Fifth expert meeting of the Working Group on Geospatial Information of the Inter-agency and Expert Group on Sustainable Development Goal Indicators
5 and 8 December 2018
Nairobi, Kenya

Introduction

The fifth expert meeting the Working Group on Geospatial Information of the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs: WGGI) brought together 24 participants - 14 of whom are members and invited experts on the Working Group. Another ten national, regional and international experts participated as invited observers. Participants of the fifth expert meeting of the Working Group were joined by another 28 national, regional and international experts for the International Seminar on United Nations Global Geospatial Information Management with the theme "Geospatial Information for Sustainable Development". The meeting was hosted by the Global Urban Observatory/Data and Statistics Unit of UN-Habitat in Nairobi, Kenya. The list of participants and meeting materials can be accessed at: http://ggim.un.org/meetings/2018-WG-IAEG-SDG/ and http://ggim.un.org/meetings/2018-International-Seminar-Kenya/.

The meeting was chaired by Ms. Jimena Juarez, INEGI Mexico and Ms. Marie Haldorson, Statistics Sweden. The objectives of the meeting were to provide its members and invited experts the opportunity to review, consider and discuss its activities and progress to-date, vis-à-vis:

- Providing expert advice and guidance to IAEG-SDGs, and the larger statistical community as to how geospatial information, earth observation and other data sources can reliably and consistently contribute to the production of indicators;
- Providing national and regional experiences and good practices including case studies in geospatial data generation to monitor “leaving no one behind”;
- Proposing strategies for undertaking methodological work on specific areas for improving disaggregation by geographic location with a focus on national and sub-national reporting; and
- Reviewing options and provide guidance to IAEG-SDGs on the role of National Statistical Offices in considering and applying geospatial information and earth observations primarily to contribute to and validate data as part of official statistics.

Agenda item #1:
Welcome, Introductions, and Overview

In his welcome remarks, Robert Ndugwa (Global Urban Observatory/Data and Statistics Unit, UN-Habitat) briefly explained the mandate of UN-Habitat, both normative and operative, and the connection with the Working Group as UN-Habitat’s mandate leverages geospatial information management. He provided an example on the need to look at urban slums in three dimensions. He urged the Working Group to work towards leaving no one behind and also leaving no spaces behind. Marie Haldorson, after thanking UN-Habitat commented that there remains a gap between national statistical offices understanding and uptake of geospatial information and earth observations for the production of indicators. That the Working Group is trying to bridge the gap and has been having online meetings in-between its face-to-face meetings. Jimena Juarez in her welcome remark extended apologies from Ms. Paloma Merodio (co-Chair of the Working Group) and stating that apart from online meetings, face-to-face meeting is very useful and to work through issues together.

After the housekeeping announcements by Dennis Mwaniki (Global Urban Observatory/Data and Statistics Unit, UN-Habitat)), all the participants took turns to introduce themselves. The meeting was then briefed on the provisional annotated agenda and the organization for the meeting. Marie Haldorson then proceeded to provide an overview of work and activities of the Working Group to-date and the objective and desired outcomes of this fifth expert meeting on behalf of the co-Chairs of the Working Group. She reiterated that the meeting is useful and important, and that there is an urgency to provide the needed expert advice and guidance to IAEG-SDGs and the wider statistical community, and hoped, as a Working Group, that all be on the same page having a plan to work and working to plan. She urged the Working Group to strive for substantive outcomes. She opined that there is still a gap on understanding of what disaggregation by geographical locations is, and the uptake of satellite observation data is very challenging for national statistical offices (NSOs). She reviewed the objectives of the Working Group, noted that four of the six items in the Working Group's terms of reference remained "work-in-progress" and underlined that the primary objective of the Working Group is to ensure from a statistical and geographic location perspective that the key principle of the 2030 Agenda, to leave no one behind, is reflected in the Global Indicator Framework.

Agenda item #2:
Work plan: Status, progress, and results

This segment was chaired by Jimena Juarez and consisted of a number of reports by way of presentations on various aspects of the agreed work plan of the Working Group for the period 2018 – 2019, which was adopted at its second online meeting. Six presentations were delivered.

The Group on Earth Observation (GEO) and its Earth Observations in Service of the 2030 Agenda for Sustainable Development initiative (EO4SDGs) noted that the integration of earth observations with statistics and other types of information is important for the SDGs, but recognized there remained challenges. The was a question as to how can earth observations be easily and readily utilized by NSOs, whether 'production ready' data can be generated on an indicator by indicator basis. It was accepted that there is a need to prepare 'friendly and ready to use' data streams for the production of indicators, and there is an urgency. A participant sought clarification on some of the country-level pilots mentioned in the presentation. It was also noted that NSOs may not have the capacity or the competence to access and utilize satellite imageries. A participant raise the possibility of third party or private sector as a provider of data but concurred that imageries need to be processed into information.

