

Joint Workshop on the Integration between Geospatial and Statistical Information in International Organisations and Member States

Jointly Organised by the

Committee for Coordination of Statistical Activities (CCSA) and UN Geospatial Network (UNGN)

The workshop gave members of the organising networks the opportunity to present and share best practises, lessons learnt and transferable skills among international organisations on the following themes: 1) production of statistics and geospatial information through integrated methodologies and enabling technologies, 2) visualisation and dissemination of geospatial information and statistics, and 3) technical assistance and capacity building delivered to Member States to improve integration between national statistics and geospatial information.

The event was held virtually between 28 April and 12 May 2021 and each of its four sessions was attended by 150-200 participants.

KEY OUTCOMES OF THE WORKSHOP

The discussions and topics emerging in the sessions of the workshop highlighted the relevance of integrating geospatial information and statistics, as well as a great potential for using synergies and fostering cooperation between the two networks. From the discussions, key issues and insights emerged regarding institutional integration, communication and data and knowledge sharing, and joint support to Member States. The networks agreed on concrete follow-up actions and future possibilities between the CCSA and UNGN.

Pursue a common vision and joint plan of action

The Chairs of respective communities agreed to pursue jointly a common vision and action plan which entails to:

- Seize the opportunity to collaborate to link the CCSA [Road map](#) and the UNGN [Blueprint](#) and [Landscape](#), as well as the Global Statistical and Geospatial Framework ([GSGF](#)), and improve and innovate the use of geospatial and statistical data by sharing experiences and lessons learnt of the integrated approaches.
- Develop joint workflows, methods, frameworks, platforms and tools to make available reliable, timely, accessible and disaggregated data on priorities and for use cases on SDGs, climate action, conflict prevention, gender equality, and more.
- Further harmonize and integrate the different prospects on data quality matter by the two communities with the aim to find a joint understanding on what constitutes high quality geospatial information and statistics.
- Build trust between the communities and with Member States for improving data interoperability and cooperation.
- Leverage existing capabilities, expertise and techniques, including enterprise applications and solutions, for furthering the integration of statistical and geospatial information in the wider UN system and with Member States.
- Commit to further use synergies in the development of capacities in Member States on geospatial information and statistics.

Fostering cooperation by establishing a community of practice

- To establish a community of practice at the institutional level to improve and encourage further cooperation between the networks. The community will leverage existing tools, expertise and techniques to strengthen the production, use and awareness of statistical and geospatial information across and within agencies, and with the Member States.
- For the establishment of the community a stepwise, bottom-up approach was proposed:
 - a. Initiate informal, small-scale meetings in the UN duty stations (UNHQ, UNOV, UNOG, UNON, etc.) in 2021. The meetings will be parallel and take place mostly on-the-spot rather than virtually.
 - b. The purpose of these meetings is to foster collaboration between the statisticians and geospatial experts of different agencies to discuss the institutional challenges and opportunities of integrating geospatial and statistical approaches. Best practises, lessons learnt, etc. will be shared among the attending people. Key findings and conclusions will be reported to all members of CCSA and UNGN.
 - c. The findings of all the sub-groups will be consolidated in joint framework or guidelines and made available to all members and relevant stakeholders with the goal to obtain a rich collection of best practices and use cases that enables the networks to promote real change.

Implementation of interagency projects and production of a joint publication on inter-agency use cases

The participants highlighted the importance of concrete actions and outputs, and agreed to aim at implementing joint activities in selected Member States and to produce a joint publication highlighting country use cases on the integration of geospatial information and statistics.

On use cases

- The joint publication, to be finalised in 2021, will illustrate the *“Production, visualisation and dissemination of statistics and geospatial information through integrated methodologies and enabling technologies”* by showcasing selected use cases. The publication will present the collective work of the CCSA and UNGN member organisations in coordination with Member States.
- A possible follow-up action in 2022 is to produce a publication under a certain theme, e.g. how the integration of geospatial information and statistics can provide a more comprehensive analysis of a topic related to the Sustainable Development Goals.

On the implementation of interagency projects

- To identify and select one or a few joint projects on a certain theme that is covered by a number of agencies (e.g. disaster risk reduction) in Member States.
- To implement joint work and to produce a publication highlighting the value added of integrating statistics and geospatial information.

Data sharing and interoperability

- Foster multi-agency platforms to improve the sharing of geospatial and statistical data and associated metadata, for example, second level administrative boundaries (see SALB programme),

data from ground-truthing or spatially disaggregated SDG data; overcome a certain lack of data protection and privacy policies at the international level that may prevent States from sharing their data resources.

