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Strengthening of geospatial information management

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Note by the Secretariat

Summary

The present paper contains the report of the Secretariat on strengthening geospatial information management for consideration by the Committee of Experts on Global Geospatial Information Management.

At its ninth session, held in New York from 7 to 9 August 2019, the Committee of Experts adopted decision 9/101, in which it welcomed the efforts of the Secretariat and the Expanded Bureau of the Committee in continuing to take practical and strategic action to strengthen geospatial information management for Member States in line with the broadened mandate of the Committee pursuant to Economic and Social Council resolution 2016/27 of 27 July 2016. The Committee noted the considerable efforts undertaken to improve and strengthen national geospatial information capacity-building activities and welcomed efforts to advance the establishment of a global geospatial knowledge and innovation centre, providing opportunities to build global geospatial capacity and capability. It also noted the progress and preparations for the Sixth High Level Forum on Global Geospatial Information Management, to be convened by the United Kingdom of Great Britain and Northern Ireland in April 2020, as well as the request of the Council in its resolution 2016/27 that the Committee report back to it within the next two years. In this present report, prepared with assistance from the Expanded Bureau, the Secretariat provides information on the efforts to take practical and strategic actions to implement the resolution and strengthen geospatial information management in Member States. The report contains details about the postponement of the Sixth High Level Forum on Global Geospatial Information Management and the convening of a series of virtual High Level Forum events as a consequence of the postponement. In the report, the Secretariat discusses the process and subsequent completion of the third edition of the report on future trends in geospatial information management (the 5- to 10-year vision), as well as its relevance to nationally integrated geospatial information management. The report also provides updates on progress towards the establishment of a United Nations global geospatial knowledge and innovation centre in Deqing, China, which will support and sustain long-term geospatial capacity-development and capability development and

* E/C.20/2020/1

strengthen integrated geospatial information management regionally and globally. In the report, efforts to begin the process of reporting back to the Economic and Social Council on its resolution 2016/27 are set out. In the report, the Secretariat elaborates on its efforts, and those of the Bureau, the regional committees of the Committee of Experts, and United Nations regional commissions, to raise awareness, share knowledge and exchange practices and experiences to support Member States in their efforts to effectively respond to the coronavirus disease (COVID-19) pandemic through their geospatial capacities, products and services.

I. Introduction

1. In July 2016 and following a comprehensive review of the Committee of Experts[1], the United Nations Economic and Social Council (ECOSOC) adopted resolution 2016/27 entitled 'Strengthening institutional arrangements on geospatial information management'[2]. This resolution acknowledges the considerable achievements of the Committee over its first five years, including its contribution to the strengthening of geospatial information management capacities and utilization, especially in developing countries. Recognizing that the Committee of Experts was well placed to continue to contribute to the work of the United Nations, ECOSOC further decided to broaden and strengthen the mandate of the Committee as the relevant body on geospatial information consisting of government experts.

2. Noting the increasing role and relevance of the Committee of Experts and its acknowledged efforts in streamlining the subsidiary bodies of the Council on geospatial information management, ECOSOC has requested that the Committee report back within five years on the implementation of resolution 2016/27, and to examine the strengthening of the institutional arrangements of the Committee. This agenda item, and present report, continues to capture and discuss key elements of the Committee's work on strengthening geospatial information management in preparation for reporting back to ECOSOC in 2021, which will occur in liaison with the Secretariat and the Expanded Bureau in the coming intersessional period.

3. At its ninth session, held in New York from 7 to 9 August 2019, the Committee of Experts adopted decision 9/101, in which it welcomed the efforts of the Secretariat and the Expanded Bureau of the Committee in continuing to take practical and strategic action to strengthen geospatial information management for Member States in line with the broadened mandate of the Committee of Experts. The Committee also acknowledged the need to consider various means and strategies to further mobilize extra-budgetary resources for the operations of the Committee, to support and sustain long-term geospatial capacity and capability development, and to strengthen communication and integration between the regions.

4. The present report informs the Committee of Experts of efforts by the Expanded Bureau and Secretariat to take practical and strategic actions to implement resolution 2016/27 and strengthen geospatial information management in Member States. In addition, the report provides details: the postponement, and then virtual convening of the Sixth High Level Forum on Global Geospatial Information Management; the completion of the third edition of the report on future trends in geospatial information management (the 5- to 10-year vision); updates towards the establishment of a United Nations global geospatial knowledge and innovation centre in Deqing, China; the process seeking expressions of interest for countries to convene the second United Nations World Geospatial Information Congress (UNWGIC); the geospatial response to the COVID-19 pandemic; and strengthening the interlinkages among the global geospatial information community. The Committee of Experts is invited to take note of the report and to express its views on the way forward for strengthening geospatial information management. Points for discussion and decision are provided in paragraph 51.

