Expert Group Meeting of the United Nations Expert Group on the Integration of Statistical and Geospatial Information

United Nations Economic Commission for Latin America and the Caribbean, Santiago, Chile
1 – 2 December 2022

SUMMARY REPORT

Preamble

The seventh meeting of the Expert Group was convened on 1 – 2 December 2022 in Santiago, Chile, hosted by the Economic Commission for Latin America and the Caribbean on the margins of the ninth session of the Regional Committee of United Nations Global Geospatial Information Management for the Americas (UN-GGIM: Americas). The convening of these two meetings back-to-back was welcomed by participants and provided a considerable opportunity to strengthen regional participation in the meeting.

The meeting was attended by 32 participants from 15 Member States (Bahamas, Brazil, Canada, Chile, Costa Rica, Cuba, Dominica, Dominican Republic, Mexico, Panama, Paraguay, Peru, United Kingdom, United States of America, and Venezuela – as representatives from both National Statistical Offices and National Geospatial Information Agencies), the Statistics Division of the Department of Economic and Social Affairs as the Secretariat for the United Nations Committee of Experts for Global Geospatial Information Management (UN-GGIM) from the Statistics Division of the Regional Economic Commission of Latin America and the Caribbean (UNECLAC).

At the meeting, the Expert Group reviewed and deliberated its future direction, including identifying how to advance the Global Statistical Geospatial Framework (GSGF); agreed on its next steps to assist Member States in strengthening statistical geospatial integration and coordination towards the full implementation of the 2030 Agenda for Sustainable Development; and agreed on actions toward establishing coordination mechanisms that enable Member States to build resilient, agile, relevant, responsive and robust statistical and data systems adhering to the Fundamental Principles of Official Statistics that fully integrate geospatial information.

Session 1 – Welcome, Introduction and Opening

Opening the meeting, the Secretariat welcomed participants to the meeting. Mr Claudio Stenner (Brazil) offered his appreciation to those in attendance, stressing the importance of in-person meetings to establish ties within and between Member States. Mr Rolando Ocampo (UNECLAC) welcomed the Expert Group to Santiago, underscoring the importance of geo-statistical integration to the Americas and the Caribbean, highlighting how the development of the GSGF is crucial to this effort. Following these introductory remarks, participants introduced themselves to each other, offering thanks to UNECLAC for providing translation and hosting the meeting.

Session 2 – Reviewing the business modalities of the Expert Group

The appointment of new co-Chairs and the adoption of the agenda

Considering the vacancy of the co-Chairs, the Secretariat informed the Expert Group of the letter received from its past co-Chair Mr Alex Mudabeti expressing his support to the Expert Group (Annex 1). The Secretariat reflected on section 4.2 of the Expert Group's Terms of Reference pertaining to the

appointment of co-Chairs, and recalled decision 12/108 of UN-GGIM, which highlighted Brazil and Ireland's interest in co-Chairing the Expert Group. **Mr Claudio Stenner, IBGE Brazil and Ms Lorraine McNerney, Ordnance Survey Ireland,** reconfirmed their interest in co-Chairing the Expert Group and **were proclaimed, by acclimation, co-Chairs of the Expert Group**. Following this, under the guidance of Mr Stenner, the Expert Group adopted the meeting's agenda.

The 53rd session of the UNSC and the 12th session of UN-GGIM

Mr Cayo Franco (Brazil) discussed the recent outcomes of the fifty-third session of the Statistical Commission (UNSC) and the twelfth session of UN-GGIM. Focusing on UN-GGIM, he informed the Expert Group that Ms McNerney introduced the report of the Expert Group to the Committee of Experts. He noted UN-GGIM's emphasis on two elements of decision 12/108: 1) on the Expert Group's role to strengthen coordination, engagement and interlinkages with UN-GGIM's regional committees, UN regional commissions and other regional stakeholders; and 2: on the importance of the Expert Group examining the broader needs and demands that it might face in the future, inclusive of developing guidance materials to assist Member States with their efforts in the implementation of the GSGF together with the IGIF.

Continuing, he reviewed the side event on "Strengthening Statistical and Geospatial Integration: The SDGs Geospatial Roadmap and the GSGF Implementation Guide" co-convened with the Working Group on Geospatial Information (WGGI) of the Inter-agency and Expert Group on the SDG indicators (IAEG-SDGs), as a means of supporting the promotion and communication of both the GSGF, its Implementation Guide and the SDGs Geospatial Roadmap. Moreover, Mr Franco considered the global events of the Statistical (the World Data Forum - WDF) and Geospatial (UN World Geospatial Information Congress – UNWGIC) communities. He observed that the recent UNWGIC in Hyderabad enshrined the IGIF as a flagship framework for the geospatial community. In contrast, despite how vital the GSGF is to the Statistical community, this community has not embraced the GSGF as the geospatial community has embraced the IGIF. Noting that the deadline for the upcoming WDF is well past, he recommended that the Expert Group consider focusing its efforts on the WDF scheduled to be convened in 2024, with it presenting the GSGF commensurate to its role as a bridge between the statistical and geospatial communities. In discussion, the Expert Group **agreed to submit a proposal to convene a side event at the forthcoming UNSC and liaise with the Secretariat on future WDF and UNWGIC events.**

The Expert Group, Taking Stock

Mr Claudio Stenner reminded the Expert Group of the importance of establishing a future work plan that prioritises which members will do what and by when. He welcomed that the Expert Group will reach its decadal milestone in early 2023, commending all members for their work developing and supporting the implementation of the GSGF. Recalling the results of the Global Survey on Readiness, he observed that its analysis demonstrates that many countries have successfully implemented the GSGF, but many more have not. Thus, he urged that the Expert Group looks forward to:

- Ensure the holistic use of geospatially integrated statistics;
- Support the advance towards Data services, not just data;
- Support custodianship of data and the evolution of NSOs and NGIAs; and,
- Foster Partnerships and Collaboration between, and within, National Statistical Offices (NSOs), National Geospatial Information Agencies (NGIAs) and other agencies in the national data ecosystem.

In the ensuing discussion:

- Ms Deirdre Bishop underscored the need for the EG-ISGI to support the development of geo-statistical capacity in countries, highlighting the GSGF e-learning course[1] as one communication mechanism that the Expert Group can use. In response, Brazil offered to liaise with the relevant parties to translate the e-Learning Course into Portuguese;
- Brazil supported the concept of developing joint initiatives with the Statistical community;
- Mexico emphasised the importance of the Expert Group to communicate the relationship between the GSGF and the IGIF, particularly to the statistical community, underscoring the need to bridge the communities. They noted that there are not many 'integrated' institutions (as INEGI combines the functions of an NSO and NGIA into one agency). Thus, they urged the Expert Group to communicate to its parent bodies the need to bring the communities together within the national ecosystem, potentially through strengthened institutional arrangements; and,
- Canada echoed Mexico's comments and emphasised the importance of communicating across and within institutions, particularly for those above the technical/expert level towards decision-makers – a sentiment echoed by Mr Josh Coutts, USA.

Summarising, Mr Stenner welcomed the discussion, noting these points will help progress and define the Expert Group's future strategic direction.

