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Integrated Geospatial Information framework

Integrated Geospatial Information Framework

Note by the Secretariat

Summary

The present paper contains the report of the Secretariat, prepared with assistance from the World Bank Group, on the Integrated Geospatial Information Framework 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 9/103, in which it welcomed the series of extensive and productive expert consultative meetings that had been convened to develop and refine the Implementation Guide of the Integrated Geospatial Information Framework in preparation for subsequent and broader global consultations with Member States and other key stakeholders. The Committee noted that the Guide needed to incorporate and build on the work of the Committee's expert and working groups and suggested that, when it came to implementing the Framework, it was necessary for the Guide to build on existing regional experiences in the implementation of national spatial data infrastructure and to recognize that there was not only one way to implement the Framework. The Committee also stressed the importance of capacity development and resources, including effective financial and institutional support, in the operationalization of the Framework. In this present report, information is provided on the joint efforts made by the United Nations Statistics Division and the World Bank to further develop and refine the Framework, its Implementation Guide and country-level action plans, in particular through a process of regional and subregional consultative and expert group meetings. The Guide is a reference resource that provides guidance and options for actions that can be taken to implement the nine strategic pathways of the Framework and to strengthen national geospatial information management. The Guide has now been the subject of a broad global consultation process undertaken with Member States and relevant stakeholders. In that regard, the report provides details on the global consultation on the Guide and serves to update the Committee on the progress of pilot countries in the development of action plans, methods, toolkits and e-learning materials.

* E/C.20/2020/20

I. Introduction

1. Geospatial information is a critical component of the national infrastructure and knowledge economy – a blueprint of what happens where, and the means to integrate and leverage a wide variety of government services. It provides the integrative platform and ‘glue’ for all digital data that has, or can have, a location dimension to it. All countries and all sectors need geospatial information and enabling technologies for making decisions on national policy, strategic priorities and sustainable development.

2. However, many countries continue to face a series of impediments that exacerbate their ability and ‘opportunity’ to participate fully in transformational change with geospatial information capabilities. Yet, this change is essential to support national development, economic prosperity, and a thriving information economy. Many countries still need to bridge the geospatial digital divide. Bridging this divide requires building capacity for people, establishing governance, and implementing data, technology and processes to sustain national geospatial information capabilities. This can only be achieved through the implementation of a nationally integrated geospatial information framework, and anchored to national development priorities, strategies and arrangements.

3. In August 2017 the United Nations Statistics Division (UNSD) and the World Bank¹ agreed to collaborate on a joint vision to promote growth and prosperity through creating and strengthening geospatial information capacity and development. The objective being to develop an Integrated Geospatial Information Framework that Member States can use to develop and enhance their own geospatial information management. This Framework, implemented at the national level, will assist countries to move towards e-economies, improve services to citizens, build capacity for using geospatial technology, enhance informed government decision-making processes, take practical actions to achieve a digital transformation, and be able to bridge the geospatial digital divide in the implementation of national strategic priorities and the 2030 Agenda for Sustainable Development.

4. At its eighth session in August 2018, the Committee of Experts welcomed the report of the Secretariat, prepared with the assistance of the World Bank, and their joint efforts to develop the Integrated Geospatial Information Framework (IGIF) as an overarching strategic policy guide for countries to reference when developing and strengthening their national and subnational geospatial information management systems and capabilities.

5. In making decision 8/113 at its eighth session, the Committee of Experts adopted Part 1 of the IGIF, consisting of the Overarching Strategic Framework², as a forward-looking document developed to provide overarching strategic messages in the context of an expansive, integrated national framework, which focuses on the policy perspectives and key elements of geospatial information. The Committee also agreed in principle with the structure and main elements of Part 2, consisting of the Implementation Guide, as the detailed document that will provide the specific guidance and actions to be taken in implementing the IGIF. Furthermore, the Committee commended the efforts of the World Bank with regard to initiating pilots to develop Country-level Action Plans to implement Part 3 of the IGIF at a country level.

6. In making decision 9/103 at its ninth session, the Committee of Experts welcomed the series of extensive and productive expert consultative meetings that had been convened (during the intersessional period) to develop and refine the Implementation Guide of the IGIF

¹ The World Bank’s Global Practice on Social, Urban and Rural Development, and Resilience.

² <http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/Part%201-IGIF-Overarching-Strategic-Framework-24July2018.pdf>

in preparation for subsequent and broader global consultations with Member States and other key stakeholders. The Committee noted that the Implementation Guide needed to incorporate and build on the work of the Committee's expert and working groups, and suggested that, when it came to implementing the IGIF, it was necessary for the Guide to build on existing regional experiences in the implementation of national spatial data infrastructure (NSDI) and to recognize that there was not only one way to implement the IGIF. The Committee also stressed the importance of capacity development and resources, including effective financial and institutional support, in the operationalization of the IGIF.

7. The Committee of Experts also supported the proposed completion and launch of the Implementation Guide at the sixth High-level Forum on Global Geospatial Information Management, to be held in the United Kingdom of Great Britain and Northern Ireland in April 2020.