[1] Programme review of the work of the Committee of Experts on Global Geospatial Information Management, E/2016/47. https://undocs.org/E/2016/47

[2] Strengthening institutional arrangements on geospatial information management, E/RES/2016/27. https://undocs.org/E/RES/2016/27

II. Strengthening the global coordination and coherence of geospatial information management

Funding and Contributions

5. In adopting resolution 2016/27, ECOSOC stressed the need to strengthen the coordination and coherence of global geospatial information management in capacity-building, norm-setting, data collection, data dissemination and data sharing, among others, through appropriate coordination mechanisms. This includes strengthening capacity-building in the area of geospatial information and relevant statistical integration, especially in developing countries. The Council has further recognized that sustainable funding and support, particularly for the operations of the Committee that focus on the SDGs, is needed to strengthen and ensure the continued progress and effectiveness of the Committee.

6. ECOSOC has encouraged Member States to provide voluntary contributions, and otherwise requested the Secretary-General to try to mobilize extra budgetary resources, including through the means of trust funds and other sources as appropriate to support the activities of the Committee. It is specifically intended that such additional resources extend to covering the cost of participation in the annual Committee sessions by developing countries, and to ensure full and effective participation of countries in special situations.

7. The previous report to the Committee in August 2019[3] detailed the extent of funding and contributions, all as extra budgetary resources, to support the activities of the Committee of Experts. Specifically, these included: the second China Trust Fund for a further five years, from 2018-2022, to continue to improve and strengthen national geospatial information management, systems and capacities in China and other developing countries; the 11th tranche of the Development Account, a capacity development programme of the United Nations Secretariat, from 2018-2021, aimed at enhancing the capacities of developing countries towards implementing the 2030 Agenda through the implementation of the Integrated Geospatial Information Framework (IGIF); and the 2030 Agenda for Sustainable Development Sub-fund of the United Nations Trust Fund for Peace and Development, a limited (November 2018-November 2019) extra budgetary resource which enabled crucial capacity-development consultations and workshops in the development of the Implementation Guide of the IGIF. No further extra budgetary resources have been realized during the intersessional period, while the UN Trust Fund for Peace and Development has now reached its conclusion.

8. The project implemented under the UN Trust Fund for Peace and Development contributed to the development of guides, norms and approaches to assist Member States in strengthening nationally integrated geospatial information management for the implementation of the 2030 Agenda. The project activities successfully:

a) Contributed to the development of the Implementation Guide of the United Nations Integrated Geospatial Information Framework (IGIF);

b) Raised awareness and understanding, through engagement and consultation, with 56 Member States on the IGIF and the development of its Implementation Guide;

c) Shared knowledge and experiences, and worked though the guidance and conceptual implementation approach with 35 Member States to operationalize the IGIF;

d) Assisted and supported national efforts to understand, raise awareness and

[3] E/C.20/2020/4/Add.1: http://ggim.un.org/meetings/GGIM-committee/9th-Session/documents/E-C.20-2020-4-Add_1_Strengthening_Geospatial_Information_Report_31July2019.pdf

operationalize the IGIF in 4 Member States; and

e) Facilitated the engagement and consultation with 76 separate Member States from all geographic regions that brought together in excess of 250 participants on the development and operationalization of the IGIF.

9. The COVID-19 pandemic curtailed travels and postponed a series of planned regional, sub-regional and country-level capacity development activities and events under the 11th tranche of the Development Account Project. To continue the support to the six target countries, the available resources were allowed to be re-purposed to remotely deliver the needed guidance and support so as to allow each country to undertake and complete the assessment and analysis of their national circumstances, and to begin their design and development of their IGIF country-level Action Plans.

Regional and Thematic Architecture

10. The benefits of establishing a global regional architecture that includes the five geographic regions of the world and a number of related thematic global networks, which are strongly linked to the mandates of the Committee of Experts, are now being realized. Each of the five Regional Committees of UN-GGIM are now reaching a level of maturity, with dedicated secretariat support, working groups and annual plenary meetings, that have enabled them to develop their own regional identities, objectives, and work programs that are able to be transferred down to the national level, whilst also implementing the global objectives of UN-GGIM in strengthening geospatial information management. Importantly, there is also now a very strong connection and collaborative approach between the Regional Committees of UN-GGIM and their respective United Nations Regional Commissions – thus providing a more focused and unified approach to supporting Member States in their geospatial journey. It has had the further benefit of substantially increased involvement of Member States, regionally and globally in the work of the Committee of Experts.