Session 3 – Strengthening Geo-Statistical Coordination and Coherence

Mr Stenner welcomed the Secretariat to discuss the Expert Group's prevailing mandates provided by UNSC and UN-GGIM. Mr Iliffe, UN-GGIM Secretariat:

- Reviewed the mandates of the Expert Group, starting with recalling UNSC decision 44/101 (endorsed by UN-GGIM 3/107), which established it. Further, he noted UNSC decision 48/108 which "strengthened the mandate of the Expert Group for it to become the overall coordination group for all activities in the area of the integration of statistical and geospatial information", urging the Expert Group in its deliberations to consider practical actions it can take to strengthen coordination within the functional groups of the UNSC, regional working groups of UN-GGIM, within the UN system (regional commissions, funds and programmes), and the broader geo-statistical community (such as Eurostat, OECD, PARIS21 and others);
- Reviewed UNSC decision 53/127 and UN-GGIM decision 12/108 as the most recent decisions of its parent bodies. In situating the Expert Group in both UNSC (as detailed within the "Report of the Bureau on working methods: towards more coordinated and coherent structure and functions of groups[2]") and UN-GGIM (in its report to ECOSOC on "Enhancing global geospatial information management[3]"), highlighted the vital role of the Expert Group as a means that will enable UNSC to implement ECOSOC Resolutions 2022/3[4];
- Updated the Expert Group on the enhanced role of UN-GGIM, as recognised by ECOSOC in its Resolution 2022/24[5]. This resolution, *inter-alia*, reiterated the importance of strengthening and

[1] https://ipgh.org/e-LearningTool/#/
[2] E/CN.3/2020/27 Annex 1 - https://digitallibrary.un.org/record/3847749
[3] E/2022/68 https://ggim.un.org/documents/E_2022_68_e.pdf
[4] E/RES/2022/3 Ensuring that the work in the field of statistics and data is adaptive to the changing statistical and data ecosystem http://undocs.org/E/RES/2022/3
[5] E/RES/2022/24 Enhancing global geospatial information management arrangements http://undocs.org/E/RES/2022/24

enhancing the effectiveness of the Committee of Experts, particularly for the achievement of its operations focused on the Sustainable Development Goals and the Integrated Geospatial Information Framework (IGIF); and, adopted a revised Terms of Reference for the Committee.

Thematic Coordination

Ms Andrea Da Silva (Brazil), as a representative of the UN Committee of Experts on Big Data[6] (UNCEBD):

- Introduced the UNCEBD, outlining potential areas of collaboration and overlap, particularly its Task Teams on Earth Observations/Rural Access to Services/ Mobile Phone Data, and Ocean-going vessel tracking (AIS) Data;
- Highlighted the recent outcomes of its eighth plenary meeting, where the UNCEBD agreed to propose an exchange of letters with the Expert Group means of strengthening the mutual coordination and coherence between both communities;

Ms Sandra Moreno, as the co-Chair of the Working Group on Geospatial Information of the Inter-agency and Expert Group on the SDG Indicators:

- Updated the Expert Group on its recent progress, including the development and adoption of the SDGs Geospatial Roadmap (by UNSC decision 53/101). She highlighted that the Roadmap utilises the GSGF and includes several examples of how countries have leveraged the GSGF to produce, measure, monitor, and disseminate geospatially integrated SDG indicators.

In the ensuing discussion:

- The Expert Group recommitted to implementing its mandates, anchored by the GSGF;
- Noted the offer of exchanging letters with the UNCEBD and **welcomed the participation of UNCEBD within the Expert Group, and offered to support the UNCEBD with promoting the GSGF within this community;**
- **Agreed to invite other communities from across functional and regional groups to participate in the work of the Expert Group as the mechanism that helps strengthen coordination and coherence on the promotion of the GSGF. Specifically, the Expert Group entrusted the co-Chairs to engage global functional groups on disaster-related- and climate-change statistics, and environmental accounting, noting the existing strong participation from the HLG-IGIF and IAEG-SDGs WGGI;**
- Brazil highlighted the vital role of the GSGF in the completion of its population census. In considering how its national priorities require more timely data than on a decadal schedule and urged the Expert Group to identify how it can help countries to address institutional coordination issues and better bridge the statistical and geospatial communities;
- Costa Rica emphasised the importance of coordination and collaboration between statistical and geospatial institutions and stressed the instrumental role of the Expert Group in developing guidance for institutions to facilitate integration in many circumstances, either at national to local levels, but also to develop guidance that can be used to establish/enhance the relationship between the high-level decision-makers at the political and technical levels;

[6] UN Committee of Experts on Big Data https://unstats.un.org/bigdata/

- The United Kingdom highlighted the example of Memorandums of Understanding (MoU) as a means of bringing institutions together. They highlighted the recent MoU between the United Kingdom and Brazil that is helping bring decision-makers together to share experiences;
- The USA looked forward to strengthening the coordination and implementation between the GSGF and the IGIF;
- Mexico provided their national experience, where geo-statistical integration is driven by a legal framework and urged that the Expert Group consider developing/referencing existing resources that can help countries strengthen their institutional frameworks;
- Recognised the importance of strengthening the awareness and communication of the GSGF to decision-makers and noted the role of the IGIF as a means of implementing the GSGF. In this regard, the Expert Group noted the importance of communicating the IGIF to the Statistical Community.

Regional Coordination

Turning to consider regional coordination issues, the Expert Group welcomed updates from the regions. The Secretariat noted that responses to the regional assessment template (provided in Annex 3) had been received from the Americas, Africa, Asia and the Pacific, and Europe. The Economic and Social Commission for Western Asia, on behalf of Member States in their region, provided their report on "geospatial information supporting statistics for the 2030 Agenda for Sustainable Development[7]". Summarising the responses, Mr Iliffe highlighted the inequalities of GSGF implementation within and between regions and observed that each region has now established a regional working group on the integration of statistical and geospatial information, suggesting that the Expert Group consider these groups in its deliberations.

For the Americas, UNECLAC discussed the regional results of the global survey on readiness to implement the GSGF, highlighting its capacity development programme to implement statistical geoportals in NSOs as a means of practically implementing the GSGF. They thanked the Expert Group for the development of the GSGF Implementation Guide as a tool that helps its implementation. Ms Gabriela Seco (Mexico), as co-Chair of the UN-GGIM America's Regional Working Group on the Integration of Statistical and Geospatial Information, reinforced UNECLAC's perspective and highlighted the importance of the "MEGA" programme as a platform for collating and disseminating geospatially integrated statistical data at various levels of geographic disaggregation for the Americas region. Continuing, they welcomed the progress of MEGA 2.0, which is building on existing regional work to provide richer data along greater thematic areas. Summarising, she noted the objectives of the working group are: 1. Promote and strengthen GSGF principles in the statistical community; and 2. Strengthen the implementation of the GSGF through the MEGA programme through deepening the level of geography in which geospatially integrated statistics are disseminated.

For Europe, Ms Charlie Dacke (United Kingdom) provided a consolidated European perspective on behalf of Mr Jørn Kristian Undelstvedt (Norway). She highlighted two main areas of work: 1. The UN-GGIM Europe Working Group on Data Integration; and 2. Regional work conducted by Eurostat, primarily through the GEOSTAT programme – as key actors within the European geo-statistical integration ecosystem. She highlighted how the region works across regional and national statistical and geospatial actors to bring communities together to promote the added value that comes from integrating statistical and other forms of data with geospatial information. From this basis, the region is working to establish and advance capacity building and other development initiatives at the regional level. She highlighted that

[7] E/ESCWA/C.1/2022/6

while the region is comparatively advanced in implementing the GSGF, there are challenges as no dedicated resources are available to support its implementation. Summarising, she proposed that the Expert Group consider developing a formal mechanism that enables a regular exchange between the Expert Group and the regional committees/working group chairs (such as the UN-GGM: Europe Working Group on Data Integration and those responsible for implementing the GSGF at the regional level, such as GEOSTAT). In the ensuing discussion:

- UNECLAC stressed the need to strengthen coordination and cooperation with regional bodies in other continents, highlighting that through UN-GGIM's established global architecture, there are now five regional committees that each have working groups on integration of statistical and geospatial information. In this regard, he welcomed the suggestion to develop a coordination mechanism. The Expert Group agreed and entrusted the organisation of this task to the Expert Group's Steering Group.
- The Expert Group noted with concern the inequalities of how the GSGF is being implemented across the regions and agreed that the means of implementing the GSGF is the IGIF and its strategic pathways.