8. In this present report, information is provided on the joint efforts made by UNSD and the World Bank to further develop and refine the IGIF, its Implementation Guide and Country-level Action Plans; in particular through a process of regional and subregional consultative and expert group meetings. The Implementation Guide is a reference resource that provides guidance and options for actions that can be taken to implement the nine strategic pathways of the IGIF, and has now been the subject of a broad global consultation process undertaken with Member States and relevant stakeholders. In that regard, this report provides details on the global consultation on the Guide, and serves to update the Committee on the progress of pilot countries in the development of action plans, methods, toolkits and e-learning materials.

9. The Committee of Experts is invited to take note of the report and to express its views on the way forward on the development of the Implementation Guide of the IGIF. Points for discussion and decision are provided in paragraph 52.

II. Overview of the IGIF

10. The IGIF provides a basis and guide for developing, integrating, and strengthening geospatial information management and related resources in all countries. It assists countries in finding sustainable solutions for social, economic and environmental development, to influence inclusive and transformative societal change for all citizens according to national priorities and circumstances, and to leave no one behind. The IGIF aims to translate high-level strategic geospatial information concepts into practical implementation guidance and action for use by Member States, and is being developed with the knowledge that it will be a living document, to be further refined as technologies, processes and knowledge evolve.

11. The IGIF is an overarching strategic policy guide for countries to reference. By way of example, during this intersessional period it was observed that the IGIF has been referenced by the Australian New Zealand Land Information Council in its 'ANZLIC Strategic Plan 2020-24'; by Ordnance Survey Ireland in its 'Statement of Strategy 2019 – 2021'; and by the Geospatial Commission of the United Kingdom in its 'Unlocking the Power of Location, the UK's Geospatial Strategy 2020 – 2025'.

12. The IGIF comprises three parts as separate, but connected, documents. Part 1: Overarching Strategic Framework sets the context of 'why' geospatial information management is a critical element of national social, economic and environmental development via vision and mission statements, seven underpinning principles, eight goals and nine strategic pathways that lead to a national approach that takes account of national circumstances, priorities and perspectives as a means for governments to establish more

effective geospatial information management arrangements. Intended for a wide range of stakeholders, including policy and decision makers, institutions and organizations within and across government, the Overarching Strategic Framework was adopted by the Committee of Experts at its eighth session in August 2018.

13. Part 2: Implementation Guide is the detail document that describes ‘**what**’ specific guidance, options and actions can be undertaken by Member States to strengthen geospatial information management. Expanding on each of the nine strategic pathways, the Implementation Guide provides the roadmap for implementing the IGIF. Each strategic pathway forms a separate and uniformly structured chapter, with appendices, in the Implementation Guide. Capturing strategic to operational needs, each chapter comprises references, good practices, guiding principles, specific actions, outcomes, and resources for each of the strategic pathways. These include those generated through each of the Subcommittee, Expert and Working Groups of the Committee of Experts. The Implementation Guide is anchored and preceded by an introductory chapter ‘Solving the Puzzle’, which describes how to understand and use the Guide. The Implementation Guide, comprising ten chapters, has been developed in close consultation with Member States since March 2019.

14. Part 3: Country-level Action Plans are specific to and completed by each country. Country-level Action Plan templates are available for countries to use and detail ‘**how**’ the guiding principles, options, and actions specified in the Implementation Guide will be carried out, when and by whom. The Country-level Action Plan is informed by the processes, templates and tools that are available through the Guide. Completing these steps is necessary to first develop a national action plan, and then operationalize the IGIF through its subsequent implementation, and aligned with national priorities. Importantly, the Country-level Action Plan is a plan, not a program that is implemented. Country-level Action Plans have been developed in parallel and coordination with the Implementation Guide.

15. One significant difference between Part 2, the Implementation Guide, and Part 3, the Country-level Action Plan, is that the Guide is general and can apply to any country looking for information on each of the nine strategic pathways of the IGIF. The Country-level Action Plan is country-specific and likely only applies to that country. That said, sharing the experience of developing an Action Plan among different countries has been highly encouraged. Such shared knowledge has proven to be beneficial in replicating good experiences and practices, and avoiding difficulties.

III. Evolving the IGIF Implementation Guide

16. In the months prior to the ninth session of the Committee of Experts, UNSD convened a series of four expert consultative meetings and workshops with Member States to assist in the continued development and iteration of the Implementation Guide. Convened from March to June 2019 (as indicated in Annex I) these early consultations provided valuable context, guidance, and especially engagement, with Member States, which greatly enhanced and extended the value and development of the Implementation Guide. Importantly, the consultations provided initial direction for what the final composition of the Guide might look like.

17. These consultative workshops were made possible (funding participants from developing countries) as an activity under the 2030 Agenda for Sustainable Development

Sub-fund³ of the United Nations Trust Fund for Peace and Development.⁴ The Project implementation period was from December 2018 to November 2019.