11. The momentum of this Regional Committee coordination and collaboration has commensurately flowed into the Thematic Networks of UN-GGIM, whom have actively supported and contributed to the many meetings and activities of UN-GGIM and the Regional Committees, all of which are now virtual. By way of example, and as reported under a separate dedicated agenda item, the many regional and sub-regional consultations and expert workshops with Member States on the development of the Implementation Guide of the IGIF have all been convened in close coordination with each of the Regional Committees of UN-GGIM and United Nations Regional Commissions. Members of the Thematic Networks have also contributed significantly.

12. Additionally, during these unprecedented times of COVID-19 pandemic, the regional architecture has been leveraged by the global geospatial information management community as a key communication and implementation mechanism towards achieving the Committee's goals of promoting the global use and delivery of geospatial information and solutions for evidence-based decision making. While specific examples are provided under a number of separate agenda items before the Committee for this tenth session, Section VIII of this present report will discuss these aspects further.

III. UN-GGIM Expanded Bureau Meeting

13. The UN-GGIM Expanded Bureau was scheduled to convene its seventh meeting on 19 April 2020 in Windsor, the United Kingdom, on the margins of the Sixth High Level Forum on UN-GGIM. As described in Section IV of this present report, and due to the constraints on travel caused by the onset of the COVID-19 pandemic, the Sixth High Level

Forum was convened virtually in a scaled down format at the end of May and early June 2020. Therefore, the planned seventh meeting of the Expanded Bureau was also convened virtually, on 14 May 2020.

14. The seventh meeting was timely, as it provided the opportunity for the Secretariat to consult with the Expanded Bureau on the preparations and modalities for this present tenth session of the Committee of Experts, including the options for, and implications of, convening a scaled down virtual meeting, and approval of the provisional agenda. The meeting also provided the opportunity to review the progress of ongoing work, including the numerous global consultations underway, and the work of the Committee's Subcommittee, expert and working groups. A process and timeline for seeking expressions of interest for hosting the Second United Nations World Geospatial Information Congress was also agreed upon. The full report of the Expanded Bureau meeting is available on the Bureau web page.[4]

15. In addition, in the lead up to this tenth session of the Committee of Experts, the Bureau met separately on two occasions, virtually, on 7 May and 29 July 2020, to consider feasible modalities and the related preparation for the present session. The Bureau also met virtually with co-Chairs of the Committee's Subcommittee, Expert and Working Groups of UN-GGIM on 27 May 2020 as part of the preparation for the present session.

IV. Sixth High Level Forum on UN-GGIM

16. At its ninth session, held in New York from 7 to 9 August 2019, the Committee of Experts adopted decision 9/101, in which it noted the progress and preparations for the Sixth High-level Forum on Global Geospatial Information Management, with the overarching theme "Changing the World – Geospatially", to be hosted by the Ordnance Survey of Great Britain on behalf of the United Kingdom of Great Britain and Northern Ireland, from 20-22 April 2020. Given the context of the rapidly evolving COVID-19 pandemic, and after much consultation with the host, it was decided to convene a series of Virtual High Level Forum events, and with a scaled down format comprising three sessions of just over three hours each on 26 May, 2 June and 9 June 2020. The aim of the Virtual Forum was to consider the evolving geospatial landscape, and launch the Implementation Guide of the IGIF and the Future Trends in Geospatial Information Management Report.

17. The first event on 26 May addressed the geospatial landscape, and included strategic overviews of the IGIF and the Future Trends in Geospatial Information Management: Five to Ten-year Vision. A week later, the second event detailed the Implementation Guide of the IGIF, with its nine strategic pathways for articulating and demonstrating national leadership in geospatial information, and with country-level action plans. The third event, yet another week later, detailed the third edition of the Future Trends in Geospatial Information Management, providing expert views and strategic insight on the mid to long term-developments and emerging trend in geospatial information, including the role of government.

18. The Virtual High Level Forum events were an overwhelming success. Through convening the Forum virtually, the three events were streamed to a global audience, with a total of 887 unique participants from 100 Member States from each of the five geographic regions of the world. Key documentation, including presentations and event recordings are now available on the Virtual High Level Forum web page.[5] As those from the global UN-GGIM community whom participated will be able to attest to, the quality

[4] http://ggim.un.org/meetings/Bureau_Meetings/Report-Expanded-Bureau%20Meeting-11Jun2020.pdf
[5] Website of the Virtual Sixth High Level Forum: http://ggim.un.org/meetings/2020/Virtual_HLF

and professionalism attached to the High Level Forum by the Ordnance Survey of Great Britain was faultless and to be congratulated.