Session 4 - The Strategic Direction of the Expert Group

In highlighting the journey of the Expert Group over the past decade, Mr Stenner noted that the culmination of this work had been the GSGF; as the overarching demand for integrating statistical and geospatial information originally focused on censuses, then incorporating the 2030 Agenda upon its definition in 2015. He noted that most countries today have either implemented their iteration of the 2020 Round of Population and Housing Censuses or are in the final stages of preparation for it, stressing that as countries look beyond this decadal event, the Expert Group must do so too. He recalled the documents circulated to the Expert Group in advance of the meeting: one from the co-Chairs and one from the Secretariat that helped set the stage for this segment, posing several questions to the Expert Group:

- How should countries work to strengthen the coordination and cooperation between National Statistical Offices, National Geospatial Information Agencies, and others in the national data ecosystem?
- What strategic actions should the Expert Group undertake to ensure that this transformation nationally and globally fulfils its potential?
- What challenges beyond the directly census-related work hinder the integration of statistical and geospatial information and could be addressed at the Expert Group?
- What new opportunities are emerging where a coordinated international approach or contribution will ensure broad benefit to the global community?
- How could the Expert Group help facilitate better knowledge sharing, exchange of best practices and establishing or deepening partnerships?

Following, he welcomed two senior-decision makers in the statistical and geospatial domains to help prime the Expert Group for this strategic discussion - Ms Dierdre Bishop, as co-Chair of the HLG-IGIF and leading geo-statistical integration at the US Census Bureau and Mr Eric Loubier, Director General of Natural Resources Canada.

Ms Dierdre Bishop, Director - Geography Division, US Census Bureau and co-Chair of the UN-GGIM High-Level Group on the Integrated Geospatial Information Framework

Thanking Mr Stenner, Ms Bishop recalled the dual pressures of the census round and COVID-19 have emphasised the importance of geo-statistical integration, a process that has been further enhanced by new opportunities and forced agencies to respond using innovative approaches that were not in the original census design. Now the Census Round is starting to be over - how can we work on globally identified challenges at our national level (Climate change, health, disaster-related statistics and other thematic areas). Each of these areas provides opportunities and challenges in areas of Coordination, Legal and Governance, Abundance of Data, Technical Planning and Capacity, and Dealing with Change. To summarise Ms Bishop's remarks for each of these areas:

- **Coordination** – The US Census Bureau works across several dimensions, working to coordinate several organisations with differing missions and mandates. In strengthening coordination, the opportunity arises to reduce the duplication of data (i.e. several agencies require accurate road datasets, with several agencies maintaining individual datasets) or to work across different levels of government (inclusive of governments at State, County, and City levels). In each of these instances, the US Census Bureau needs to identify and use the most accurate and most authoritative sources of information and work to reduce duplication of effort across overlapping authorities, expertise, and areas of interest;
- **Legal and Governance** – In underlining the adoption of the Geospatial Data Act of 2018, the governance, oversight, and production of geospatial data was codified across the US federal government. Yet, while this brought consistency at the national level, there are remaining challenges in coordination with sectors outside this remit (such as Tribal, Local, and State governments, academia, and the private sector. She highlighted the environment around the production of address data, noting that several levels of government either produce, disseminate, or consume these types of data, commenting on the need to communicate where institutional gaps exist for senior decision-makers, up to and including the political level, to develop appropriate mechanisms – such as legislation – to help unblock and bring institutions closer together;
- **Abundance of Data** – In considering the abundance of data available at our fingertips (Earth observations, big data, in situ sensors), the role of NSOs is changing. We can now consume new data steams that can detect change on the landscape and answer survey questions when a response from a human is not possible. This raises a question on how best to determine which data sources are most appropriate to use in strengthening our geospatial databases and in supporting the production of the most accurate statistical data. Part of the answer is engaging with data producers to determine what to ingest, process, and use for updates. Thus, the US Census Bureau is starting informal conversations to ascertain the scope and potential of novel data sources with the private sector. Another part is engaging with data users to determine how we can best support their needs. Once we know the answers to those questions, we need to conduct adequate testing of how we can ingest and disseminate the outputs of this novel data;
- **Technical Planning and Capacity** – Given this changing environment, our infrastructure must work to transform to embrace and keep up with this changing environment; however, with our legacy infrastructure, we must embrace transformation without a loss of service or functionality. How do we migrate in this direction while completing our production responsibilities and deadlines

related to existing data deliverables? How do we improve data delivery methodologies to provide for "just-in-time" data services, and shorten the time between a data need and data delivery and access. We must be flexible in developing methodologies, and we can draw on many innovations and advances within the geospatial information community to strengthen statistical production. In this regard, the Expert Group can, and should, help identify the most effective technical methods, systems, and infrastructure to maximise the use of our combined geospatial and statistical data. Through this, we can shift from data collected at decadal events towards real-time data provision;

- **Dealing with Change** - The only constant today is that change is constant. Geographies and statistics are not static; users need and expect information faster than ever. More and more agencies are researching and implementing grids, developing new common geographies to tabulate and disseminate statistical information. Additionally, best practices call for strong management of change. Formal change control processes and boards, as well as metadata, can help identify change, ingest and disseminate new datasets, and document change.

Summarising her thoughts on the Expert Group's future strategic direction, Ms Bishop urged the Expert Group to consider the following:

- How do we champion **standards and best practices** across data producers and users?
- How do we establish connections with, and at, the political level? And support the **formalisation of legislation and laws** – both for geospatial and statistical frameworks?
- How do we respond to unexpected events, like COVID-19, to quickly respond and **meet user needs**, while using appropriate and accurate sources?
- How do we assess the utility of new IT infrastructure and solutions and migrate while completing existing requirements and deliverables?
- What do users need to see, and what documentation do they need to support their activities?

Mr Éric Loubier, Director General, Natural Resources Canada

Mr Loubier considered the history of many NGIAs and NMAs, charting how many started to assist military survey and topographic mapping and have subsequently transformed to meet the overarching needs for geospatial information to empower land administration, transport, planning, geology and other applications.

In highlighting the changing role of the NGIA, he observed that the demand for geospatial information has increased, empowered by increased awareness and technological innovation, which in turn is driving demand for more precise, higher quality and more timely data; NGIAs must embrace change, as this cycle will only increase. In doing so, NGIAs can position themselves to help other national institutions integrate data from innovations such as cube satellites, the Internet of Things, Autonomous cars, volunteered geographic information, and citizen sensors. Here, integration is a vital challenge that must be overcome, and NGIAs are expertly positioned to assist users within government, whether analysts or decision-makers, to help leverage these innovations.

In this regard, Mr Loubier theorised that if '*information is power*', often people and institutions will want to keep that power for themselves, which is a barrier to integration. He urged the Expert Group to consider that *'knowledge is power'* – and focus on the applications and use of data, urging NGIAs to be at the forefront of enabling the sharing of geospatial information as the national data integrator. NGIA's must

embrace transformation at the heart of what they do, embracing new technologies and adding value to existing geospatial outputs – including non-traditionally authoritative data. Given the changing landscape of geospatial information, in that it is becoming a consumable good, he observed that NGIAs must transform to remain relevant, as the data needed today may be irrelevant tomorrow. Thus, as decisions require several data sources to be integrated and analysed, he urged NGIAs and the broader national data ecosystem to enable the integration of other forms of fit-for-purpose data by fostering collaboration that breaks down silos and reduces duplication. In underscoring this point, he noted that if organisations do not change, their relevancy will be questioned, potentially removing resources.