- Establish interoperability of the UN Geospatial Network Hub and the UN Data portal to make the common geospatial and statistical datasets available to all interested stakeholders. It was proposed that individual agencies remain responsible and custodians of the data produced under their mandate, and that the publishing of such data within the Organization's dashboard/portals does not exclude the possibility to feed the same data to a larger and more comprehensive portal.
- To further work on improving metadata and a common 'trading language' between CCSA and UNGN, including standards for quality, data protection and privacy.

Building trust and capacity

- Annual meetings of the Chairs, with respective communities' leaderships, to identify priorities and strategic orientations for joint activities.
- Conduct a joint workshop (as the present, or similar) as enabler for integration and to keep abreast of ongoing developments, projects, activities and innovation in the communities.
- Develop a parallel and complimentary training on relevant topics related to geospatial information and statistics for staff in the wider UN system.
- Coordinate capacity development activities in Member States and organize joint workshops between NMAs and NSOs to assure the sustainability of novel geospatial technologies and approaches to produce statistics, such as satellite imagery or other earth observation data, or 'big data' and artificial intelligence, beyond the often limited time of technical assistance projects.
- Strengthen the working relations among different agencies both globally and at the national level by developing a stakeholder mapping on who is doing what in terms of capacity building and technical assistance.
- Align generic job profiles in geospatial information and statistics with the data job profiles, and ensure they relate to the same data job networks from the [SG Data Strategy](#).

Advocacy

- Advocate for endorsement and resource mobilization to the CEB on the joint activities to be undertaken, including on capacity building.
- Develop a strategy for sustaining the capacity building efforts on the use of geospatial data within institutions and Member States for generating statistics and the integration of geospatial information within statistics.
- Promote the use of data and develop showcases to raise awareness of the value added from integrating geospatial information and statistics.

SUMMARY OF THE WORKSHOP SESSIONS

Session 1 Production of statistics and geospatial information through integrated methodologies and enabling technologies

Main objectives

- To share practical experiences on the production of statistics and geospatial information through integrated methodologies and enabling technologies
- To identify transferable data, tools and methods to other entities and Member States
- To discuss a common quality measurement/assurance
- To identify opportunities and challenges for integration.

Highlights, emerging issues, and ensuing actions

- The CCSA and UNGN Chairs welcomed the members and highlighted the opportunity to collaborate to link the CCSA's [Road map](#) and the UNGN's [Blueprint](#) and [Landscape](#), and improve and innovate the use of geospatial and statistical data by sharing experiences and lessons learnt of the integrated approaches.
- The opening guest keynote speech highlighted the value of integrating geospatial and statistical data through institutional alignment, recognising the added value of integrated approaches, and taking advance of the new technologies and increasing data volume to enable data transformation at different scales. Speaking from a national perspective, she stressed the need for collaboration between different entities, timely provision of fit-for-purpose information and building trust through a shared data infrastructure and quality assurance.
- Three key issues were emphasised to be important in the discussions: 1) The need to build a bridge between the two communities, through improved communication and exchange of information; 2) Establish a 'common trading language' to facilitate mutual understanding; and, 3) Work towards a joint CCSA-UNGN roadmap to enshrine collaborations across our mutual communities.
- There is a symbiotic, multidisciplinary approach between statistics and geospatial information since both are considered complementary and both bring added value when integrated: *"Geospatial information can support statistics and statistics can support geospatial information; geospatial information should be considered as official data, in the same manner as official statistics"*.
- By working together, the flow of data, technologies and methods follow smoothly.
- Using existing standards and frameworks such as the CCSA [Road map](#), UNGN's [Blueprint](#) and other guiding frameworks developed by Member States (inclusive of the Integrated Geospatial Information Framework ([IGIF](#)), the Global Statistical Geospatial Framework ([GSGF](#))) to help bridge the gap that exists between the statistical and geospatial communities through developing a common "trading language" across the UN System to enable countries to achieve the transformational potential that geospatially integrated statistical data can bring through integration. However, an uneven distribution of resources between the statistical and geospatial communities represented were recognised as current challenge and should be brought to the attention at the highest level of organisations.
- An engagement of the [SG Data Strategy](#), including the development of new job profiles, will foster integration.

