UNITED NATIONS **E/C.20/2018/13/Add.1**

Economic and Social Council

16 July 2018

Committee of Experts on Global Geospatial Information Management
Eighth session
New York, 1-3 August 2018
Item 12 of the provisional agenda*
Geospatial information for sustainable development

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Note by the Secretariat

Summary

The present paper contains the report of the Working Group on Geospatial Information of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators for consideration by the Committee of Experts on Global Geospatial Information Management.

At its seventh session, held in New York from 2 to 4 August 2017, the Committee of Experts adopted decision 7/109, in which it recognized that the combined geospatial and statistical expertise of the Working Group positioned it appropriately to facilitate and support a "data ecosystem" that leveraged an accessible, integrative and interoperable local-to-global information system for measuring and monitoring the Sustainable Development Goals and tracking annual progress. Also in decision 7/109, the Committee acknowledged that the global geospatial information environment was dynamic and innovative, with the emergence of new technologies, methods and processes, and, in that regard, agreed that data availability and quality remained one of the biggest challenges for Member States and that data, when available, must also be accessible, consistent and sustainable for the production of indicators to provide information on the agreed goals and targets, in accordance with national priorities and needs. In this report, the Working Group provides information on the progress made towards ensuring that the contribution of the global geospatial information community to the Sustainable Development Goal process remained rigorous and relevant. That includes a revised workplan for the biennium 2018–2019 that builds upon the Working Group's earlier efforts and outcomes, with a focus on developing and providing guidance on disaggregation by geographical location and on aggregation of geocoded unit-level data. The Working Group is seeking to develop and provide further guidance to the statistical community on appropriate approaches to leveraging production-ready satellite Earth observation time series data, contributed by space agencies participating in the Working Group. The report includes the main outcomes of the fourth meeting of the Working Group, held in New York in December 2017, and of subsequent online meetings.

* E/C.20/2018/1

I. Introduction

1. At its its seventh session in August 2017, the Committee of Experts adopted decision 7/101, in which it commended the Working Group for its review and analysis of the global indicator framework through a "geographic location" lens. The outcome of this review is the Working Group's initial short list of 24 indicators[1] that was also reported to the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs). This short list has allowed the Working Group to remain focused and within its scope as provided in its terms of reference.

2. In making decision 7/101 at its seventh session in 2017, the Committee of Experts acknowledged that the global geospatial information environment was dynamic and innovative, with the emergence of new technologies, methods and process, agreed that data availability and quality remained one of the biggest challenges for Member States and that data, when it is available, must also be accessible, consistent and sustainable for the production of indicators. In this regard, the Working Group has since reviewed and revised its workplan, embarked on new modalities of work, and consolidated its activities in the form of new task streams, building upon its progress and results since the Working Group's first physical meeting on the margins of the sixth session in August 2016.

3. This present report discusses the Working Group's revised workplan for the biennium 2018–2019 with a focus on developing and providing guidance on: i) disaggregation by geographical location and on aggregation of geocoded unit-level data; and ii) appropriate approaches to leverage production-ready satellite Earth observation time series data made available by space agencies. It also includes the Working Group's activity to better understand national experiences in the production of indicators identified in the initial short list of 24 indicators.

4. This report of the Working Group updates the Committee of Experts on the progress made towards ensuring that the contribution of the global geospatial information community to the Sustainable Development Goal process remained rigorous and relevant. The present report continues to discuss issues and considerations to better "exploit the contribution to be made by a wide range of data, including Earth observations and geospatial information, while ensuring national ownership in supporting and tracking progress"[2] in implementing the 2030 Agenda for Sustainable Development. The Committee of Experts is invited to take note of the report and to express its views on the way forward for geospatial information for sustainable development. Points for discussion and decision are provided in paragraph 31.

II. Membership of the Working Group

5. Due to rotational changes to the composition of the Member State representatives on the IAEG-SDGs and the HLG-PCCB,[3] as well as the retirement of experts during the intersessional period, the membership of the Working Group has undergone several changes. The Working Group presently comprises 25 members - 18 national representatives who are subject matter experts from 17 Member States, and 7 experts representing the United Nations system and international organizations. The Working Group is still co-Chaired by Mexico and Sweden.

1 Annex 1, E/C.20/2017/11/Add.1

2 Paragraph 76; "Transforming our World: The 2030 Agenda for Sustainable Development", General Assembly Resolution A/RES/70/1

3 High level Group for Partnership, Coordination and Capacity-Building for statistics for the 2030 Agenda for Sustainable Development

III. Meetings and activities of the Working Group

6. During the intersessional period, the Working Group convened one physical meeting, its fourth, in New York at United Nations Headquarters, from 6-8 December 2017. The Working Group met three times via online meetings as part of a new working modality, the first on 5 October 2017, the second on 28 March 2018 and its third on 27 June 2018. In addition, the Working Group also reported its progress and outcomes to the IAEG-SDGs at its 6th meeting in Manama, Bahrain (11-14 November 2017) and 7th meeting in Vienna, Austria (9-12 April 2018).