18. Given the value and early success of the four consultative workshops, and in response to the many challenges and interests faced by Member States, UNSD made the decision to continue with the highly interactive and engaging workshops through to the end of 2019, and leveraging the Trust Fund for Peace and Development and the UN-GGIM China Trust Fund Project entitled “Geospatial Information Management Capacity Development in China and other Developing Countries⁵”.

19. Following the ninth session of the Committee of Experts, and with the continued support of the World Bank, all Regional Commissions of the United Nations, all Regional Committees of UN-GGIM, and other international partners, UNSD initiated a series of regional and subregional consultative and expert group meetings and workshops to continue the collaborative development of the ten chapters of the Implementation Guide. As can be seen in Annex I, from September 2019 to February 2020, a further ten consultations and workshops were convened and facilitated by UNSD – all in partnership with the respective Regional Committees of UN-GGIM. Each of the consultations and workshops engaged with a broad range of stakeholders from Member States, academia, industry and the private sector, and from all geographic regions.

20. Five of the consultations (highlighted in green in Annex I) comprised dedicated three-day interactive workshops on operationalizing the IGIF, its Implementation Guide, and Country-level Action Plans with Member States and stakeholders. These included in: Santiago, Chile, from 9-11 September 2019, in partnership with the Economic Commission for Latin America and the Caribbean (ECLAC) and UN-GGIM Americas; Addis Ababa, Ethiopia, from 30 September to 2 October 2019, in partnership with the Economic Commission for Africa (ECA) and UN-GGIM Africa; Deqing, China, from 17-22 October 2019, in partnership with the Economic and Social Commission for Asia-Pacific and UN-GGIM Asia-Pacific; Kigali, Rwanda, from 18 to 22 November 2019, in partnership with the Economic Commission for Africa (ECA) and UN-GGIM Africa; and Minsk, Belarus, from 26-28 November 2019, in partnership with the Economic Commission for Europe (ECE) and UN-GGIM Europe.

21. This workshop approach and consultative process, from October 2018 to February 2020, has resulted in the convening of fifteen engaging and interactive meetings with formal participation and representation from **133 Member States**, many multiple times, in the process of contributing to the development of the Implementation Guide. Annex II of this present report lists the participating Member States. This level of engagement with experts in Member States is both impressive and a significant credit to the global geospatial information community. The deliberate effort to engage with the Latin-America, Africa, and Asia-Pacific regions – representing many of the world’s developing countries – should also be noted. For example, four three-day workshops were convened in Africa with ECA and UN-GGIM Africa and UN-GGIM: Arab States during this time. The fourth and final

³ 2030 Agenda for Sustainable Development Sub-fund Project “Strengthening National Geospatial Information Management Capacities towards Implementing the 2030 Agenda for Sustainable Development.”

⁴ Established in 2016 following the pledge by the Government of the People's Republic of China to contribute to the United Nations over a ten-year period with the aim to work together to achieve the goals of the Charter of the United Nations through implementation of innovative, forward-looking and pro-active projects and activities financed by the Trust Fund.

⁵ The main objective of the China Trust Fund project is to improve and strengthen national geospatial information management, systems and capacities in China and other developing countries, especially to meet the needs of national development priorities and national implementations of the 2030 Agenda for Sustainable Development.

consultation workshop in Kigali, convened jointly with AfricaGIS 2019 and the Fifth Plenary Meeting of UN-GGIM Africa, was attended by more than 80 participants, including from 27 African countries. The workshop provided the opportunity to engage with an expanded group of participants from African countries, and to reaffirm for the final time the structure and content of the chapters of the Implementation Guide. It also provided the additional ability for the African countries to start to consider how they would ‘implement’ the IGIF within their regional and national circumstances.

22. These expert consultations, with more than 730 participants from almost 70% of the Member States of the United Nations, have yielded an enormous wealth of diverse data, information and guidance that has greatly contributed to, informed, and enhanced the purpose, structure, substance, and components of the Implementation Guide. This has had the unique benefit, even before undertaking the broad global consultation, of ensuring that, as a methodological framework, the IGIF and the Implementation Guide is truly ‘country owned, and country led’.

III. Broad Global Consultation on the Implementation Guide

23. As was reported to the Committee of Experts at its ninth session,⁶ it was originally intended to launch the broad global consultation of the Implementation Guide towards the end of September 2019, and to conclude on 31 December 2019. This was to allow sufficient time to incorporate appropriate changes and finalize the Guide for completion and launch in April 2020 at the Sixth High Level Forum on UN-GGIM in the United Kingdom. It was anticipated that the Implementation Guide would then be formally adopted at the tenth session of the Committee of Experts in August 2020.

24. However, as described in Section III above, this schedule was delayed for five months in favour of continuing with an additional series of regional and subregional consultative and expert group meetings and workshops to continue the collaborative development of the Implementation Guide. For Member States, this proved to be the right decision, as many participants were given the ‘hands on’ opportunity to engage, learn more about, and contribute to, the development of the Implementation Guide. In December 2019, as the main consultative meetings and workshops came to a conclusion, UNSD, in consultation with members of the IGIF Reference Group⁷, initiated the preparation of the first final drafts of the Implementation Guide in readiness for the broad global consultation, now scheduled to commence in early 2020.