Session 2: Visualisation and dissemination of geospatial information and statistics

Main objectives

- To present and demonstrate how statistical and geospatial data can be visualised and disseminated at different scales, seamlessly into geographies of interest
- To identify transferable data, tools and methods to other entities and Member States
- To discuss common quality requirements

Highlights and emerging issues

- The current practises and issues related to the collection, production and dissemination of disaggregated data was one of the main topics discussed. Sub-national estimates are often derived in a combination of direct reporting by States modelling of data from smaller scale (regional – global).
- It was recognised that it is necessary to address the implementation of collecting disaggregated data at country level based on the [GSGF](#), to support Governments and leverage fundamentals of statistical and geospatial data. Issues in the data governance in countries would need to be supported and this would also benefit the international community.
- Shared resources and common means of dissemination, as well as different visualisations of integrated data were presented (e.g. SALB programme, the Federated Information System for the SDGs – FIS4SDGs, and SDMX 3.0), and these provide accessible, interoperable information from multiple sources, at different scales, in geographies that enable statistical integration, and with standards for the exchange of statistical and geospatial data;
- The potential and challenges in the use of open-source data and technologies were discussed (e.g., cost savings or challenges related to intellectual property concerns); Openly sharing code across agencies was emphasized (e.g., OECD, FAO, UN Open GIS Initiative).
- The participants identified the need for contributing to common geographies to promote States' data, share sub-national data with the aim at making it available to all – “data collected once, shared multiple times”.
- Joint work between the two communities was recognized important for developing mechanisms to share anonymized integrated data, e.g. data collected from ground truthing, and GeoHub was identified as a possible repository for the collected data.
- Scalability of data was also discussed and how to use data, methods and tools at different levels. The extractability and scalability of data at the local level remains a challenge.
- On confidentiality and privacy of data, issues were raised in context of sharing data in cloud platforms between States and the international community. In States two legislations may apply at the country level: 1) data privacy on how to collect data, 2) confidentiality rules that apply to official statistics. The lack of rules/policies at the international level was recognized as a challenge that may prevent States from sharing their data resources.
- Clear data governance and custodianship in countries needs support, would also benefit the international community.
- Local and subnational data collection remains a challenge, especially for collecting data on minority groups, and therefore estimates are often derived in a combination of direct reporting by States modelling of data from smaller scale.

Session 3: Technical Assistance and capacity building delivered by UN and other agencies to Member States to improve integration between national statistics and geospatial information

Main objectives

- To identify the main capacity gaps and challenges in Member States in the integration of statistics and geospatial approaches
- To discuss which interventions are most effective to overcome the capacity limitations of countries
- To discuss how country ownership and sustainable production of geospatial information and statistics can be ensured

Highlights and emerging issues

- The presentations outlined best practices and technologies used by the agencies, focusing on the specific interventions to overcome the capacity limitations in the countries. While some of the presentations shared technical assistance experience of different forms in different States, the others focused on the platforms built and bringing global frameworks ([IGIF](#) and [GSGF](#)) to national implementation.
- The need for ensuring country ownership and sustainable production of geospatial information and statistics through institutional coordination was discussed. It was noted that providing solutions through technical assistance to Member States is important, however assuring the sustainability of the solution provided was found to be as equally important.
- The importance to share innovations among different agencies to avoid duplication of effort and simplify knowledge transfer was discussed.
- The need to shift from providing sector specific solutions was emphasised. This requires bringing expertise to work together to come up with solutions that address many needs and avoid additional efforts and duplicate output.
- The importance of integrating multi-agency platform was raised. Here the issue of interoperability has been given a due emphasis and was thoroughly discussed.
- To properly utilize the available limited resources for geospatial data sharing and processing, the need to have sharable common platforms like that of the UN Global Platform was discussed.
- When it comes to data sharing, the issue of data confidentiality was thoroughly discussed and hence the need to come up with a proper solution to assure data confidentiality while promoting data sharing was emphasized.
- In order for countries to use some of the innovation presented during the workshop, the importance of availing high-resolution satellite imagery has been discussed. Here, an emphasis was given on the importance of putting forces and resource together to make sure that the required satellite imageries can be easily provided to Member States, in particular for developing countries.
- On joint efforts in capacity building, a mapping of common challenges of Member States in integrating geospatial information with statistics could help to come up with a common proposal of appropriate solution to address these challenges. An emphasis should be given on assuring the use of new approaches and technologies provided through different capacity building endeavours in order to resolve such limitations on data access suitable for multiple purposes.

Session 4: The opportunities and challenges of integrated statistics and geospatial approaches

Main objectives

Session 4 was the concluded the workshop, following three technical sessions. The session started by grounding the relevance and outcomes of the previous sessions by the Chairs of both networks, followed by their views on how the two communities will build on the foundation of cooperation established by the joint workshop and how to contribute collectively to further the Secretary General's Data strategy. Following the introduction and scene setting, four distinguished panellists provided statements that reflect their experiences and perspectives on strengthening the integration of statistical and geospatial information across the agencies and to support Member States. The Chairs wrapped up the discussion and the emerging ideas for future steps, followed by the high-level perspectives and conclusions emanating from the previous discussion with a reflection on the progress achieved to date and future key priorities.