V. Future Trends in Geospatial Information Management

19. The first two editions of 'Future Trends in geospatial information management: the five to ten year vision' were produced by the Committee of Experts with the support of the United Kingdom, through the Ordnance Survey of Great Britain. The first edition was released in July 2013[6]. Noting the benefits gained and the changing dynamic of geospatial information, the second edition was released in December 2015[7]. The first two editions have proven to be important reference documents for the global geospatial information community. The reports provide a consensus view for the professional geospatial community to keep abreast of new trends in geospatial information; particularly with the impact of the many emerging geospatial technologies.

20. At its eighth session in August 2018, the Committee of Experts requested that a third review should be undertaken to understand the future trends that will impact the industry over the coming five to ten years. The United Kingdom, again through the Ordnance Survey of Great Britain, and with the support of the Regional Committee of UN-GGIM for Europe (UN-GGIM: Europe), kindly agreed to lead and coordinate the next revision of the Future Trends report in close collaboration with the Secretariat. The review process was initiated in March 2019 seeking inputs from the global geospatial information community via a global consultative process.

21. At its its ninth session, held in New York from 7 to 9 August 2019, the Committee of Experts adopted decision 9/101, in which it welcomed the progress being made on the new edition of the report on future trends in geospatial information management by the Ordnance Survey of Great Britain, and encouraged Member States and relevant stakeholders to contribute to the global consultation currently under way. The third edition intended to highlight changes to the trends identified in the previous two reports, showing how geospatial information and technology underpin national governments, and documenting the increasing role that geospatial information will play as part of the 2030 Agenda for Sustainable Development.

22. Over the intersessional period, the Ordnance Survey, UN-GGIM: Europe, and other international partners, initiated an ongoing inclusive global engagement and consultative process to develop the Future Trends report constructively with a broad range of stakeholders. During this process, it has been vital to ensure that the report contains all the necessary components and tools to assist countries in their efforts to successfully develop, augment and maintain a nationally integrated geospatial information management program and associated arrangements. Therefore, the report is strongly aligned to the IGIF and its nine strategic pathways, helping to ensure that the IGIF integrates and takes advantage of the latest innovations and trends identified in the Future Trends report.

23. In early May 2020, the draft Future Trends report was subjected to a final broad global consultation involving Member States and relevant stakeholders. The consultation concluded on 26 June 2020. With responses provided by 25 Member States, one Observer State, 14 organizations, and relevant expert stakeholders from all over the world, the comments were overwhelmingly positive supporting the content of the report. In particular, the assessment of drivers and trends in geospatial information management is seen as a useful tool enabling Member States to choose the trends that are likely to have the greatest impact on their future development. Recognizing that disruption and change

6 Future Trends First Edition: http://ggim.un.org/documents/Future-trends.pdf
7 Future Trends Second Edition: http://ggim.un.org/documents/UN-GGIM-Future-trends_Second%20edition.pdf

in the geospatial community are likely to occur as a result of the linking of multiple trends, the report explores a diverse set of emerging and developing trends. Among others, these include data privacy and ethics; Digital Twins; Artificial Intelligence and data analytics; and, capacity building.

24. The Ordnance Survey of Great Britain, UN-GGIM: Europe and the Secretariat are pleased to submit the third edition of the Future Trends report, which is provided as a background document to this present report, for consideration and adoption by the Committee of Experts.

VI. Second United Nations World Geospatial Information Congress

25. The first United Nations World Geospatial Information Congress (UNWGIC) was successfully held in November 2018 in Deqing, China, in collaboration with the Government of China, through the Ministry of Natural Resources and the Zhejiang Provincial Government. At the conclusion of the UNWGIC, participants issued the Moganshan Declaration [8]. The Declaration recognized the immense value that the UNWGIC brings to common understanding, building geospatial capacity and innovation within governments and institutions, and in galvanizing the global geospatial community to further the utilization of trusted geospatial information and location enabled decision-making in realization of the 2030 Agenda. In this regard, the Moganshan Declaration called for a second UNWGIC to be convened in four years' time to consider and stimulate global geospatial development progress.

26. At its sixth meeting, held on 1 April 2019 in Amsterdam, the Netherlands, the UN-GGIM Expanded Bureau were provided with an overview of the (then) recently completed UNWGIC. At that time, the Expanded Bureau discussed the possible modalities for the High Level Forum's on UN-GGIM (HLF) and the UNWGIC going forward, and agreed to hold the UNWGIC and the HLF on a 4-year rhythm and alternating every 2 years. This meant that there was an opportunity for a country to host the UNWGIC again in 2022 and the HLF in 2024. Future iterations of the UNWGIC would then be 2026 and 2030, while with the HLF, these would be 2028 and so on. At that time the modalities for the selection process for countries to host the UNWGIC were not considered. It was intended that the scenario for the calling of expressions of interest, and the subsequent selection process, for the second UNWGIC were to be considered by the Expanded Bureau at its seventh meeting in the United Kingdom in April 2020 on the margins of the Sixth High Level Forum.