25. Given the anticipated volume of information in the ten chapters (and commensurate appendices) that were to be prepared, a dedicated IGIF consultation web page was established on the UN-GGIM website as a reference point and base for the IGIF, inclusive of the consultation process (<https://ggim.un.org/IGIF/>). Noting that the first ‘introductory’ chapter, ‘Solving the Puzzle’ was intended to describe how to understand and use the Implementation Guide, this chapter was the first to be completed. This chapter, along with Strategic Pathway 1: Governance, were uploaded to the IGIF web page on 13 December 2019 as PDF files.

26. Over the following three months, another four chapters were uploaded to the IGIF web page. These being: Strategic Pathway 2: Policy and Legal; Strategic Pathway 4: Data; Strategic Pathway 7: Partnerships; and Strategic Pathway 9: Communication and

⁶ E/C.20/2020/6/Add.1, Para 45.

⁷ At the first consultation workshop, convened at the World Bank Headquarters, 19-25 March 2019, an informal IGIF Reference Group was established to assist in the drafting of each of the chapters of the Implementation Guide.

Engagement. With six of the ten chapters available, the broad global consultation on the Implementation Guide was then officially launched on 2 March 2020⁸. All chapters and appendices were provided in PDF format for subsequent download and insertion of comments and feedback directly into the documents. At that time, it was noted that not all chapters would be available immediately, and that the final four chapters were to be progressively loaded onto the website as they were completed. For this reason, and knowing the volume of information required to be reviewed, the consultation period was opened for 3 months, and to conclude on 29 May 2020.

27. By mid-March the threat of a global COVID-19 pandemic quickly became a reality. This, combined with other factors (moving planned meetings and events to an unknown virtual mode – including the Sixth High-Level Forum on UN-GGIM) and modalities of working in the UN system (including responding to COVID-19 itself), delayed the completion of the final four chapters of the Implementation Guide considerably. Strategic Pathway 6: Standards was uploaded in April; Strategic Pathway 8: Capacity and Education was uploaded in May; Strategic Pathway 3: Financial was uploaded in June; and Strategic Pathway 5: Innovation was uploaded on 4 July 2020. Therefore, the broad global consultation was extended, twice, finally concluding on 17 July 2020. However, it must be noted that responses from the global consultation were still being received at the time of making this present report available to the Committee of Experts. Amidst the continued and ongoing disruption and anxiety that the COVID-19 pandemic has caused to all lives and countries around the globe, the Secretariat is eternally appreciative of the professional approach and attention in which Member States and the global geospatial community have applied to responding to the global consultation. It represents a true reflection of the importance of the work being undertaken.

28. At the time of issuing this present report, the global consultation has realized comprehensive and considered responses across all ten chapters of the Implementation Guide from 49 Member States, 1 Observer State, as well as the World Bank, the Economic Commission for Latin America and the Caribbean (ECLAC), UN-GGIM: Europe, UN-GGIM: Africa, all of the thematic groups of UN-GGIM, and other relevant stakeholders. Of the 49 Member State responses, approximately half were from developing countries. The full list of respondents is provided as Annex III to this present report. Notwithstanding the detailed responses for each individual chapter of the Guide, which are not captured within this present report, the following paragraphs provide a general summary and overview of the global consultation thus far.

Overwhelming support for the Implementation Guide

29. Given the high level of engagement with Member States and relevant stakeholders over the previous year (Section III), without exception all respondents welcomed and supported the critical importance and value of the Implementation Guide as a means to strengthen national geospatial information management arrangements within and across Member States at the institutional level, and to support the implementation of the SDGs, especially in developing countries. It was recognized that a lot of energy and hard work has been submitted in writing and composing the Guide and its respective strategic pathways in order to provide a complete overview. It was acknowledged that almost every aspect of the challenges facing the introduction of an IGIF has been covered in the documentation. There was full agreement that the process of iteratively and collaboratively developing the Implementation Guide with Member States and stakeholders, was as important as the outcome; a long-awaited document that has produced comprehensive and foundational guidance.

⁸ <https://ggim.un.org/IGIF/documents/Announcement-letter-IGIF.pdf>

30. Respondents agreed that the overall structure and layout of the Implementation Guide is excellent, consistent, well written and covers all aspects needed. It provides the anchor for a number of extensive and well-formulated documents covering a range of important geospatial topics relevant to the fulfilment of the SDGs. It was noted that the modular nature of the Implementation Guide, in terms of its nine strategic pathways, provides a sound model and ‘toolbox’ for preparing and developing a national geospatial information framework and associated country-specific action plans; with countries using the right tools for the right job. This was seen as being important, as the IGIF is a new concept, especially for countries which, after many years of effort, are still struggling to implement a national spatial data infrastructure (NSDI). The opportunity to be in a position to potentially leapfrog the NSDI development stage, and move directly to the IGIF, resonated for developing countries. The language and approach of the IGIF is a considerable recognized difference from previous efforts (focused only on data collection and technology), given that the Implementation Guide incorporates aspects such as governance, policies, finances and participation processes that allow the collection, maintenance, integration and sharing of geospatial information, at all levels of government and society.