First virtual meeting, 5 October 2017

7. At its first virtual meeting on 5 October 2017, with 19 participants, the Working Group reviewed its progress to date, particularly since it's third physical meeting held in Kunming, China, 8-10 May 2017. This review assisted the Working Group in its deliberation on a revised workplan for the 2018–2019 biennium. The meeting also considered preparations and agreed on a provisional agenda for its fourth physical meeting that was to be held in December 2018. The Working Group agreed that virtual meetings will be scheduled at suitable intervals to progress the tasks before the Working Group, considering that physical meetings can only be convened when resources are made available.

8. The Working Group considered the activities in its 2016–2017 workplan, noting that progress including the review and analysis of the global indicator framework through a "geographic location" lens, and agreed that the Working Group must systematically work on, consider and collect national or regional experiences and good practices including case studies in applying geospatial information to measure and monitor "leaving no one behind". The Working Group also noted the need to provide advice and guidance to the IAEG-SDGs and the wider statistical community on the application of geospatial information to produce indicators. These considerations and deliberations guided the Working Group in its formulation of its 2018–2019 workplan.

Fourth meeting, New York, 6 – 8 December 2017

9. The fourth physical meeting of the Working Group was held at the United Nations Headquarters, New York, 6-8 December 2017, and was attended by 30 participants comprising of 12 members, 14 invited experts and presenters, and four observers. There were 29 presentations that provided helpful information and context that allowed for in-depth discussions and deliberations. Whilst the Working Group had recognized and reported to the IAEG-SDGs that disaggregation of statistical data is considerably strengthened through the "lens" of geospatial information, the meeting also considered at length the aggregation of geocoded unit level data alongside disaggregation.

10. Several country level presentations demonstrated the inclusion of relevant, available and applicable satellite Earth observation time series and complementary data in their production of specific indicators. Some of these pilots are supported by space agencies invited to the meeting. Expert representatives from these space agencies informed the Working Group of their activities which could complement and support initiatives towards making available appropriate satellite Earth observation time series data for the production of specific indicators. The deliberations focussed on practical modalities to deliver appropriate and applicable data and the associated methodologies and guidance, that could be country-led and country-owned to support Member States in the production of indicators.

11. The Working Group discussed disaggregation according to geographic location through the application and integration of geospatial and statistical information and processes, and acknowledged the need to work more closely with the Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI). The development of the Global Statistical

Geospatial Framework will facilitate consistent production and integration approaches for geo-statistical information, given that the Framework is underpinned by five guiding principles that were adopted at the Committee's sixth session in August 2016 and subsequently endorsed at the 48th session of the Statistical Commission in March 2017.

12. At this meeting, the Working Group considered the issue of capacity development for national statistical systems, predominantly in developing countries, to ensure a better understanding and wider application of geospatial information including the integration of geospatial processes into statistical processes.

13. The Working Group agreed to continue developing its workplan for 2018–2019, encouraged members that represent national agencies to conduct an assessment of their readiness to produce indicators as listed in the Working Group's initial short list of 24 indicators[4], and agreed to established two task streams to:

(a) Address disaggregation by geographic location and aggregation of geocoded unit level data (Task Stream on Disaggregation and Aggregation); and

(b) Allow national statistical agencies to use appropriate production ready satellite Earth observation time series data, contributed by space agencies, to include in feasibility studies, pilot projects, and the development of guidance, methodology and training (Task Stream on Production Ready Satellite Earth Observation Data for Indicators).

Second virtual meeting, 28 March 2018

14. At its second virtual meeting on 28 March 2018, with 21 participants, the Working Group deliberated extensively the draft 2018–2019 workplan and the principal activities agreed during the fourth physical meeting of the Working Group. The activities of the two task streams were further debated and clarified. The two task streams will be co-led by two representatives from Member States who are members of the Working Group. Co-Leads were requested to begin preparation of their task stream's execution plan and to define their deliverables and time frames.

15. The workplan for 2018–2019 built on the progress and results of the Working Group, the in-depth deliberations and decisions of the fourth physical meeting, and the deliberations at this second virtual meeting. The workplan was agreed by the Working Group and can be accessed at: http://ggim.un.org/documents/Work-Plan_2018-2019.pdf.

16. Members that represent national agencies were encouraged to conduct an assessment of their readiness to produce indicators. While it was envisaged to use the initial short list of 24 indicators, the Working Group agreed that the assessment may include additional indicators if suitable. Working Group members from national geospatial information agencies were encouraged to reach out to their statistical counterpart to carry out this assessment.