Highlights and key issues

- The Chairs highlighted two main topics: 1) to bring attention at the highest level of organisation to why resources need to be prioritised for integration of people, technology and processes, 2) to start working together on practical topics in producing integrated outputs.
- A concrete action to establish common standards for statistical and geospatial information through an interagency mechanism and a joint committee of CCSA and UNGN with official endorsement of standards, implement joint programmes in Member States, and share data with common standards and via UN federated systems was proposed. The main challenge remains in finding dedicated resources to each of these actions.
- Fragmentation and a lack of a holistic approach to data availability remain main challenges in the use of existing tools and systems to foster the integration of the two approaches. Different organisations should be encouraged to share their data through the engagement of the Data Strategy and leveraging the resources of CCSA and UNGN. Best practises can be used from the UN Peacekeeping Mission in terms of sharing technology and geospatial data to develop similar services for other agencies.
- The importance of practical steps and concrete actions were highlighted to foster cooperation. It was suggested to select a thematic area, such as disaster risk reduction, on which several agencies are working on and implement a joint project that brings together statistical and geospatial expertise and Member States. Based on the experience of the discussants, such a process needs to be driven by real needs and benefits, and requires not only interoperability of data, but the active participation of agencies and Member States.
- Two ongoing actions were brought up: DA14 inter-agency project starting on building resilient and agile national statistical systems to meet post COVID-19 data needs and to transfer knowledge on integration between the agencies to country level; and, 2) ECLAC's work on fostering integration between the statistical and geospatial institutes in countries.
- UNFPA shared experiences on internal governance and proposed three sub-committees to be established: 1) on discussing data sharing issues such as different platforms, UN Data Portal, etc., 2) on strengthening capacity, and 3) on selecting one use case and go in deep among interested entities;
- It was recognised that private industries, e.g. some of the leading GIS vendors, want to support Member States in sharing data, and that most of the data that can be made available by countries is normally acquired from the commercial sector. However, data ownership may not be clear and common standards are needed to collaboration with the private sector at country level. Such a collaboration is endorsed but poses also risks, as the UN may be perceived as partnering with the private sector instead of being an objective player in countries.

- The role of the Data Strategy was emphasized as the main vehicle to foster data sharing approaches. Both top-down and bottom-up approaches are needed to increase transparency in sharing information. Data custodians and data owners have the last word and they will determine how technologies can be shared. Hence, the focus should be rather on advocacy of data transparency across UN system than on technology itself.

AGENDA OF THE WORKSHOP

Session 1: Production of statistics and geospatial information through integrated methodologies and enabling technologies

No.	Presentation	Allocated Time	Author/ Institution
1.	Welcome and opening remarks	10 min	Hosts, UNGN, CCSA
2.	Opening Guest Keynote Speaker: Ms. Andiswa Mlisa, Managing Director, Earth Observation, South African National Space Agency	15 min	Andiswa Mlisa, SANSA
3.	Presentation 1: Estimating the GHG emissions from the drainage of organic soils	15 min + 5min Q&A	Giulia Conchedda, FAO
4.	Presentation 2: Estimating local agricultural GDP across the world	15 min + 5min Q&A	Brian Blankespoor, World Bank
5.	Refreshment break	10 min	All participants
6.	Presentation 3: Use of geospatial data to produce official statistics: UNODC's Illicit Crop Monitoring Programme	15 min + 5min Q&A	Irmgard Zeiler, UNODC
7.	Panel discussion + Q&A session	30 min	Discussant: Angela Me, UNODC
8.	Conclusions	5 min	Hosts

Moderator: Angela Me, UNODC & Chair CCSA Chair

Session 2: Visualisation and dissemination using geospatial information and statistics