27. At its seventh meeting, subsequently held virtually on 14 May 2020 (Section III of this present report), the Expanded Bureau agreed on a process and timeline for seeking expressions of interest for hosting the second UNWGIC. The Secretariat initiated the call to Member States through the national ministry or agency responsible for geospatial information management, for expressions of interest via letter and associated information note on 7 July 2020. Expressions of interest were then followed up with a request for a detailed proposal, together with a set of guidelines. Detailed proposals are expected to be provided in early October 2020 for further consideration by the Bureau of the Committee of Experts.

28. The programme of the second UNWGIC will be developed under the leadership of the Bureau, assisted by the United Nations Statistics Division, as the Secretariat of the Committee of Experts, and the advice of an advisory or programme committee, following

[8] http://ggim.un.org/unwgic/documents/Moganshan_Declaration_Draft_Final.pdf

the example set by the first UNWGIC. The second UNWGIC is expected, over the course of three days, to allow about 2,000 participants to gather in a participatory and inclusive environment to enhance the communication, understanding, knowledge and application of geospatial information management for the betterment of global development and to leave no one behind.

VII. Strengthening the interlinkages among the global geospatial information community

Global Geospatial Knowledge and Innovation Centre, Deqing, China

29. At its ninth session, held in New York from 7 to 9 August 2019, the Committee of Experts adopted decision 9/101, in which it welcomed the efforts of the United Nations and the Government of China in developing a proposal to jointly advance the establishment, led by the United Nations, of a global geospatial knowledge and innovation centre in Deqing, China, providing opportunities to build global geospatial capacity and capability and to improve and strengthen expertise on how to prepare for national geospatial information management arrangements in countries, especially developing countries.

30. Following the relevant intergovernmental mandates and guidance, the United Nations Statistics Division has started consultation with the Government of China on the draft Host Country Agreement and a draft Memorandum of Understanding on the operationalization of the centre, including the full financial support by the host government. The proposal for the centre is now with the State Council of China for its final endorsement.

Advancing the Role of Geospatial Knowledge Infrastructure

31. In October 2019, the United Nations Statistics Division and Geospatial Media and Communications agreed to collaborate to 'Advance the Role of Geospatial Knowledge Infrastructure in Global Society and Economy' as a means to demonstrate the true value of global geospatial knowledge, the data ecosystem, public-private partnerships, and their contribution as a key enabling contributor to the global development Agendas. The collaboration will focus on a number of common objectives at national, regional and global levels which will include, but not be limited to:

a) Working together to create joint programs and projects to develop geospatial knowledge infrastructure, networks and human resource capacities;

b) Assessment of the prospective role of geospatial knowledge infrastructure in global society and economy;

c) Collaboratively developing broader methods, guidelines, architectures and policy frameworks for the adoption, utilisation and benefits of geospatial knowledge infrastructure;

d) Develop documents, training modules and other resources to assist National Geospatial Information Agencies in their transformation and modernization aspirations in alignment with the national to global vision of the Integrated Geospatial Information Framework;

e) Facilitate a collaborative knowledge exchange and engagement atmosphere between the commercial geospatial industry, national geospatial agencies, and the broader user industries and civil society, towards developing public-private partnership models for co-creating geospatial knowledge infrastructure and strengthening of industry and institutional capacities; and

f) Advocate, communicate and promote the value and utility of geospatial information and enabling technologies for sustainable development.

32. The project campaign was launched in January 2020, with a number of strategic geospatial project partners from industry and Member States providing support. It was originally intended that a series of regional capacity-building workshops, for up to 20 developing countries, would be convened through 2020 (with the first being at Geospatial World Forum in April 2020[9]). However, the COVID-19 pandemic has paused these until at least 2021. In the interim, the project has developed a discussion document 'Advancing Role of Geospatial Knowledge Infrastructure in World Economy, Society and Environment'[10], which was launched via a public Webinar on 8 July 2020.

Geospatially enabled Building Information Modelling (BIM)

33. In March 2020, the United Nations Statistics Division, as the Secretariat of UN-GGIM, agreed to collaborate with the World Federation of Engineering Organizations (WFEO) and the World Geospatial Industry Council (WGIC) to addresses challenges in the adoption of integrated geospatial information and building information modelling (BIM) solutions for the SDGs. The WFEO is the international organization for the engineering profession, founded in 1968 under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

34. The initial joint collaboration was to develop a white paper titled 'The value of Integrated Geospatial and Building Information Modelling (BIM) solutions to advance the United Nations Sustainable Development Goals (Agenda 2030) with specific focus on resilient infrastructure'.[11] The white paper was officially launched on 9 July 2020 at a dedicated side event during the United Nations High Level Political Forum. The side event, titled 'How the lever of science and technology can be used in peri-urban and urban environments to advance sustainable development: the case of implementing Geospatial Engineering', was organized by WFEO with the support of the Permanent Mission of the People's Republic of China to the United Nations.