Third virtual meeting, 27 June 2018

17. At its third virtual meeting on 27 June 2018, with 23 participants, the Working Group principally discussed its progress on its agreed workplan. The co-Leads of Task Stream on Disaggregation and Aggregation, China and Chile, outlined their draft execution plan that had three key activities; i) to document methodologies; ii) identify good practices; and iii) develop guidance. For the Task Stream on Production Ready Satellite Earth Observation Data for Indicators, co-led by Colombia and Sweden and supported by GEO-EO4SDGs[5], there

4 Annex 1, E/C.20/2017/11/Add.1

5 The Earth Observations in Service of the 2030 Agenda for sustainable Development (EO4SDGs) initiative enables contributions to the 2030 Agenda by the Group on Earth Observations (GEO) and the Earth observations community.

were robust discussions to clarify the scope of its task as well as its deliverables and time frames. The Working Group also noted that it has an opportunity and a role to add value to national statistical systems with its advice and guidance on the application of Earth observations and geospatial information.

18. Apart from an initial national assessment, the Working Group considered three other national assessments carried out by members on their countries' readiness to produce indicators as discussed in paragraph 13 above. From the four assessments to date, it was noted that the Working Group can begin to identify and understand some national issues that may need to be addressed collectively, as well as some good practices that may be shared. This activity is coordinated by Mexico. The Working Group continue to urge members to undertake this national assessment, and to contribute additional information through a questionnaire developed by UN-GGIM: Europe[6], to better understand the situation with respect to data for the production of indicators.

Other activities

19. On the margins of the seventh session of the Committee of Experts in August 2017, the Forum on the 2030 Agenda for Sustainable Development, with the theme 'Where is the data?' was convened. The day long Forum had presentations from Member States, United Nations system that are custodians for one or more indicators, global foundations and partnerships, and the private sector. There were robust discussions highlighting the need for reliable, timely and accessible data to produce indicators, and measure and monitor progress in the implementation of the 2030 Agenda, and to leave no one behind.

20. At the Fifth High Level Forum on United Nations Global Geospatial Information Management held in Mexico City, Mexico in November 2017 with the theme 'Implementing the Sustainable Development Goals: The Role of Geospatial Technology and Innovation', the outcome declaration confirmed the duty and role of the global geospatial information community to ensure that the expectations from citizens all over to make real development progress can be met with easily accessible and affordable geospatial technologies, digital transformation and innovation, including enabling developing countries to have universal access to these fundamental capabilities.

21. On the margins of the 49th session of the United Nations Statistical Commission, convened in March 2018, the Seminar on Emerging Issues explored a federated system of interoperable SDG data hubs as a means to share, integrate and use traditional and new sources of data and information for sustainable development. The Statistical Commission welcomed the efforts as it could facilitate integration of data from differing sources, promote data interoperability and foster collaboration amongst partners from different stakeholder groups beyond the geospatial and statistical community, with the aim to improve data flows and global reporting on the SDGs.

Workplan for 2018–2019

22. The Working Group agreed to its work plan for 2018–2019 at its second virtual meeting, cognizant that its primary objective is to ensure, from a statistical and geographic location perspective, that the key principle of the 2030 Agenda for Sustainable Development, to leave no one behind, is reflected in the global indicator framework. The Working Group also noted that in United Nations General Assembly Resolution A/RES/71/313 of 6 July 2017 that adopted the global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda, the preambular of the global indicator framework states that "Sustainable Development Goal indicators should be disaggregated, where relevant, by

6 The Regional Committee of United Nations Global Geospatial Information Management for Europe (UN-GGIM: Europe) in June 2018 embarked on an imitative to gain comprehensive overview of the current situation and main issues related to data integration, including with statistical data, in the Member States of UN-GGIM: Europe.

income, sex, age, race, ethnicity, migratory status, disability and **geographic location**, or other characteristics, in accordance with the Fundamental Principles of Official Statistics".

23. In its workplan, the Working Group will focus and seek to:

(a) Provide expert advice and guidance to the IAEG-SDGs, and the larger statistical community, as to how geospatial information, Earth observations and other data sources can reliably and consistently contribute to the production of indicators;

(b) Provide national and regional experiences and good practices, including case studies, in geospatial data generation to monitor "leaving no one behind";

(c) Propose strategies for undertaking methodological work on specific areas for improving disaggregation by geographic location. This will be with a particular focus on national and sub-national reporting, and to report to the HLG-PCCB, Statistical Commission and Committee of Experts; and

(d) Review options and provide guidance to the IAEG-SDGs on the role of National Statistical Offices in considering and applying geospatial information and Earth observations, primarily as a means to contribute to and validate data as part of official statistics.