Continuing, Mr Loubier highlighted the dynamic between NGIAs and NSOs as a means of enabling the maximum value to be achieved from authoritative national data; but urged that good use of data also includes the integration of other data sources – potentially from non-authoritative, volunteered, or other sources – if these data types are considered fit-for-purpose. In setting out how Mr Loubier urged the Expert Group to consider issues around:

- **Bridging the gap between data and users** by understanding the needs of end-users and adding value to existing datasets or creating new ones to bridge gaps;
- **Improving the model where NSOs and NGIAs are not the only players** through partnerships that take advantage of diversified expertise and innovation; and,
- **Communicating how data producers can modernise** their operations through open standards and interoperability while working to balance the tensions of quality and authority. Frameworks like the IGIF augment National Spatial Data Infrastructures, enabling decision-makers to make faster and better decisions – but this uptake is not yet universal.

Summarising, Mr Loubier urged the Expert Group to develop guidance that assists countries to decomplexify how they work to integrate geo-statistical information. In part, this will be through urging the development of new processes and data models and applying frameworks like the GSGF.

Thanking both discussants, Mr Stenner welcomed the reflections and contributions from the Expert Group:

- Costa Rica welcomed the Expert Group to look beyond census to embrace a broader strategic direction that will help countries identify the synergies and gaps that exist within and between NSOs and NGIAs;
- Venezuela stressed the fragility and inequality of resource allocation at the national level challenges access to new technology, preventing national advancement;
- Honduras highlighted the national experience of collaborating with its national transportation agency to leverage data from OpenStreetMap (OSM) to establish and identify where to update road networks and informed the Expert Group that from this experience of collaboration that they are rethinking the population census methodology to be more targeted with where the population could be. Further, they considered that the impact of disasters has necessitated a 'dramatic change' and urged others to be more adaptive to change;
- The USA expressed thanks to everyone for sharing challenges, regardless of how uncomfortable they can be, welcoming that we need to get the issues on the table to address them. Further, they recognised the MEGA project as a potential model for similar projects in other regions;
- Canada considered the question and tensions within 'fitness-for-purpose' and authoritative data, urging that non-traditional forms of data can be integrated with better outcomes in terms of

resource investment, delivering the same outcomes. Further, they informed the Expert Group that they are hosting the 2023 International Statistical Institute Congress in Ottawa, Canada[8] and welcomed the Expert Group's support in promoting the GSGF at the Congress;

- Mexico noted that they have embraced integrating crowdsourced data through using OSM. They noted this has occurred by identifying the needs of users, which in turn has directed their work beyond topographic maps toward the development of data products that meet user needs;
- Mr Stenner considered the changing nature of geospatial information, where it used to be produced and disseminated by a few centralised institutions using skilled and expensive resources; now, through the democratisation of this data, many novel data sources now exist;
- Panama noted that the MEGA project is an important mechanism connecting NGIA and NSOs in the region. They recommended that countries work to produce a national atlas and other materials that communicate the value of geo-statistical integration, noting how the demands on small countries can be overwhelming and identifying the means to secure resources is crucial. They stressed the need to promote and emphasise the role of the NGIA as an integrator that supports the NSO by elevating the importance of geo-statistical integration to decision-makers and the political level;
- Dominica provided their national experience of hurricanes to highlight the importance of geo-statistical integration to decision-makers. In this regard, they urged that the Expert Group work on tools that can help countries strengthen communication – not just for the census, but also for other products;
- Ms Bishop noted that the HLG-IGIF has a Working Group on Communications and that the resources developed by this them could be reused/tailored for the GSGF;
- The UN-GGIM Academic Network for the Americas suggested that the Expert Group consider how to enhance collaboration between the Expert Group and the thematic groups of UN-GGIM;
- Bahamas offered their appreciation to the USA and Canada for their presentations. Urged the Expert Group identifies practical actions that will bridge the gap between geospatial and statistical offices. In noting that many NSOs have a "GIS unit" that focuses on the management of geospatial information for the census, they emphasised that bringing institutions closer together will help strengthen the exchange of innovative techniques and ideas, potentially enabling the better use of resources as well;
- The UK provided their national example of a strong institutional relationship between the NSO and NGIA, underpinned by an MoU. They observed that this could be a mechanism for other countries to use to bring institutions closer together for enhancing the integration of geo-statistical data at the national level;
- UNECLAC considered the various institutional arrangements of countries, noting that the coordination dynamic is between NSOs and NGIAs and through coordinating with institutions responsible for subnational territorial entities (provinces, states, regions), such as producing official statistics or generating spatial information. In some countries, statistics are produced by federating data provided by subnational entities, necessitating the dissemination and implementation of the GSGF at the sub-national level; and,
- Mr Stenner underlined the importance of translating the GSGF to ensure its broadest possible dissemination and informed the Expert Group that Brazil is working on translating the GSGF into

[8] https://www.isi2023.org/conferences/ottawa-2023/

Portuguese. He noted that Brazil aims to work with the Community of Portuguese-Speaking Countries (CPLP) to promote the GSGF. Several members of the Expert Group echoed the need for translation to enable participation and comprehension of materials, particulary as the GSGF needs to be understood as more localised levels where fluency of English is not as high.

In considering the discussion and arising actions, the Expert Group:

- **Agreed to update the GSGF to reflect the current strategic needs of Member States by emphasising the IGIF, the production of real-time geo-statistics, big data, earth Observations and other advances not fully captured within the GSGF adopted in 2019 (subsequently entrusted to the Task Team on Reviewing the GSGF);**
- **Welcomed that its new strategic direction considers issues of integration beyond the Census, recognising that addressing the many data integration challenges presented by the global coronavirus disease (COVID-19) pandemic and other complex issues, such as climate change and disaster resilience requires the implementation of the GSGF**;
- **Recommended that countries produce atlas' on the SDGs and other tools and welcomed collaboration with the IAEG-SDGs WGGI to achieve this;**
- **Committed to a side event at the UNSC, grounded by the "Expand the IGIF for the Statistical Domain" position paper, with high-level representatives of Brazil and the USA, with others to be identified, entrusting this activity to the co-Chairs and the Secretariat;**
- **Agreed to reinvigorate the membership of the Expert Group, in part through inviting members of other functional and regional groups and entrusted the Steering Group by:**
    - **Confirming with its existing members their intent to continue their participation;**
    - **Communicating that the Expert Group welcomes participation from high-level decision-makers as well as contributions from the technical level and agreed on the need to identify mechanisms that help mobilise participation from developed and developing countries in all regions;**
- **Agreed on the need to develop communications materials, and in this regard:**
    - **Welcomed the offer to liaise with the HLG-IGIF WG on Communications;**
    - **Called for the translation of the GSGF into the six UN languages at a minimum and welcomed Member States to contribute their resources to achieve this aim;**
    - **Agreed to develop a high-level (2-4 pages) to communicate the GSGF to high-level decision-makers and entrusted this task to the Steering Group;**
    - **Welcomed Brazil's offer to produce a logo for the Expert Group and other materials to celebrate the 10-year anniversary of the GSGF;**

Session 5 – Advancing on the Work Plan 2022 – 2024

This session enabled the Expert Group to review its progress against the Work Plan 2022 – 2024 and prioritise work items based on the available resources.