35. The white paper provides the reader with an assessment of global infrastructure investments. Along these lines, it gives an overview and assessment of the geospatial and BIM technology ecosystem with specific focus on resilient infrastructure. It also addresses challenges in the adoption of integrated geospatial and BIM solutions. Significantly, the paper contributes directly towards ensuring progress towards safe, smart, inclusive and resilient infrastructure and cities, and supports the IGIF being developed by the Committee of Experts. The IGIF assists all countries in building the bridge towards developing capacity for using geospatial technology, enhancing government decision making processes, and undertaking practices to achieve a digital transformation.

VIII. The geospatial response to COVID-19

36. In the intersessional period, the COVID-19 pandemic has emerged as an unprecedented crisis that has gradually affected all people in all countries with global impacts and consequences. Ironically, the spread and impact of COVID-19 is literally a geospatial problem – including how it is spread from a source. Through the transformational use of geospatial information, Member States have underscored the importance of reliable and reusable data at differing levels of geographic disaggregation

9 https://geospatialworldforum.org/advancing-role-of-geospatial-knowledge-in-world-economy.asp
10 https://geospatialmedia.net/pdf/GKI-Discussion-Document-Ver1.0.pdf
11 http://www.wfeo.org/wp-content/uploads/members/Webinars/Webinar_HLPF/WGIC-WFEO-UNSD-White-Paper/20200709-WGIC-WFEO-UNSD-White-Paper-Resilient-Infrastructure.pdf

as key to balancing the various challenges and needs of public safety and communication during the pandemic. Acknowledging the role of geospatial information, as the 'location' foundation for providing countries with the capacity and capability to respond to the pandemic, this tenth session of the Committee of Experts contains a number of reports and contributions that elaborate on these geospatial responses and efforts made by Member States, the Regional Committees of UN-GGIM, the Regional Commissions, Thematic Groups, and a number of working groups, including the Working Group on Geospatial Information and Services for Disasters. These efforts are detailed under other agenda items of this present session, and will not be repeated here.

37. The United Nations has also contributed to these efforts. To support Member States in responding to the impact of COVID-19, in early April the Secretariat convened an informal coordination group, comprising the Secretariat, Esri, and a number of the Regional Commissions (ECA, ECLAC, and later ESCAP). A concept note was developed to raise awareness, share knowledge and exchange practices and experiences to support Member States in their efforts to effectively respond to the COVID-19 pandemic through their geospatial capacities, products and services. This resulted in a series of UN-GGIM COVID-19 virtual seminars being convened to help initiate a global discussion to explore the influence and impact, and strengthen the response of the geospatial data ecosystem in responding to the global COVID-19 pandemic. A tangible example of this was Esri providing many developing countries with the technology to deploy interactive COVID-19 visualization and information dashboards to support the measurement and monitoring of the pandemic within countries.

38. At each of the virtual seminars, and highlighted by a number of case studies, there was substantial and extensive discussion around the development of national experiences, which proceeded beyond the programmed agenda; to the role of the Committee of Experts. When viewed through a geospatial lens, the COVID-19 pandemic has reinforced that, as with the SDGs, the most vulnerable countries continue to face the greatest challenges in producing, collecting, analyzing and using high-quality, timely and reliable data, including geospatial data, Earth observations, statistics, and other location-based data. In many countries, while much of the urgently needed data *might* exist in some form somewhere, it is often not discoverable, structured, interoperable or standardized. It cannot be readily accessed, shared and, more importantly, integrated with other data for decision-making.

39. Considering the above, the COVID-19 seminars have highlighted that there are many common and persistent issues arising when in a 'response' mode for many national governments: governance, leadership, institutional arrangements, fundamental data, coordination, data sharing and dissemination, resource mobilization, leveraging enabling technologies, standards and interoperability, data privacy, building capacity and capability, funding, partnerships and the role of the private sector, communicating the right messages, etc. While it may be seen that there are gaps and weaknesses that exist, there are new ways and opportunities for the global geospatial community to strengthen its geospatial capabilities and achieve a more comprehensive, sustainable and integrated approach through the implementation of the strategic frameworks and methodologies that have been developed by the Committee of Experts All of the issues mentioned are captured within the nine strategic pathways of the IGIF and its Implementation Guide. They also capture the five priorities of the Strategic Framework on Geospatial Information and Services for Disasters and the five principles of the Global Statistical Geospatial Framework. Each of these Frameworks are mutually inclusive and compatible, with the IGIF as the anchor.