Fifth meeting, Nairobi, Kenya, 5-8 December 2018

24. The Working Group is planning to convene its fifth physical meeting in Nairobi, Kenya from 5-8 December 2018. The meeting will be organized by United Nations Statistics Division as the Secretariat for the Committee of Experts and the United Nations Human Settlement Programme (UN-Habitat) Global Urban Observatory Unit.

IV. Issues and considerations

25. The Sustainable Development Goals Report 2018[7] was released on 20 June 2018, and reviewed progress in the third year of implementation of the 2030 Agenda. In the foreword of the Report, the Secretary-General of the United Nations noted that "Without evidence of where we stand now we cannot confidently chart our path forward in realizing the Sustainable Development Goals. To that end, this report also reflects on the challenges faced in the collection, processing, analysis and dissemination of reliable, timely, accessible and sufficiently disaggregated data, and calls for better evidence-based policymaking. Today's technology makes it possible to collate the data we need to keep the promise to leave no one behind. But, we need political leadership, resources and commitment to use the tools now available."

26. The Report continued, noting that "Among the different categories of disaggregation called for in the 2030 Agenda, "place", or geographic location, is critical for ensuring that no one is left behind. Geographic location is needed to know where a situation is present or where an event has occurred, and to allow decision makers to respond. The integration of geospatial information with data and statistics for SDGs is also instrumental in enabling data interoperability across data ecosystems and linking data sets within and across countries".[8] In addition, "new data sources and technologies for data collection and for the integration of different sources of data will need to be explored, including through partnerships with civil society, the private sector and academia. The integration of geospatial information and statistical data will be particularly important for the production of a number of indicators".[9]

7 https://unstats.un.org/sdgs/report/2018/

8 Sustainable Development Goals Report 2018, page 17 under "Using geospatial data can ensure that no one is left behind"

9 Sustainable Development Goals Report 2018, page 34 under "Investing in data for the full implementation of the Sustainable Development Goals"

27. Noting that the Working Group needs to ensure that the contribution of the global geospatial information community to the Sustainable Development Goal process remained rigorous and relevant, the Committee of Experts may wish to consider modalities to identify and partner institutions – which could be international organizations, national agencies, or research and teaching institutions – as potential 'centers of excellence' to serve the demands for reliable, timely, accessible and sufficiently disaggregated data by Member States.

28. The 'centers of excellence' could collate data and provide the tools for a particular indicator or a set of indicators where Member States can access, integrate and incorporate into their national data sets, as appropriate. As was discussed at the seventh session, these 'centers of excellence' could access global data sets including satellite Earth observation time series data, process, analyze, and have the data sets accessible in 'production ready' mode, and available to Member States. Such data can support national development priorities and needs, and in parallel, support the review and follow-up required under the global reporting for the 2030 Agenda. Partner institutions can further support these efforts by highlighting, at appropriate fora, the specific data needs (and user requirements) of the statistical and geospatial community where geospatial information can have the widest and highest utility, vis-à-vis the production of indicators.

29. The Working Group noted the need to avoid duplication of efforts, given that there may be tasks and activities by other groups, both within the Statistical Commission and the Committee of Experts, that may be related to the objectives and functions of the Working Group. The Working Group agreed that coordination and collaboration are needed, especially where tasks and activities of these expert and working groups are relevant to, and addressing the availability of, geospatial information for the 2030 Agenda. In this regard, the Working Group and EG-ISGI are engaging one another in the development of the Global Statistical Geospatial Framework, as this will facilitate consistent production and integration approaches for geo-statistical information.

30. The Working Group noted a need to engage, inform, coordinate and collaborate with expert and working groups of the Committee that also seek to address the availability and accessibility of geospatial information for the production of SDG indicators. In this regard, the Working Group requests the Committee of Experts to consider providing appropriate guidance to its expert and working groups so that there is coordination and coherence, and to ensure that the contribution of the global geospatial information community to the 2030 Agenda for Sustainable Development remained rigorous and relevant through this present Working Group.

V. Points for discussion

31. **The Committee of Experts is invited to:**

(a) Take note of the present report and express its views on the activities and progress of the Working Group;

(b) Take note that the fifth meeting of the Working Group will be convened in Nairobi, Kenya from 5-8 December 2018;

(c) Express its views and provide guidance on a 'center of excellence' to serve the demands for reliable, timely, accessible and sufficiently disaggregated data by Member States, and the need to coordinate the Committee's activities to address the availability and accessibility of geospatial information for the production of SDG indicators; and

(a) **Provide guidance to ensure that the contributions of the global geospatial information community to the 2030 Agenda remain rigorous and relevant.**