "EFGS[1] Strategy Map" has been forwarded by the Chair to the Working Group for feedback.

At the last virtual meeting of the Working Group on 30 March 2022, one member of the UN EG ISGI gave a presentation about the current status of the global working group.

The Plenary is kindly requested to further promote the function of the Working Group as 'Advisory Group' to continuously contribute to global and regional data integration issues addressed by global and European activities.

3.3. Support of European coordination activities

This consultancy and advice comprise the support of European coordination activities towards the implementation of the UN-GGIM Integrated Geospatial Information Framework (IGIF) and other geospatial activities by the European Commission (mainly Eurostat ones).

Particularly, a regular exchange on activities between the EC unit responsible for EuroGEO and the UN-GGIM: Europe Executive Committee / Secretariat seems to be key. An easy way might be to continue to participate at and provide information through workshops, conferences, and plenary sessions. A good start has already been done:

It includes the participation and presentations at European conferences, workshops:

Conferences	Dates
Working Group on Integration of Statistical and Geospatial Information and Joint UN-GGIM: Europe – ESS – UNECE Meeting on the Integration of Statistical and Geospatial Information	23-24 March 2022

_____
[1] European Forum for Geography and Statistics (EFGS)

_____

4. Attachments

- <u>All Deliverables</u> of the Working Group Data Integration are uploaded to the UN-GGIM: Europe Website: https://un-ggim-europe.org/working-groups/working-group-data-integration/

Proposals & recommendations for the Plenary

The Plenary is kindly asked to accept the following proposals & recommendations by the Working Group:

#	Proposals & recommendations
1	The Plenary is kindly requested to approve the report of the Working Group as conclusion of the Tasks I and II of the Work Plan 2019-2022
2	The Plenary is kindly requested to further promote the function of the Working Group as 'Advisory Group' to continuously contribute to global and regional data integration issues addressed by global and European activities
3	
4	