Expand on the Integrated Geospatial Information Framework for the Statistical Domain

Mr Rejean Doiron (Statistics Canada), on behalf of his colleague Mr Peter Murphy, updated the group on the progress of the Task Team on Expanding the IGIF for the Statistical Domain, as the mechanism to implement Work Plan item #A. In summarising the progress to-date, he proposed to the Expert Group that the Task Team should develop a concise 'white paper' that communicates the value proposition of

IGIF for the statistical community. He highlighted the Secretariat's "COVID-19: Ready to Respond" white paper[9] as an example of this approach. Summarising, he noted that Canada is offering to continue leading this Task Team and requested the Expert Group to participate in this work, including as co-Chair. In the ensuing discussion:

- Brazil recalled previous discussions in the meeting and underscored the importance of this work item. The Expert Group agreed to prioritise this work item;
- Ms Bishop volunteered a member of her staff at the US Census Bureau to participate in this Task Team to help strengthen coordination between the Expert Group and the HLG-IGIF, highlighting that this work will be of interest to the HLG-IGIF's Working Group on Communications. Continuing, she observed that in work leading up to the adoption of ECOSOC resolution 2022/24, several representatives of UN-GGIM engaged their missions to the United Nations; this process has been documented within UN-GGIM's reports to ECOSOC. She urged the Task Team to consider and incorporate this existing work where appropriate;
- Mexico offered to co-lead this Task Team with Canada;
- Colombia, Costa Rica, Dominican Republic, Peru, Venezuela, and the UK offered to participate in the Task Team, with the co-leads of the Task Team agreeing to invite members not present to participate and contribute;
- The Expert Group **committed to developing this White Paper for submission to the Expert Group's report to the 55th session of the UNSC in March 2024, noting the opportunity to submit to the 13th session of UN-GGIM in August 2023 for the geospatial community's consideration, input, and endorsement**; and,
- **The Expert Group agreed that the format of the white paper should focus on the following:**
    - **Establishing geospatial capacity in an NSO beyond a "GIS unit" toward decision-makers in an NSO;**
    - **Emphasise the development of 'data services' that foster the integration of many forms of geospatial information with statistical data;**
    - **Highlight the role of the IGIF in facilitating and supporting the aims of NSOs in supporting data custodianship; and,**
    - **Promoting partnerships and institutional collaboration between NSOs and NGIAs at both decision-maker and technical levels.**

Developing capacity-assessment tools and maturity models for statistical and geospatial integration

Mr Cayo Franco (Brazil), on behalf of Mr Jørn Kristian Undelstvedt (Norway) and Mr Jerker Mostrom (Sweden) as the co-leads of the Task Team on Capacity Building, updated the Expert Group on how the Task Team is working to implement Work Plan item #B. Mr Franco summarised the Expert Group's work in capacity building to date, including its work on the Global Survey on Readiness to Implement the GSGF; UN Statistics Wiki–pages on the GSGF; and, the GSGF and its Implementation Guide. Highlighting that the Global Survey identified a clear need for a GSGF capacity-assessment tool, the Task Team on Capacity Building, under the leadership of Norway and Sweden, is working to explore the development of a **capacity-assessment tool** that helps countries assess their **maturity of statistical-geospatial integration.** In this regard, the Task Team has considered several existing tools and has convened meetings with several complementary groups so that any potential future work does not duplicate. In this regard, they

[9] https://ggim.un.org/meetings/GGIM-committee/10th-Session/documents/Covid-19_Ready-to-Respond.pdf

highlighted that PARIS21 has offered to support the Expert Group with a resource to help develop a capacity development tool and noted discussions with Mr Tim Trainor, as a consultant on the IGIF to the Secretariat. In the ensuing discussion:

- Ms Bishop recommended that the Task Team also reviews materials developed by the SDG Data Alliance on capacity development as an additional resource;
- UNECLAC urged the Task Team to ensure that the assessment tool to be developed/endorsed by the Task Team is aligned with the Implementation Guides of both the GSGF and IGIF; and,
- The Expert Group welcomed the progress made by the Task Team and agreed to explore the opportunity to collaborate with PARIS21, entrusting engagement in developing the capacity tool to the Task Team on Capacity Building.

Steps to providing guidance on developing user-centric and other geographies – Reviewing the GSGF

Ms Charlie Dacke (United Kingdom) summarised how user demand for statistics to be presented in various geographies (such as grids, small areas geographies, and administrative areas) requires the development of new approaches that ensure such "user-centric geographies" retain the same characteristics of 'traditional' statistics in not breaking statistical disclosure and other concerns. As a key area of advancing GSGF Principle 3: "Common Geographies", she proposed that the Expert Group should work on developing a position paper on "User-Centric Geographies" that includes a globally agreed definition, an examination of the various methodologies that ensure privacy and confidentiality and country-examples of how they can be implemented. She noted that the United Kingdom is offering to help co-lead a Task Team that develops this work item further. In the ensuing discussion:

- The USA commended the UK's progress in this area, with Mr Josh Coutts offering to help co-lead this Task Team with Ms Dacke. Further, they suggested to the Expert Group to consider the broader implications of this work in the context of the need to revisit and update the GSGF to reflect these innovations;
- Canada highlighted their national experience in this area, noting its concerns with ensuring that statistical disclosure is not breached, particularly for grids. With Brazil, they also welcomed the revised scope of this work;
- Colombia urged the review of the GSGF to incorporate work on the GeoGSBPM and other advances in the statistical community;
- **The Expert Group agreed that the Task Team would initiate the review of the GSGF in light of prevailing advances in both communities. Further, it agreed that a refined version of the GSGF will be presented to the 55th session of the UNSC in March 2024.**
- The Expert Group recommended to the Task Team that it would then continue to develop specific guidance on User-Centric Geographies; and.
- Brazil, Canada, and Venezuela offered to participate in this Task Team.

In summarising the session, Mr Stenner considered the outstanding items of its Work Plan chiefly work on developing Enterprise Architectures and expressed with regret that due to available resources that other work should be prioritised, noting that if members are able to contribute resources this item could be reconsidered.

Session 6 – Ongoing Modalities of the Expert Group

This session enabled the Expert Group to consider its broader ongoing modalities. In this regard, the USA highlighted the growing demand for translation, both in terms of the Expert Group's substantive work, but also to help foster participation from Member States whose representatives are not fluent in English. The point on translation was echoed by Brazil and Panama, highlighting the experience of the Americas region, where the translation of documents has enabled dissemination and implementation. In this regard, UNECLAC offered to explore how it can utilise resources to support the translation of the Expert Group's report and potentially some of its virtual meetings in 2023. The Expert Group offered its appreciation to UNECLAC for this offer and thanked them again for their warm hospitality in hosting the meeting.

At the request of the co-Chairs, the Secretariat updated the Expert Group on the state of reporting to the UNSC. **The Expert Group welcomed the draft report and agreed to submit its report to the UNSC, entrusting final refinements to the co-Chairs**.

Mr Stenner noted that the Terms of Reference of the Expert Group could now be updated and **invited the Expert Group to provide comments on its revised Terms of Reference by 20 January 2023 and entrusted this revision to the co-Chairs.**

In considering the next meeting of the Expert Group, Brazil offered to host the Expert Group in Rio de Janeiro. Yet, in discussion they stressed that the Expert Group should convene its next meeting away from the Americas and Europe (which hosted its sixth meeting) and look towards Africa, Asia and the Pacific or Western Asia regions as a means of enabling participation in other regions and as a means of promoting the GSGF as the global framework for geo-statistical integration. The Expert Group agreed with this sentiment, with Mr Stenner recommending that Expert Group members plan to make internal arrangements to participate in a future eighth meeting in Africa, Asia and the Pacific or Western Asia.

Session 7 – Closing Session

As the host of the meeting, Mr Rolando Ocampo commended the Expert Group and the new co-Chairs, Brazil and Ireland, for their continued work in advancing geo-statistical integration for countries. He underscored the need to strengthen coordination between the Expert Group at the global level and UN Regional Commissions and Regional Working Groups of UN-GGIM. He closed by thanking the Expert Group for coming to UNECLAC in Santiago.

Closing the meeting, Mr Stenner underscored the importance of meeting in person to strengthen ties between members of the Expert Group and countries. He thanked those who could participate in the meeting, extending his appreciation to members unable to participate in Santiago for their continued work and support.

Annex 1

Thank you message to the EG-ISGI

Dear EG-ISGI,

I hope you are doing well and all preparations of the ISGI are going well including your travel arrangements. I am unfortunately not able to attend this significant first face to face meeting after COVID-19 due to another global engagement in Europe. I would like to thank the Secretariat and EG-ISGI for allowing me to participate in co-leading the group for the past 3 years.