31. By demonstrating the interdependency between the nine strategic pathways, respondents felt that the Implementation Guide provides a harmonized and consistent framework that can be applied by any country, no matter their level of geospatial maturity. The strategic pathways reflect that different countries will be at different stages of implementation and will use the parts of the Guide that are most relevant to them at any given time. The Guide empowers all countries to move forward and use geospatial information across every aspect of societal, economic and environmental development. It is considered an excellent tool, not only at the institutional level, but also at the governmental level, which provides good technical support for the development and continuity of public policies that protect and improve the principles of coordination and access to geospatial information.

32. Another strength of the Implementation Guide is that it can be an efficient cooperation tool between governments, regardless of the level of technology development or advances in geospatial information, and offers important tools to support digital transformation. The application of geospatial information and new digital technology will revolutionize the way we are planning, developing, managing and monitoring smarter and more resilient societies. The IGIF process will contribute to ensure that countries can benefit from the opportunities offered by innovation and new technology in their development efforts.

The Implementation Guide is a complex and detailed set of documents

33. While the considerable volume of documentation in the Implementation Guide, and the commensurate level of detail and advice, was acknowledged, respondents noted that this level of detail is at the same time a major strength and a weakness. The Guide is an extensive document to navigate, and this aspect may hinder its purpose of working as guidance towards establishing integrated geospatial information frameworks within different national contexts. The sheer volume of the material can be an obstacle for effective use of the Guide, which may be too long and repetitive in substance and structure, particularly in the early sections of the chapters. It was suggested to take into account the current volume of the Guide and determine if all the text is necessary to meet the objective of an Implementation Guide. Further, even for those familiar with the topic, the acronyms, and the technical language reading through the material, is challenging.

34. For the Implementation Guide to be used as a reference resource, that provides guidance and actions to strengthen national geospatial information management, it is considered imperative that the Guide is easy to understand, covers the most important topics, and is a straightforward and practical guiding document. In this regard, respondents

considered that there was not enough time available for a thorough review of the Implementation Guide. In some sense the chapters are overwhelming and demanding to get into the core elements. While appreciative of the challenge in compiling such a large document with contributions from multiple authors, it is difficult to ensure the language is consistent. It was seen that, while some of the Guide language is quite practical and straight forward, other parts contain language which is complex and academic, and therefore potentially not supporting the purpose as a guiding document. As a general measure, it was suggested that all documents should be reviewed for possibilities to condense descriptions, to simplify some of the language, and to include a glossary of terms, aiming for practical operational language. Different terminologies and understandings that exist around the world could also be captured in the glossary of terms. Additionally, the Guide was prepared in English, and its utility to non-English readers, demands ease of translation into languages other than English. Hence, the urge to ensure simplicity of language to support translation had to be noted.

Aspects to consider to improve the Implementation Guide

35. Given the sheer volume of the Implementation Guide, it was suggested that in the future a shorter, visually attractive, and operationally oriented version of the Guide could be prepared, providing a more streamlined outline of the guiding principles, operational needs, actions, deliverables, outcomes and resources to be implemented for each strategic pathway. This may also address the concern for more customized documentation intended for decision-makers and stakeholders.

36. One key component that was seen as perhaps missing in the Guide, was how geospatial information integrates with other data communities, and how to address those integration challenges across communities and ecosystems. Collaboration and cooperation across a broader data community is necessary for the success of a national geospatial strategy and the implementation of the IGIF. The Implementation Guide can be seen more as a national top-down approach, but by including the broader data community and ecosystem, the Guide could also be considered to capture elements of a bottom-up approach. This would also address another observation, that more focus in the Guide is placed on the topic of data integration and interoperability.

37. Similarly, it was noted that geospatial information has become a more critical component of the national infrastructure and a means to integrate and leverage a variety of government services. In this regard, countries face a pressure on the public sector to provide data as a resource for society to support innovation and development. All sectors will be in need of geospatial information for making decisions on national policy, strategic priorities and sustainable development. Therefore, the idea of an ecosystem, and how geospatial data integrates with other data communities, could be better highlighted throughout the Guide.

Resourcing the Implementation Guide

38. Respondents commented on a number of aspects related to appropriately resourcing and sustaining the implementation of the IGIF and Implementation Guide, including: ensuring the maintenance of the IGIF documentation and necessary user support; coordination to avoid duplication of efforts and secure easier access and sharing of the necessary templates and tools; and coordination of actors and donors involved in implementation of the IGIF. It was emphasized that the investments in developing the IGIF could be wasted if there is not sufficient follow-up through securing the necessary resources for implementation in developing countries. While the concepts and complexity of the IGIF are quite demanding to communicate for potential national stakeholders at this early stage,

geospatial information and the IGIF concept/brand have the potential to become a more recognized element in future international development cooperation and institutional support.