No.	Presentation/Demo		Allocated Time	Author/ Institution	
1.	Welcome remarks		5 min	UNGN & CCSA	
2.1	Sub-session 1: Common means of dissemination	Presentation 1: Common geographies & integration for the Sustainable Development Goals and decision-making	4 min	Guillaume Le Sourd, UNGIS	
2.2		Presentation 2: The Open SDG Data Hub / FIS4SDGs for data dissemination	4 min	Luis Gerardo Gonzalez Morales, UNSD	
2.3		Presentation 3: Geospatial information in SDMX 3.0	4 min	Edgardo Greising, ILO	
2.4	Discussion		8 min	All participants	
4.1	Sub-session 2: Demos on existing visualisation / dissemination platforms	Demo 1: Mapping small territories on interactive choropleth maps	4 min	David Cristallo, UNCTAD	
4.2.		Demo 2: IOM Migration data portal	4 min	Bethany Donithorn, IOM	
4.3		Demo 3: VITO WatchItGrow platform	4 min	Bram Janssen, VITO	
4.4	Discussion		8 min	All participants	
5.	Refreshment break		5 min	All participants	
6.1	Sub-session 3: Interactive marketplace	B R E A K O U T R O O M 1	UN Global Platform	3 min	Sean Lovell, UNSD
6.2			Using GIS for subnational SDG indicators	3 min	Marcos Diaz Ramirez, OECD
6.3			Developments in using maps as a visualisation tool for UNECE statistics New tram and metro data site Census map SDG dashboard	3 min	Alexander Blackburn & Marlen Jigitekov, UNECE
6.4			COVID-19 Population Vulnerability Dashboards using statistical indicators	3 min	Lorant Czarán, UNFPA
6.5		Breakout Room 1: Questions and Answers		8 min	All participants
6.6		B R E A K O U T R O O M 2	Measuring women’s wellbeing through multidimensional maps of deprivation	3 min	Lauren Billi, UN Women
6.7			UNOSAT Humanitarian Rapid Mapping Service: Evidence-based Information to support Humanitarian Assistance using Satellite Imagery and Geospatial Technologies	3 min	Luca Dell’Oro, UNOSAT
6.8			Current activities on geospatial statistics and visualisation such as the development of a European map on basis services accessibility	3 min	Julien Gaffuri, EUROSTAT
6.9			Integrating space-based geographic data and statistics in a platform for disaster risk reduction in Mongolia	3 min	Coen Bussink, UNOOSA
6.10		Breakout Room 2: Questions and Answers		8 min	All participants
7.	Open discussion (Discussant: Alexandre Caldas)		30 min	All participants	
8.	Conclusions		5 min	UNGN & CCSA	

Moderator: Alexandre Caldas, UNEP & Chair UNGN

Session 3: Technical Assistance delivered by UN and other agencies to Member States to improve integration between national statistics and geospatial information

No.	Presentation	Allocated Time	Author/ Institution
1.	Welcome remarks	5 min	Hosts
2.	Presentation 1: The Use of Sen2Agri & Google Earth Engine tools for Agricultural Statistical data production: Capacity building experience in Laos, Afghanistan, Senegal and Uganda	10 min + 5min Q&A	Lorenzo DeSimone & Sangita Dubey, FAO
3.	Presentation 2: Land accounting using geospatial data and programs	10 min + 5min Q&A	Ayodele Marshall, ESCAP
4.	Presentation 3: Using geospatial information and enabling technologies for 2020 Round of Census Cartography Mapping: Focusing on Technical Assistance to Mali and Burkina Faso.	10 min + 5min Q&A	Andre Nonguierma & Ayenika Godheart, UNECA
5.	Refreshment break	10 min	All participants
6.	Presentation 4: The UNFPA Population Data Platform – integrating statistical and geospatial data	10 min + 5min Q&A	Lorant Czarán & Sainan Zhang, UNFPA
7.	Presentation 5: Bringing global frameworks to the national discussion in the Americas	10 min + 5min Q&A	Rolando Campo, ECLAC
8.	Open discussion	30 min	All participants
9.	Conclusions	5 min	Hosts

Moderator: Pietro Gennari, FAO

Session 4: The opportunities and challenges of integrated statistics and geospatial approaches

No.	Presentation	Allocated Time	Author/ Institution
1.	Welcome remarks and Primer Presentations The CCSA and the UNGN: Setting the Scene	10 min	<ul style="list-style-type: none"> • Angela Me, UNODC and Chair CCSA • Alexandre Caldas, UNEP and Chair UNGN
2.	Panel Discussion Opportunities and Challenges for Statistical and Geospatial integration	40 min	<ul style="list-style-type: none"> • Pietro Gennari, Office of the Chief Statistician, FAO • Gemma Van Halderen, Statistics Division, ESCAP • Erzen Ilijazi, Chief Technology Operations, OICT • Greg Scott, Inter-Regional Advisor and UN-GGIM Secretariat
3.	Open discussion		All participants
4.	The UNGN and CCSA: Looking Beyond the Horizon Session and Joint-Workshop Close	10 min	Stefan Schweinfest, Director, UN Statistical Division

Moderators: Angela Me, UNODC & Chair CCSA, and Alexandre Caldas, UNEP & Chair UNGN