The period leading to our past period was not easy because of the pandemic that had disrupted our lives so much. Despite the difficulties, the Expert Group worked cohesively to achieve our set milestones including the major ones like:

1. developing the Expert Group's workplan over the period and submitting it to the UN-GGIM and UNSC
2. submitting the GSGF for endorsement to the UN-GGIM and Statistics Commission
3. Developing the GSGF implementation guide and submitting it for endorsement by the two bodies
4. Critical to the work of the group was also to develop and administer the GSGF readiness assessment global survey that has especially provided us with the insight of what is the current global status as well as the required areas of attention
5. Increasing communication with UN regional committees and other relevant bodies effectively coordinate the work of integration of statistics and geography
6. Amplification of the integration work through the compilation of national examples of this area.

As we move on, it is my hope that the Expert Group will narrow down on our work plans to ensure that there are tangible benefits to member states through our guidance work. The support to **developing countries** will need to be strengthened through our various regional committees and other thematic bodies. Many developing nations will still need capacity building support in the implementation of the GSGF. The Expert Group is therefore urged to continue to pay attention to this area.

I am pleased as a team we worked on the vision of those founding members and co-chairs who provided the light for us to easily match on. I would like to take this opportunity therefore to thank all the members of the Expert Group and Secretariat for your support during my tenure as co-chair alongside my colleague Kathrin Gebber from Destatis (Germany). The interactions, lessons and inspiration I gained during this period is highly cherished as we map and shape a better future through better data-driven decisions globally. In a special way, my gratitude goes to the working group leads for the past 3 years who managed to hold us together in the various thematic areas to deliver the achievements above.

I would like to thank the incoming co-chairs for accepting this role as we move into the next work plan. Your voluntary leadership of the group shows your commitment to this global work and wishing you well as you move on with this global vision. Namibia will continue to support the work of the Expert Group as usual as we continue to learn and grow together.

Best Regards,

Alex Mudabeti
Executive,
Namibia Statistics Agency
Former- Co-Chair of the EG-ISGI (Namibia)

Annex 2

Regional Assessments

Africa

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Region / Affiliation: Africa / United Nations Economic Commission for Africa

The Overall Implementation of the GSGF

Africa has implemented the Global Statistical Geospatial Framework (GSGF), which facilitates the integration of statistical and geospatial information. A Framework has enabled the integration of a variety of data from the statistical and geospatial communities and, through the application of its five Principles and supporting key elements, enables the production of harmonised and standardised geospatially enabled statistical data at varying levels by African countries. The resulting data has been integrated with statistical, geospatial, and other information to facilitate data-driven and evidence-based decision making to support local, sub-national, national, regional, and global development priorities and agendas, such as the 2020 Round of Population and Housing Censuses, natural resource management, and the 2030 Agenda for Sustainable Development as well as the AU Agenda 2063.

Implementation of the Principles of the GSGF

Principle 1: Use of fundamental geospatial infrastructure and geocoding

Under the guidance of ECA, 22 African countries that participated in the 2020 Round of Census have adopted geocoding. ECA has also had several advisory missions and training workshops on geocoding in order to practically promote the implementation of GSGF principles. By the conclusion of the round in 2025, more countries will have conducted a census using geocoding techniques. ECA is on the way to release a guide on Geocoding for Population and Housing Censuses that serves as the basis for GSGF throughout the continent. The Dwelling Frameworks created for census mapping serve as the foundation for geocoded address systems throughout the continent, therefore easing the application of GSGF Principles 2, 3, 4, and 5. Despite this, governments, the commercial sector, and civic society are adopting principle 1 in a variety of geospatial application domains, although more research is necessary to assess their success.

Principle 2. Geocoded unit record data in a data management environment

The 22 African countries that participated in the 2020 Round of Census have adopted geocoding had undertook geocoding both in the field and in the office environment at varying levels using several GIS software's and Information Technology hardware's. ECA has also had several advisory missions and training workshops on geocoding in order to practically promote the implementation of GSGF principles, these tasks have been undertaken by covering geocoding unit records in a data management environment. It will therefore be appropriate to assess the performance of countries in the implementation of Principle 2 as far as censuses and other application of geospatial Information technology is concern by various countries.

Principle 3. Common geographies for the dissemination of statistics

In the 22 African countries that participated in the 2020 Round of Census have adopted geocoding the exercise has ended mostly in census cartography with little attention on common geographies for the

dissemination of statistics. The application of Principle 3 in the continent needs a lot of work as the principle directly affects data processing and integration of statistical structured and unstructured data in geodatabases for dissemination to be effective.

Principle 4. Statistical and geospatial interoperability

Normally, if there are pitfalls in the application of Principle 3 this will adversely affect Principle 4 as little is underway to enable statistical and geospatial interoperability.

Principle 5. Accessible and usable geospatially enabled statistics

Th accessible and usable geospatially enabled statistics has been limited due to the poor application of Principle 3 and 5. Countries have not spatially integrated the data collected from censuses and surveys. Platforms developed have been static thematic maps with little dynamic maps offering little opportunities for spatial data accessibility.

What resources do you have available to implement the GSGF?

In the 22 African countries that participated in the 2020 Round of Census have adopted geocoding, the census budget has been used to implement GSGF. At the continental level the ECA has had support from the United Nations Regular Programme of Technical Cooperation (RPTC) funds as well as from the European Union

What prevents 'improved' implementation of the GSGF?

The preventions are related to governance, institutions, policy, legal, financial, data, innovation, standards, partnership, capacity, education, communication, engagement etc.

What resources do you need from the EG-ISGI?

The Region needs resources to implement various components related to: governance, institutions, policy, legal, financial, data, innovation, standards, partnership, capacity, education, communication, engagement etc. aimed at the effective implementation of the GSGF activities in the continent.

How can you strengthen your region's engagement with the EG-ISGI?

Hosting relevant meetings/workshops of the EG-ISGI in the side-line on regional events.

Participating in respective meetings to foster synergies and linkage; and ensuring that the region has effective access to policy documents and handbooks for the integration.

Contributing to develop common project proposals for resources mobilisation.

The Americas

Focal Name: Sandra Liliana Moreno, Gabriela Seco, Alvaro Monett

Region / Affiliation: UNGGIM - Americas

The Overall Implementation of the GSGF

The Workplan 2022-2025 of the UN-GGIM: Americas Working Group on Integration of Statistical and Geospatial Information, focused on supporting the implementation of the five principles of the GSGF. Among its activities, this workplan considers the compilation of use cases and technical documentation regarding the GSGF principles; the publication of use cases and technical documentation on the UN-GGIM: Americas website; and regional training workshops regarding each one of the principles.

The Statistical and Geospatial Framework for the Americas (MEGA) project is being developed by the UN-GGIM: Americas Working Group on Integration of Statistical and Geospatial Information. For the period 2022-2025, the MEGA project considers working on the standardisation of new geographies with higher levels of disaggregation, incorporating gridded fundamental data and working with the countries to evaluate their assets and needs regarding geographies for geocoding.

The incorporation of the geospatial component to the CEPALSTAT platform, with open-source technologies, open geospatial standards, and new functionalities that enrich the analysis of statistical information based on a territorial perspective. Thus, from a query on a statistical dashboard, it is possible to display the results geospatially, with different disaggregation levels and with the possibility of integrating geographic layers from other sources.

A project (Development Account) being conducted by ECLAC aimed at increasing capacities in selected countries to integrate geospatial and statistical data and information, through the adoption of regional and global frameworks, standards, and methodologies for evidence-based policies.