39. It was observed that the World Bank and the United Nations have an excellent opportunity to initiate donor coordination on the IGIF. Implementation of the IGIF must be based on national needs and requirements. The World Bank and United Nations should therefore consider how to communicate the importance of the IGIF towards potential donors. Experience from a number of countries is that the IGIF offers a structured approach to solving the challenges related to establishment of a sustainable national geographical infrastructure across sectors and levels of administration. They consider the IGIF, with all the comprehensive documentation of the strategic pathways and the useful appendixes, to be a great toolbox, but that it should be utilised at a country level in a flexible and pragmatic manner

40. Many developing countries continue to face a series of challenges regarding their ability to participate fully in transformational change with geospatial information capabilities. There will still be a need for building capacity for people, establishing governance, and implementing data, technology and processes to sustain national geospatial information capabilities. The IGIF process should be a good way to secure alignment with national strategies so that it can be included in national development priorities. The result should be a realistic Country-level Action Plan with good political support. Success in implementation will be a proof of concept. It will be important to be able to highlight such motivating success stories for countries in the early stages of the implementation process.

41. For one Member State involved in supporting a number of low-income countries, their main experiences after one year of involvement in national implementation activities could briefly be summarized as follows. The IGIF process contributes to:

- (a) Establish contact between stakeholders in the country and highlight the value and effects of collaboration along the different strategic pathways;
- (b) Uncover gaps and describe the benefits for society of investments in data, human capacity and infrastructure components;
- (c) Secure ownership to strategic initiatives through an action plan across sectors;
- (d) Highlight the need for potential development cooperation and projects;
- (e) Simplify collaboration and coordination between relevant donors;
- (f) Be able to measure development over time along the different axes using standardised tools for assessment of progress and level of maturity.

42. It was considered useful to establish a knowledge exchange network between countries in the process of implementing the IGIF. Such a network could make it easier to establish a common approach for capacity-building, workshops and access to relevant and updated tools and templates. Respondents also recognized the value of the IGIF becoming umbrella Framework over a number of underlying guidelines and frameworks developed under the Committee of Experts over the past ten years. It will be important to continue the good work to ensure that these processes converge and give special attention to consistency with other frameworks.

IV. Country-level Action Plans

43. A Country-level Action Plan references the specific guidance, options and actions provided in the Implementation Guide, and addresses each of the strategic pathways while

considering the strategic and operational needs of a country. It is important to recognize that the Country-level Action Plan is a plan, not a program that is implemented. It can be viewed as the ‘requirements document’ for national geospatial implementation; discovery, actions, decision points, etc. A Country-level Action Plan includes a number of activities that provide a roadmap for the successful implementation of an IGIF for a country. It follows a very specific set of actions as introduced in the Implementation Guide.

44. As was reported to the Committee of Experts at its ninth session, different Country-level Action Plans are being developed in parallel and in coordination with the Implementation Guide, and are being implemented in several ways. Through the support and guidance of the World Bank, Country-level Action Plans have been completed or are underway in Albania, Colombia, Cambodia, Guyana, Mongolia, the Philippines, Serbia, Seychelles, Vietnam, and the State of Palestine. Through the support and guidance of UNSD, Action Plans are underway in Burkina Faso, Ethiopia, Fiji, Mongolia, Nepal and Tonga. It is worthy to note that Mongolia is being used as a case study for the harmonizing of the assessment tools and templates being developed by the World Bank and UNSD. This is proving most valuable.

45. During the series of regional and subregional consultative and expert group meetings and workshops in 2019, a growing number of Member States have expressed an interest in developing Country-level Action Plans. These include the Dominican Republic, Haiti, Indonesia, Kyrgyzstan, Moldova, Mozambique, Rwanda, Saudi Arabia, Senegal and Ukraine.

46. Norway has an ongoing cooperation with a number of countries on NSDI development, and have during the last year started promoting the implementation of the IGIF actively. This has been based on the draft versions of the Implementation Guide and the IGIF baseline assessment tools, and used as an introduction to the strategic pathways, the requirements, and the need for prioritising of activities. Norway has found the assessment tools very useful to initiate discussions at the national level, and emphasized the importance of access to these kind of tools in the early phase of the IGIF process. The Netherlands and Sweden have also expressed a readiness to support the implementation of the IGIF at the country-level in the same manner. Sweden noted the relevance to develop a toolbox setting the scene on how a Country-level Action Plan could be developed, including its content and format.

47. In this regard, a number of Country-Level Action Plan methods, toolkits and e-learning materials are being developed by the World Bank and UNSD. An IGIF e-Learning course is under development by the World Bank, and will be available to all via the World Bank Open Learning Campus platform. The World Bank methodology and toolkit will also be updated and aligned with the Implementation Guide and made available to Member States.