Ready to Respond

40. COVID-19 is a virus that is inherently anchored to 'location' – with spatio-temporal aspects. The virus spreads from a location, its transmission tied to proximity between and

among people at a place, and spread over space and time. Therefore, the responses to the virus are also about location; for the majority, staying in one place and sheltering in place. The impacts – healthcare and services, hospitals and medical supply chains, and the accompanying economic effects, are categorized using place or location. From the early days of the pandemic, researchers have been making use of highly visual geospatial data and applications to record and report the virus' spread – from local to global levels. These geospatial visualizations clearly communicate the situation, and guide decision-making, all through location-based data and situational awareness dashboards. The COVID-19 pandemic highlighted the need for the geospatial community to be ready to respond to any emerging public health crisis with its geospatial data, technologies, processes, innovation and creativity.

41. The IGIF focuses on geospatial information that is integrated with any other meaningful data to solve societal and environmental problems, acts as a catalyst for economic growth and opportunity, and to provide understanding and benefit from a country's development priorities and the SDGs. The COVID-19 pandemic reinforces the role and contribution of geospatial data, technologies and tools in public health and safety. It also reinforces the importance of data sharing and data integration, and the need for integrated geospatial information as a key component, and an enabler, of an evolving national data ecosystem that is ready to respond to any emerging public health crisis. The pandemic requires nationally integrated geospatial information management to be agile and adaptive, with arrangements, capacities and capabilities that are ready to respond adequately and in a timely manner.

42. The Subcommittee, Expert and Working Groups of the Committee of Experts have considered the role and contribution of geospatial information to respond to, and to manage the impacts of an epidemic or a pandemic. The Subcommittee on Geodesy observed that the global geodetic reference frame is the foundation for accurate and reliable geospatial data collection and integration for decision making. The Expert Group on the Integration of Statistical and Geospatial Information stressed the importance of using fundamental geospatial infrastructure, geocoding and common geographies. The Expert Group on Land Administration and Management called for efforts to accelerate the process of determining, recording, disseminating, and updating information about the relationships between people, land and place. Governments are encouraged to maximize the value of the geospatial information already collected, or currently collects, in its normal course of activities. A cost-effective means to increase the value of geospatial information is to strengthen the policy and legal framework for geospatial information management, in particular, data sharing and data integration[12]. Further, the geospatial community is urged to contribute to the availability and accessibility of comprehensive location-based information, including marine geospatial information, for the benefits of governments, stakeholders and users. Readily available and accessible geospatial information supports data sharing and data integration needed for public health and safety measures and responses[13].

43. These discussions are elaborated further within a discussion white paper, COVID-19: Ready to Respond, prepared by the Secretariat and provided as a background paper to this present report. Noting the desire for countries to share their national experiences and to learn from others, the informal coordination group (described in paragraph 37) developed a template for countries to provide their national experiences of their COVID-19 response. The consolidated experiences will be provided on the UN-GGIM website when available, and will support the discussion white paper.

[12] Opined by the Working Group on Legal and Policy Frameworks for Geospatial Information Management.

[13] Working Group on Marine Geospatial Information and the Strategic Framework on Geospatial Information and Services for Disasters

IX. Considerations going forward

44. This year, 2020, the Committee of Experts is convening its milestone tenth session. It is also the 75th anniversary of the United Nations and the 'decade of action' to accelerate progress towards achieving the SDGs. Since its first session in 2011, the Committee has achieved many substantial and effective outcomes. This previous report, presented to the Committee of Experts at its ninth session in August 2019[14], provided a discussion on how the Committee has provided the guidance, methods, frameworks, intellectual capacity and the required recipes for developing countries to strengthen their national geospatial arrangements and to bridge the geospatial digital divide. The report also noted that too few countries have so far had the vision and leadership to fund the substantive work of the Committee; to connect and integrate the global geospatial information community, and to continue to improve and strengthen national geospatial information management, systems and capacities in developing countries, especially to meet the needs of national development priorities and national implementations of the SDGs. This is not sustainable if we are to truly make a difference.