A project being conducted by ECLAC (funded by the European Union) to implement statistical geoportals in the national statistics offices of selected countries. The purpose is to provide data generated by various statistical operations through open-source web platforms, in a georeferenced manner, and with levels of disaggregation that will allow better support for decision-making, public policies and monitoring of the 2030 Agenda for sustainable development.

Implementation of the Principles of the GSGF

This section refers specifically to the correlation between the MEGA project features and the five principles of the GSGF.

Principle 1: Use of fundamental geospatial infrastructure and geocoding

The MEGA project is made up of administrative and statistical geographic units that facilitate the integration process. The administrative divisions are commonly used and defined for all countries. The statistical information included in the first version of the MEGA is disaggregated at the country, department, and municipal levels (Levels 1,2 and 3 of the MEGA). Each unit has an identifier that allows its location in a standardised and open cartographic format. The process includes spatial reference as one of the most relevant elements to consider in geospatial integration. For the specific case of the Americas, the GGRF has the regional component SIRGAS (SIRGAS stands for The Geocentric Reference System for the Americas).

Principle 2. Geocoded unit record data in a data management environment

Most of the countries in the Americas use the political-administrative division for their frameworks. In this sense, the MEGA establishes three levels of territorial disaggregation, which in some cases correspond to areas created by statistical organisations for statistical purposes: 1. Level 1: Corresponding to the country. 2. Level 2: Corresponding to the following territorial level after country. 3. Level 3: The next territorial level after level 2. About the statistical information, the MEGA includes the following indicators:

1. Total dwellings
2. Total people
3. Total men
4. Total women

Each of these indicators is registered to levels 1, 2 and 3 defined in the geospatial information of the MEGA.

Principle 3. Common geographies for the dissemination of statistics

The MEGA includes the statistical and geographic information available in each country according to the parameters established in the standardisation document. The MEGA framework has been defined as a unified service for displaying and making queries at three different levels (country, department/state, and any other administrative units). America´s countries disposed of the political-administrative division information and the geographic metadata for each one of the three geographic levels included for the MEGA based on the ISO 19115 standard.

Principle 4. Statistical and geospatial interoperability

The MEGA project can be used as support for different fields of knowledge, facilitating the exchange of information based on quantitative data and is a fundamental tool to assist in the tasks of analysis and interpretation by local and national governments. The MEGA is a unified service, where the participant countries make available through the National Statistics Agencies and Cartographic Agencies, dwellings, and population data in a standardised format.

Principle 5. Accessible and usable geospatially enabled statistics

The MEGA has a viewer to facilitate the consultation and visualisation of geospatial information classified by country or whole continent. Link: https://gaia.inegi.org.mx/mega/. The new perspectives of development for the MEGA project are to deploy the current geographies and those which would be developed soon, as a support to the dissemination of statistical data in CEPALSTAT.

What resources do you have available to implement the GSGF?

- Promote the exchange of statistical and geospatial information among all members of the community of the Americas through the MEGA as an instrument of integration.
- A virtual campus with documentation and videos for training on basic GIS, advanced GIS, geocoding/georeferencing, geospatial standards, web mapping and the use of satellite images to produce statistics.
- E-Learning tool on the GSGF elaborated with the support of the Pan American Institute on Geography and History.
- Ability to carry out technical assistance activities “in person” with ECLAC staff.

- The MEGA geo-visor for consultation and downloading of information for various purposes.
- The Declaration of Aguascalientes, conceived with the objective of strengthening and improving collaboration between both organisations in the use of Earth observation, and geospatial and statistical information.
- The development of different projects such as CARIGEO, and the Central America Project, among others, with the objective of promoting the collaborative work of statistical and geospatial integration in the region.

What prevents 'improved' implementation of the GSGF?

- Lack of key standards and processes to strengthen the integration of statistical and geospatial information.
- Challenges in coordination between national geospatial agencies and national statistics offices.
- Budgetary constraints in some countries, impede the development of some processes.
- Gaps in know-how and human resources.
- Challenges in the operation of the national geospatial data infrastructures.
- The absence of conceptual standardisation tools in the countries of the region.

What resources do you need from the EG-ISGI?

- Promote access to and use of tools and developments that facilitate the integration of statistical and geospatial information.
- Identify success stories in the application of the GSGF that can be taken as a reference for possible adoption.
- Foster possible interrelationships and engagements with other groups to support collaboration.
- Promote training opportunities in the application and use of the GSGF.

How can you strengthen your region's engagement with the EG-ISGI?

- Promote, foster, and encourage close collaboration between NSOs, NGIAs and NMAs.
- Support the promotion and sharing of guidance material and good practice documentation in relation to the GSGF.
- Follow and monitor countries in the implementation of the GSGF.

Asia and the Pacific

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Region / Affiliation: Asia and the Pacific / The Regional Committee of the United Nations

Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP)

The Overall Implementation of the GSGF

Two working groups under the UN-GGIM-AP are dedicated to obtaining statistical data that can be geospatially enabled for the 2030 Agenda for Sustainable Development. These include Working Group 3 on Integrating Geospatial Information and Statistics (IGIS) and the recently formed Working Group 4 on Integrated Geospatial Information Framework (IGIF). These working groups presented their agenda and updates from 2022 at the eleventh plenary meeting of the Regional Committee of the United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP), held on 14 October, 2022, in Hyderabad, India. During the Plenary meeting, the Committee recommended the UN-GGIM-AP Secretariat to further support the geospatial and statistics communities to enhance their collaboration and exchange for the effective implementation of the IGIF and the Global Statistical Geospatial Framework (GSGF) to support sustainable development in the region, as well as the exchange and collaboration with other Regional Committees.

During the Plenary meeting, the Working Group on IGIS recognised that the integration of geospatial information and statistics is critically important in addressing the 2030 Agenda for Sustainable Development throughout the Asia-Pacific region and noted the progress and issues reported by several member States on practices of integrating geospatial information and statistics for many different applications including monitoring the SDGs indicators, population data, disasters data, land cover, sea level rise, mapping the COVID-19 pandemic, mapping stunting risk and infrastructure development, up to the village and household level.

During the inception meeting of the Working Group on IGIF, the member Countries recognised the need for short, medium, and long-term plans and strategies to raise awareness, including at the political leadership level, about the IGIF and its components at regional and country levels using different means. Sharing the experiences and best practices to assist in the preparation of country-level action plans was also listed as one of the activities to be performed by the Working Group in addition to preparing IGIF component-specific plans for understanding and implementation; training and capacity-building actions with special focus on the requirements of developing countries; defining and enabling adoption and monitoring mechanisms and; organisation of workshops, webinars, meetings for deliberations and exchanging the ideas and experiences.

Implementation of the Principles of the GSGF

Principle 1: Use of fundamental geospatial infrastructure and geocoding

As part of Working Group 3 on Integrating Geospatial Information and Statistics (IGIS), the representative agencies from Mongolia, Thailand, and the Republic of South Korea have combined COVID-related statistical data with spatial data to enable spatial decision-making. The representative agencies from Singapore have started the integration of statistical and spatial data in a 3D environment. Similarly, the representative agencies from Brunei Darussalam have integrated statistical data with geospatial data based on the location of the house, land plot, facility, etc.

Principle 2. Geocoded unit record data in a data management environment

As part of Working Group 3 on Integrating Geospatial Information and Statistics (IGIS), the representative agencies from Malaysia have initiated the BIG Data Analytic (BDA) pilot project in Johor, which focuses on developing land use information for industrial and public sector needs.

Principle 3. Common geographies for the dissemination of statistics

As part of Working Group 3 on Integrating Geospatial Information and Statistics (IGIS), the representative agencies from China and developing and disseminating the global landcover information and its applications for climate change monitoring and water resources management, etc

Principle 4. Statistical and geospatial interoperability

As part of Working Group 3 on Integrating Geospatial Information and Statistics (IGIS), the representative agencies from Japan are working on integrating statistical data with spatial data to contribute to SDGs and developing partnerships with local governments to integrate statistical and spatial data. The representative agencies from the Republic of South Korea are producing datasets based on demographics and collaborating with local governments to improve the quality of statistical and spatial data.