V. Next Steps

48. There is broad global consensus, support and agreement on the critical importance of the IGIF and its Implementation Guide. The IGIF is tangible evidence of the progress made since the establishment of the Committee of Experts nearly ten years ago, and in particular over the last five years since the Committee was provided with a broadened and strengthened mandate by the Economic and Social Council in 2016⁹. As will be observed through other agenda items at this tenth session, the IGIF is now a reference point in almost all of the activities of the Committee of Experts. While it is still far from perfect, many countries, both

⁹ E/RES/2016/27: http://ggim.un.org/documents/E_Res_2016-27_en.pdf

developed and developing, are now implementing the IGIF and developing Country-level Action Plans, based on the guidance and tools that are presently available, and the consultation workshops that have been convened. That said, as a living document, there is still more that needs to be done to improve and refine the Implementation Guide.

49. Based on the level of interest, volume and detail of the comments provided, it has not been possible for the Secretariat to fully review and consolidate the next iteration of the Implementation Guide. This will take some time and has been recognized by many respondents – whom are now fully aware of the depth, breadth and complexity of the Guide. However, respondents also suggested to not postpone the adoption of the Implementation Guide, but to ensure that a revised version is published as soon as possible in the near future so that Member States are able to realize its benefits as soon as possible, and in a practical way as possible. To quote several responses, “we wish for the Implementation Guide’s endorsement by the Committee of Experts as a living document, expecting that all chapters will be available soon”. It was also suggested that the Implementation Guide should be reviewed after a period of practical implementation, through an iterative process of honing and refining, after it has been applied by more Member States at different levels of geospatial maturity. In this respect, a number of Member States offered to be quality partners in implementing and refining the Implementation Guide, as a living document, ensuring it is kept up-to-date and relevant as technology and global needs evolve.

50. The IGIF and its Implementation Guide form a key pillar for the many activities of the Committee of Experts, the regional committees of UN-GGIM, and its thematic groups. It responds to the request by the Economic and Social Council (ECOSOC) for the Committee of Experts to report back to the Council in 2021 so that the Council may examine the strengthening of the institutional arrangements of the Committee. The IGIF provides the basis and guide for developing, integrating and strengthening national geospatial information management arrangements in Member States, bridging the geospatial digital divide, and supporting the implementation of the 2030 Agenda and other global development Agendas. It represents a considerable achievement and a considerable body of work. While there has been immense support from Member States and the global geospatial information community, the burden of bringing the draft Implementation Guide to fruition has been shouldered by a small, but dedicated group. As has been observed by the multiple delays in providing chapters of the Guide in a timely manner for the global consultation, this is not, and has not been, sustainable.

51. As is the situation with other areas of work and agenda items under the purview of the Committee of Experts, it is now an appropriate time for the Committee to urgently consider the establishment of a dedicated high-level group of experts on integrated geospatial information management as a mechanism to continue the oversight and mobilize needed resources to maintain the momentum of this important work.

VI. Points for discussion

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

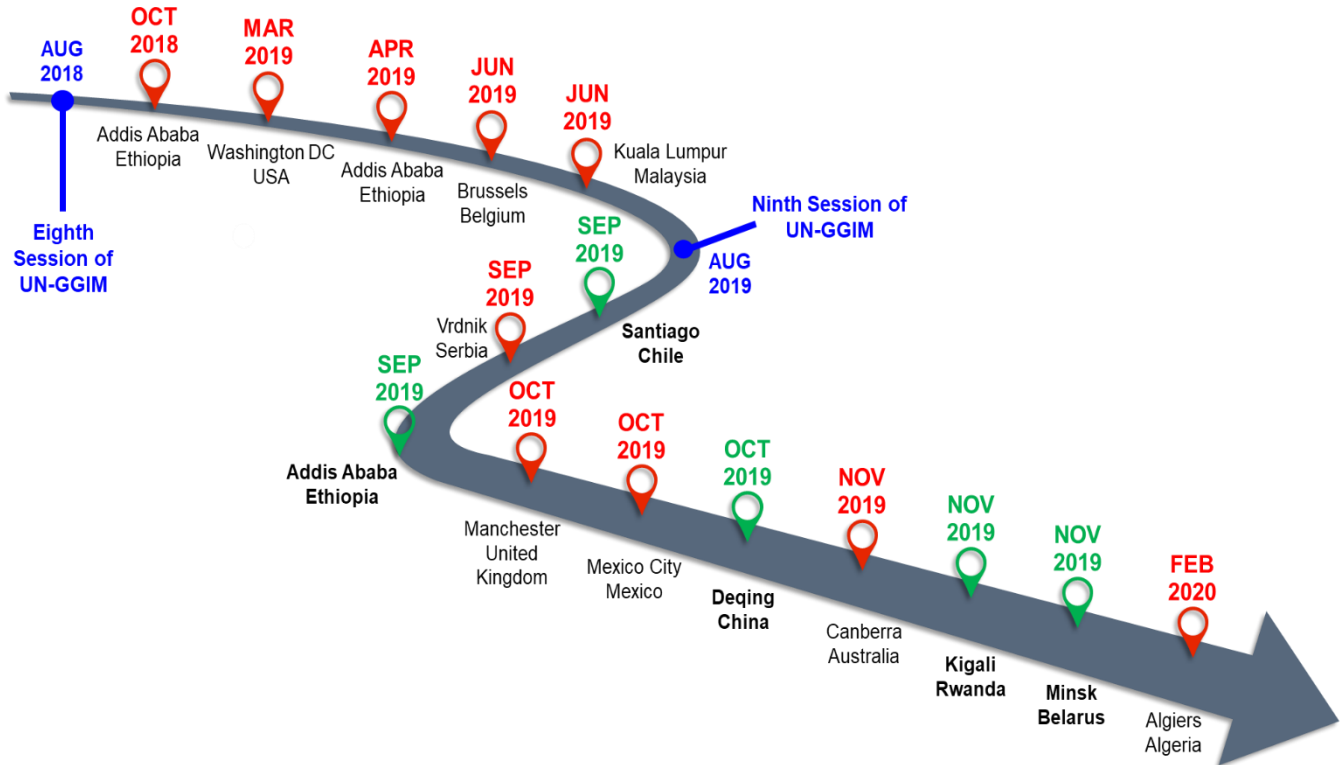
(a) Take note of the present report, express its views and provide guidance on the activities and progress of the Integrated Geospatial Information Framework;