The eighth meeting of IAEG-SDGs in Stockholm, Sweden from 5 to 8 November 2018 included dialog on the reclassification of Tier III indicators to Tier II. It was reported that IAEG-SDGs expressed concerns that the Working Group is not sufficiently connected to their work as the members of the Working Group are mostly representatives of the geospatial community with little or no interaction with the statistical community. This led to a suggestion that IAEG-SDGs members themselves could join the Working Group. In the ensuing discussion, it was noted that it could be helpful to include members of IAEG-SDGs in the Working Group, and whether back-to-back meetings with IAEG-SDGs could be helpful. It was recognized that the Working Group should be communicating, providing feedbacks apart from the periodic reporting into IAEG-SDGs and thus need to devise new modality for communicating. In this regard, providing one-page information sheet or guidance notes or examples or exemplars should be considered. There was a suggestion to work on an information sheet on the "undisputable data source – satellite imageries".

Fifth meeting of the Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI) held in Deqing, China from 22 to 23 November 2018 discussed the elaboration of the five guide principles of the Global Statistical Geospatial Framework (GSGF) and considerations to contribute to statistical-geospatial coordination on the production of indicators and the 2020 Round of Population and Housing Censuses. There was a discussion on small area geographies and gridded area approaches as well as what common geographies meant. Some participants sought to further understand GSGF and challenges in its implementation at country level. One participant commented that effective integration cannot happen if there is no fundamental data. There was a request that EG-ISGI should be practical, provide guidance and recommendations for the integration of statistics and geospatial information. The meeting noted that if there is no effective integration of statistics, geospatial and other information, measuring and monitoring will be a challenge.

The findings from the voluntary national assessments were presented and other members who are representatives of national organizations are encouraged to contribute to this exercise. It was discussed that contributors could also share their issues and challenges as well as experiences in using geospatial information for the production of indicators that are within the Working Group's initial shortlist (of 24 indicators). A compilation and analyses of these issues and challenges may reveal areas where the Working Group can focus its efforts in developing and providing expert advice and guidance. Equally the Working Group and review national practices and perhaps, there are good practices to can be shared.

A globally agreed definition of cities and settlements is important noting that there are the administrative definitions, there can be functional definitions and there are the statistical definitions. In trying to arrive at a global definition for the purpose of comparability, two approaches being considered, the 'urban extent' and the 'degree of urbanization'. IBGE Brazil confirmed its participation in the 'degree of urbanization' exercise. A key data source is satellite imageries.

UN-GGIM: Europe is developing an outreach document seeking to guide and recommend how to address challenges and improve data integration for evidence-based policy making and the SDGs. A questionnaire was developed to provide needed information to formulate this outreach document. Interim observations were shared, and it was noted that a limited number of the responding geospatial information organization are actually involved in the production of indicators. The results from the questionnaire are being analyzed, the findings will be finalized before the policy outreach paper.

Agenda item #3:
Task Stream #1 - Disaggregation by geographical location and on aggregation of geocoded unit-level data: preliminary findings, proposed outputs, and next steps

The co-Leads were not able to be in Nairobi and provided a video presentation that outlined its activities in the last six months. Its execution plan sought to identify and develop good practices while documenting methodologies on geospatial disaggregation and aggregation for supporting the SDGs. This will be achieved through developing a booklet on good practices through identifying exemplars and the preparation of methodological technical guidelines to support geospatial disaggregation and aggregation. A case study, that of Deqing County would be considered– the provision of geospatially disaggregated information for Deqing County, the lessons learned on providing information for indicators 3.8.1, 4.a.1, and 9.1.1 that involved the integration of administrative unit-based data, population density, topography, and thematic data.

The co-Leads highlighted the need to progress the documentation being developed, the plan to organise a meeting in Chile or China to socialise the materials developed by the Task Stream with a wider community, and the desire to invited international experts to support the members of the Working Group in this task. There was a request that the task stream focus on 'solutions' and to provide general guidelines to disaggregate by geographic location. A better understanding of what is 'disaggregation by geographic location' would be helpful and it was observed some form of location-based disaggregation included rural and urban, cities, slums, built-up areas, open space for public use, places of incidence or occurrence.

Agenda item #4:
Task Stream #2 - Availability and application of 'production ready' satellite earth observation data for the production of indicators: Preliminary findings, proposed outputs, and next steps

The co-Leads shared their proposed execution plan aimed to build broader understanding on the application of analysis-ready satellite observations, technologies and tools for the production of indicators, and to inform sustainable development planning and decision making at the national level and sought to work on: i) develop expert advice and guidance to IAEG-SDGs and the larger statistical community; ii) document national experiences and good practices including case studies; and iii) develop recommendations on the role of NSOs on the update of analysis-ready satellite observation data. Three proposed deliverables were contemplated: Compendium and Policy Brief on the contribution of satellite observations data to the production of indicators; primers and technical guidelines, with national good practices, on the integration of satellite observation data streams into the production of indicators; and a toolkit of effective methods.