Principle 5. Accessible and usable geospatially enabled statistics

As part of Working Group 3 on Integrating Geospatial Information and Statistics (IGIS), the representative agencies from Thailand have signed an MoU with the National Statistical Office of Thailand to integrate statistical data with spatial data to develop accessible and usable geospatially enabled statistics.

What resources do you have available to implement the GSGF?

The UN-GGIM-AP Secretariat doesn't have any in-house resources to support the implementation of the GSGS framework in Asia and the Pacific region. It encourages the member Countries to generate their own resource to support the activities of Working Groups to support the implementation of the GSGF framework.

What prevents 'improved' implementation of the GSGF?

The lack of budget for training and capacity building is a big challenge for the UN-GGIM-AP Secretariat to support implementing the GSGF framework.

What resources do you need from the EG-ISGI?

As the Working Group on IGIS highlighted during the Plenary meeting, member countries require resources to build their capacity to adopt the Global Statistical Geospatial Framework (GSGF) and access to case studies of integrating geospatial and statistical data to support effective Natural Disaster Management.

How can you strengthen your region's engagement with the EG-ISGI?

By involving the Working Groups on IGIS and IGIF in the EG-ISGI activities and enabling them to access the resources provided by EG-ISGI.

Europe

Focal Name: Pier-Giorgio Zaccheddu (Federal Agency for Cartography and Geodesy – BKG)

Region / Affiliation: EUROPE

Name: Cristian Fetie (Team leader of the Geographical Information System of the European Commission of Eurostat (GISCO))

Region / Affiliation: EUROPE

The Overall Implementation of the GSGF

At its Ninth Plenary Session in July 2022, the UN-GGIM Europe agreed and adopted the 2022 Work Plan which covers five lines of work, which align with the Mission of UN GGIM: Europe, support the three pillars of Sharing Knowledge; Raising awareness; and Strategic Leadership, which are central to the Strategy.

Data Integration (DI) corresponds to one of the five lines of work, alongside the Integrated Geospatial Information Framework (IGIF); the Geodetic Reference Frame (GRF); Sustainable Development Goals (SDG); and the Data Strategy and Policy (DS&P).

A lot of work activities have already been done by the UN EG-ISGI and its proposal for GSGF. In Europe the GEOSTAT projects funded by Eurostat and the European implementation guide (GSGF Europe) was intended as an enhancement to the global guidance, addressing the regional specifics of Europe. All these results are important and have been referenced accordingly and reflected in the new Work Plan.

However, it has to be noted that the GSGF in the "geospatial world" of Europe is seen as a specific framework under the "roof" of the broader IGIF. Therefore, the GSGF is not on the agenda of most of the national geospatial agencies! It is better reflected on the agenda of the National Statistical Institutes/Offices. In some countries, like in Germany, a joint evaluation and assessment of the GSGF – based on the implementation guide for Europe provided through the GEOSTAT project – was conducted[10]. The regional UN-GGIM: Europe Working Group on Data Integration actively contributed to the implementation guide GSGF-Europe within the GEOSTAT project.

Eurostat has implemented components of the GSGF to enable and facilitate geocoded statistical production but has not systematically implemented GSGF as a guiding framework yet. As many of our data are pre-geocoded by the EU Member States when they send them to us for the compilation of pan-Union datasets, many items are implemented at lower scale than what is necessary at the level of the original producers of official statistics, the National Statistical Institutes (NSIs).

Implementation of the Principles of the GSGF

Principle 1: Use of fundamental geospatial infrastructure and geocoding

Eurostat does maintain national and regional administrative boundaries, addresses, postal codes, local administrative boundaries and a grid. Updates are usual annual, aside from the grid, which uses the Census update circle plus irregular modelled updates. Furthermore, Eurostat is working on establishing

[10] Infrastructure for the integration of statistical and geospatial information - National recommendations based on an analysis of the Global Statistical Geospatial Framework, translated into English in August 2021

further European Union related datasets on buildings, parcels and transport networks in an iterative cycle.

Principle 2. Geocoded unit record data in a data management environment

Data from the NSIs is usually sent to Eurostat pre-geocoded at national or regional level. In addition, Eurostat also maintains a collection of city data, which is pre-geocoded as well. As reference data, Eurostat operates the datasets mentioned in principle 1 for geocoding of other data (e.g. Commission-generated data) for the European Commission and offers services such as routing and geocoding to the Member States. The administrative build-up is agreed with the countries every year with the help of the association of the National Mapping and Cadastre Agencies (e.g. EuroGeographics, National authoritive data providers), so that harmonised geodata is used in the countries and in the European Commission.

Principle 3. Common geographies for the dissemination of statistics

Eurostat uses statistical units build from administrative units at country, regional and local level. Additionally the 1km grid is used for the dissemination of statistics.

Principle 4. Statistical and geospatial interoperability

Despite of some progress, there is still a need to work for reaching interoperability of statistical and geospatial data. In the European Union, much of the work being done at national level. European Commission services and EU agencies produce own statistical datasets. By offering reference data and corresponding tools such as a geocoder and background maps, these services are encouraged to use the same underlying geodata as the Member States when producing statistics. The used identifiers are aligned between geospatial and statistical data production processes (e.g. NUTS-ID).

Principle 5. Accessible and usable geospatially enabled statistics

The produced statistics are available on the Eurostat website for download and reuse. On top of the data dissemination, the geospatial team of Eurostat (GISCO) offers complimentary services such as data provisioning endpoints in standard formats (e.g. OGC-API, OpenAPI), which help citizens to better discover the provided statistics. For this we support for example map-making tools based on the statistical information, provide guidance on cartographic principles, and more.

What resources do you have available to implement the GSGF?

We do not have dedicated resources for the implementation of the GSGF; the work is being done as part of the regular business.

What prevents 'improved' implementation of the GSGF?

According to our information, at EU Member States level often the unavailability of information (e.g. to legal / copyright conditions) are preventing from a full implementation of the GSGF as well as missing clear mandates.

What resources do you need from the EG-ISGI?

Generally, a better and regular exchange between the UN EG ISGI coordination/chairs and the regional committees / working group chairs (e.g. the UN-GGIM: Europe Working Group on Data Integration) would help to better align the tasks / work plans and more specifically inform about the activities foreseen. Further, better access to data and information is needed e.g. by suitable copyright and legal conditions.

How can you strengthen your region's engagement with the EG-ISGI?

The UN-GGIM: Europe Working Group on Data Integration coordinates the current/new Lines of Work 'Data Integration' and 'SDG' and will thus continue to reflect the global activities of the UN EG-ISGI.

The main objective concerning the LoW DI for the upcoming years is conducting workshops/webinars on selected topics and therefore promoting best practices, advantages of data integration and discussing issues, challenges and solutions by:

- Developing and implementing a concept for webinar series to bring different communities together (e.g. UN-GGIM Europe with EC Agencies and Services, UN EG-ISGI, ...), to raise awareness about data integrations topics and provide knowledge transfer
- Supporting capacity building and promoting development initiatives on data integration and geospatial knowledge infrastructures in cooperation with other organisations
- Communicating and promoting the added value of integrating geospatial data with other data outside the geospatial community of experts and into other domains

The UN EG-ISGI will be invited to the webinars and is welcome to contribute to them.

Eurostat, for many years has supported the development of geospatial information for statistics and related methodologies through grants, in particular through the GEOSTAT grants. As a result, there is now a complete methodology how NSIs in Europe should implement the GSGF and integrate geospatial information in statistical production. Eurostat will continue following the global activities of the UN EG-ISGI.