45. The emergence of the COVID-19 pandemic has highlighted how the interconnected nature of a global pandemic can be simultaneously experienced by countries at global, regional, national and local levels. It has also underscored the importance for Member States to mobilize resources to strengthen their national geospatial information management, systems and capacities. Yet, at this moment of global crisis, the geospatial digital divide is widening. Countries which are able to invest in their national geospatial information arrangements are demonstrability providing decision-makers with better integrated geospatial information which supports their evidence-based policy and decision-making needs. Those that are not able to do so fall further behind and impede their capacity to meet the challenges faced by both the COVID-19 pandemic and the overarching needs of the 2030 Agenda. As the world moves towards a 'new normal' there will be additional demands for Member States to be able to mobilize resources to strengthen their national geospatial information arrangements and for the multilateral systems to leverage extra-budgetary resources even more.

46. Irrespective of this new global emergency, which exacerbates all forms of development, the 2030 Agenda continues to be a key consideration for the Committee of Experts. The 2030 Agenda's recognition for new data acquisition and integration approaches to improve the availability, quality, timeliness and disaggregation of data is a crucial need for countries. As described in this present report, the Expanded Bureau and the Secretariat, and within existing resources, are continuously looking at means to facilitate the strengthening and capacity-building of global geospatial information management in support of the implementation of the 2030 Agenda and to support the global response to COVID-19 and the evolving needs of Member States.

47. At its ninth session in August 2019, the Committee of Experts adopted decision 9/101, in which it noted the request of ECOSOC, in its resolution 2016/27, that the Committee report back to the Council within the next two years, and also noted the importance of the updated strategic framework 2018 – 2022 as a reporting instrument. There is an expectation that the Committee will report back to ECOSOC in 2021 so that the Council may examine the strengthening of the institutional arrangements of the Committee. Given the current economic climate, it is intended that this next report will be short and focused, no more than 6-8 pages.

[14] E/C.20/2020/4/Add.1

48. This previous report, presented to the Committee of Experts at its seventh session in August 2017[15], recognized that the Committee had an opportunity over the coming 2-3 years to ensure its activities and efforts contribute more to the unique local to global value in developing frameworks, guides, norms, standards and methodological development along with normative strengthening, capacity building and the implementation of global geospatial information management for Member States. Looking back from this present session, and considering the adoption, implementation and operationalization of the IGIF and other substantive frameworks of the Committee, this opportunity has been partly realized. There has been significant progress towards strengthening geospatial information management in Member States, with the work of the Committee of Experts being a key enabler to assist in implementation – but more needs to be done.

49. The IGIF has been, and is in the process of, implemented within several Member States. Many of the technical reports before the Committee of Experts at this tenth session reference the IGIF as a fundamental and enabling methodological Framework which provides the basis for the Committee's work. Implementing the IGIF has already provided Member States with the basis and guide for developing, integrating and strengthening their national geospatial information management arrangements according to their national circumstances. However, implementation often requires extra-budgetary resources to be made available. Whilst some funds have continued to be used thus far, as described in Section II of this present report, further support for the operationalization of the IGIF, and related long-term capacity and capability development, is required.

50. In summary, the very nature of 'geospatial information' has evolved and changed through the ongoing and significant contributions of the Committee of Experts over the past decade. Commensurately, technologies that harness the 'power of location' have moved from innovation to a crucial component of the global data ecosystem. Geospatial information provides the integrative technological 'glue' that enables other data, including Earth observations, statistical, Big Data, and other new data sources, to be integrated, irrespective of type and source. Even in the past year, the very challenges faced by Member States have accelerated the transformation of these technologies, from their inception to ubiquitous use. Perhaps this is best exemplified through the broad proliferation of national, regional and global visualization dashboards that present data to inform decision-making, support public safety and sentiment, and support the optimization of resources. The report on Future Trends rightly recognizes the crucial role that geospatial information and its technologies will bring to leveraging the potential of the 'Fourth Industrial Revolution'. However, more needs to be done to ensure that we can bridge the geospatial digital divide and leave no-one behind. Now is time for us to redouble our efforts, mobilize resources, build capacity, and share our expertise to collectively strengthen global geospatial information management.

X. Points for discussion

51. The Committee of Experts is invited to:

(a) Take note of the present report and express its views on the efforts of the Expanded Bureau and Secretariat to take practical and strategic actions to strengthen geospatial information management and related interlinkages for Member States;

(b) Take note of the efforts to improve and strengthen national geospatial information capacity-building in developing countries, and request Member States for extra-budgetary resources to be made available via several funding options and mechanisms;

[15] E/C.20/2017/15/Add.1

(c) Express its views towards the adoption of the third edition of the Future Trends Report on Geospatial Information Management (the 5- to 10-year vision), provided as a background document to this present report, noting that it has been developed and agreed by consensus through broad global consultation with Member States and related UN-GGIM instruments;

(d) Express its views and provide guidance on the geospatial response to the global COVID-19 pandemic; and

(e) Provide guidance on further strategies and pathways the Committee may need to consider in its preparations to report back to the Economic and Social Council in 2021.