In the ensuing discussions, it was observed that national geospatial information organizations generally have the competencies to work with satellite observation data. There was also a suggestion to reduce the focus of the task stream to just four indicators (6.6.1, 9.1.1, 11.3.1 and 15.3.1). The need for capacity development was highlighted and there was a question whether there need to be a plan to 'capacitize' NSOs in this area. EO4SDGs stands ready to support this aspect of work.

International Seminar on United Nations Global Geospatial Information Management "Geospatial Information for Sustainable Development", 6 – 7 December 2018

In conjunction with the fifth expert meeting of the Working Group, the United Nations Statistics Division as the Secretariat for UN-GGIM, with the support of the Global Urban Observatory/Data and Statistics Unit of UN-Habitat organized the International Seminar on United Nations Global Geospatial Information Management with the theme "Geospatial information for sustainable development". The International Seminar provided a platform for the geospatial information management and statistical community together with a diverse group of stakeholders to engage, interact, share and discuss with one another appropriate and applicable sciences and knowledge, methodologies and practices, national circumstances and experiences, and to prioritize issues and actions to collect, collate and integrate the data needed to keep the promise to leave no one behind.

The International Seminar allowed members of the Working Group together with national, regional and international experts to engage and exchange knowledge, initiatives and experiences in the implementation of the 2030 Agenda and national development priorities. Key sub-thematic focus revolved around the data demands for the SDGs- statistical, geospatial and other data; disaggregation by geographic location; and "production-ready" satellite and other observations time series for the global indicator framework.

A total of 25 presentations were delivered over the two days by national geospatial information authorities, national statistical offices, United Nations system including SDGs custodian agencies, international organizations, national space agencies, academic institutions and civil societies. Knowledge and experiences, national circumstances and challenges, national and global approaches were shared and discussed. Some shared unique circumstances and valued the opportunity to engage and network with one another that may lead to further exchanges and cooperation. The International Seminar promoted dialogue and participation, provided the opportunity to engaged and to be engaged with one another and others, within a multi-actor multi-stakeholder setting. Participants came from 22 countries from all geographic regions. (http://ggim.un.org/meetings/2018-International-Seminar-Kenya/)

The inclusion of knowledge sharing and peer-to-peer learning event with national, regional and international participation within the construct of the Working Group's face-to-face working meeting was commended and considered to be helpful. The engagements and interactions with stakeholders and beneficiaries provided improved knowledge and understanding of circumstances, approaches and experiences that aided the Working Group in its deliberations and work.

Agenda item # 5:
Addressing new and emerging issues in application of geospatial information for the production of indicators

The Working Group shared observations from the International Seminar and appreciated the call for high resolution imageries including from unmanned aerial systems in certain applications such as in the context of mapping dense built-up and slum areas. There is a need to develop guidance for disaggregation by geographic location and also for the integration of satellite observation data into statistical processes. The meeting recognized the need for more engagement and exchanges to promote better understanding and collaboration; demonstrate what works and to share experiences. There was a request to strengthen and work with regional institutions in Africa (RMCRD or AfriGIST as examples) to develop capacity. The Working Group was encouraged to consider what it would take to encourage countries to pilot and to test definitions and methodologies, share experiences and good practices, scale up efforts or initiatives, promote in-country collaboration that brings together varying competencies.

Marie Haldorson then set the scene, reviewed the overarching needs of the IAEG-SDGs and the role of the Working Group in supporting the IAEG-SDGs' broader work. A series of presentations were delivered that considered, in the case of Botswana, the challenges of inadequate data from surveys and censuses and its limitations in applying certain methodologies in the production of indicators. The challenge in land cover and land use classification was shared and also whether there ought to be considerations for citizen-generated data. There was also a reflection of whether the Working Group should act as a 'think tank', collating and promoting good practices.

The Working Group was challenged to consider what is the desired outcome of the SDGs – achieve positive change. In aspects of environmental monitoring, it's about detecting change, change that is often gradual on a variable baseline, and the issue of precision versus accuracy was discussed (precise and inaccurate versus accurate and imprecise). The utility of data with global coverage, as in earth observations was considered, that can be both accurate and precise when validated by ground truthing and in-situ measurements. Earth observations can provide the spatial and temporal coverage to improve statistics in monitoring environmental change.

Agenda item #6:
Wrap up, next steps, and close

The co-Chair of the meeting reviewed the outcomes of the fifth expert meeting with the participants and concluded:

Work-in-progress:

1) Provide expertise and advice to the IAEG-SDGs and the larger statistical community as to how geospatial information, Earth observations and other new data sources can reliably and consistently contribute to the indicators. (**WP 2018-2019**)
2) Review options and provide guidance to IAEG-SDGs, as to the role of NSOs in considering geospatial information and earth observations, as well as other Big Data, as a means to contribute to and validate datasets as part of official statistics for SDG indicators. (**WP 2018-2019**)
3) *Review the agreed indicators and metadata through a 'geographic location' lens and identify existing geospatial data gaps, methodological and measurements issues. (completed)*
4) *Consider how geospatial information can contribute to the indicators and metadata: 1) as a direct indicator in itself; 2) to support and augment statistical data; 3) to improve the production process of statistical data; 4) to validate national statistical data inputs; 5) to communicate and visualize the geographic dimensions and context of the indicators where appropriate; and 6) to provide granularity and disaggregation of the indicators where appropriate. (completed)*
5) Provide national and regional level experiences and best practices in geospatial data production to measure leaving no one behind. (**WP 2018-2019**)
6) Propose strategies for undertaking methodological work on specific areas for improving disaggregation by geographic location concepts for national and sub-national reporting, including to the HLG and to the Statistical Commission. (**WP 2018-2019**)

Task Stream #1 (Data disaggregation by geographic location and aggregation of geocoded unit record data) plan for action:

1) Co-chairs to brief and provide feedback to Chen Jun and Macarena including expressing and discussing the WG's concern on the technical guidelines (audience, purpose, appropriateness) (online meeting carried out on 20 December 2018)
2) Co-Leads, Co-Chairs and Secretariat will jointly address the six questions posed by the Task Stream #1 co-Leads (December 2018/January 2019)
3) Co-Leads to work to plan

Representatives of IBGE, Brazil; Statistics Botswana, INEGI, Mexico and DESTATIS, Germany agreed to support the co-Leads in this task.

Task Stream #2 (Application of 'production ready' satellite-based observation data for the production of indicators) plan for action:

1) Develop expert advice and guidance to IAEG-SDGs and the larger statistical community
   Task: Review global metadata, engage with UN Custodians
   - Assess EO4SDG Compendium and Indicator Fact Sheets, mainly for selected indicators, from a statistical point of view (January 2019)
   - Provide country experiences to UN Custodians

   Deliverables
   - Feedback to EO4SDG Project, improved Fact Sheets
   - Summarize the task in a report to the IAEG-SDG

2) Document national experiences and good practices including case studies
   Task: Production of indicators, testing global data and methods
   - Use available global data and tools to produce 6.6.1, 11.3.1 and 15.3.1
   - Investigate and test 6.3.2 and 9.1.1

   Deliverables
   - Country reports on experiences from testing global data and methods
   - Summarize the findings in a report to the IAEG-SDG
3) Provide recommendation on the role of NSOs on the uptake of production-ready satellite earth observations
   Task: Investigate Data Hubs, Data Cubes, Platforms, Capacity issues
   - Leverage existing platforms and initiatives (avoid duplication)
   - Investigate other relevant solutions for countries
   - Document how countries can build capacity through existing initiatives

   Deliverables
   - Summarize the findings in a report to the IAEG-SDG

Apart from representatives of EO4SDGs, DESTATIS, Germany and e-Geos, Italy agreed to support the co-Leads in this task.

Voluntary national assessment plan for action

1) Request all Member States represented in the WG to undertake this voluntary assessment
2) Co-ordinator of this activity (Mexico) will send out an excel sheet/reminder in early January 2019
3) Responses requested by mid-March 2019
   - Issues and challenges, experiences and good practices
4) Provide an update to IAEG-SDGs at their spring meeting

UN-GGIM: Europe's activity on institutional cooperation

1) Look forward to UN-GGIM: Europe's report, review and consider (at future online meetings) feasibility of extending this activity to other regions

Global definition of settlement (degree of urbanization)

1) Continue to track the progress of the consultation and if invited, ready to participate in the expert consultation(s).

Next face-to-face meeting

1) Another face-to-face meeting in about 12 months' time was considered desirable, subject to availability of a host organization and secretariat resources.
2) Available options included IBGE, Brazil or EuroStat as well as the possibility of coinciding with the GEO Plenary in Canberra in November 2019.
3) Online meeting to continue and the next in February 2019.

The co-chairs noted that there could be a change in membership of the Working Group given the possibility of a rotation in the membership of IAEG-SDGs, and that a rotation of members in the Working Group is healthy. The co-chairs thanked all members and invited experts on the Working Group as well as invited observers for their active engagement and contribution to the meeting, and also to the Global Urban Observatory/Data and Statistics Unit of UN-Habitat for their hospitality and the provision of conducive environment. The meeting adjourned with a reminder to the Working Group that much needed done and to be working to plan.

(Nairobi, December 2018)