(b) Consider the establishment of a dedicated high-level group of experts on integrated geospatial information management as a mechanism to continue the oversight and mobilize needed resources to maintain the momentum of the IGIF;

- (c) Express its views and provide guidance on Part 2: Implementation Guide, with a view towards its adoption subject to refinement and its finalization;**
- (d) Express its views and provide guidance on the way forward for Part 3: Country-level Action Plans, with expert support from the World Bank, a number of pilot countries, and interested Member States; and**
- (e) Provide any further guidance regarding the way forward on new developments regarding strengthening national geospatial information management, and to assist countries to bridge the geospatial digital divide.**

ANNEX I

**IGIF Implementation Guide
Consultative meetings and workshops**



ANNEX II**Consultation and Development of the IGIF Implementation Guide****Workshop approach and consultative process****Formal participation and representation from Member States**

1	Albania	36	Dominican Republic
2	Algeria	37	Ecuador
3	Antigua and Barbuda	38	Egypt
4	Argentina	39	El Salvador
5	Armenia	40	Estonia
6	Australia	41	Eswatini
7	Austria	42	Ethiopia
8	Azerbaijan	43	Fiji
9	Bahamas	44	Finland
10	Bangladesh	45	France
11	Barbados	46	Georgia
12	Belarus	47	Germany
13	Belgium	48	Ghana
14	Benin	49	Greece
15	Bolivia	50	Guyana
16	Bosnia and Herzegovina	51	Haiti
17	Botswana	52	Honduras
18	Brazil	53	Hungary
19	Brunei Darussalam	54	Iceland
20	Burkina Faso	55	India
21	Burundi	56	Indonesia
22	Cameroon	57	Ireland
23	Canada	58	Italy
24	Chile	59	Jamaica
25	China	60	Japan
26	Colombia	61	Jordan
27	Comoros	62	Kenya
28	Costa Rica	63	Kuwait
29	Côte d'Ivoire	64	Kyrgyzstan
30	Croatia	65	Lao People's Democratic Republic
31	Cuba	66	Latvia
32	Cyprus	67	Lebanon
33	Czech Republic	68	Liberia
34	Denmark	69	Libya
35	Dominica	70	Lithuania

71	Luxembourg	103	Saint Lucia
72	Madagascar	104	Saint Vincent and the Grenadines
73	Malaysia	105	Saudi Arabia
74	Mali	106	Senegal
75	Malta	107	Serbia
76	Mauritania	108	Singapore
77	Mexico	109	Slovakia
78	Mongolia	110	Slovenia
79	Morocco	111	South Africa
80	Mozambique	112	South Sudan
81	Namibia	113	Spain
82	Nepal	114	Sri Lanka
83	Netherlands	115	Sudan
84	New Zealand	116	Sweden
85	Nicaragua	117	Switzerland
86	Niger	118	Tajikistan
87	Nigeria	119	Thailand
88	North Macedonia	120	Togo
89	Norway	121	Tonga
90	Oman	122	Tunisia
91	Panama	123	Turkey
92	Paraguay	124	Tuvalu
93	Peru	125	Uganda
94	Philippines	126	Ukraine
95	Poland	127	United Arab Emirates
96	Portugal	128	United Kingdom
97	Qatar	129	United States of America
98	Republic of Korea	130	Uruguay
99	Republic of Moldova	131	Venezuela
100	Romania	132	Viet Nam
101	Russian Federation	133	Zambia
102	Rwanda		

Inter-governmental organizations

- 53) International Hydrographic Organization
- 54) Technical Committee 211 of the International Organization for Standardization

United Nations system

- 55) Economic Commission for Latin America and Caribbean
- 56) World Bank

International and regional organizations

- 57) EuroGeographics
- 58) European Association of Remote Sensing Companies
- 59) Open Geospatial Consortium
- 60) World Geospatial Industry Council

Geospatial Societies

- 61) International Cartographic Association
- 62) International Federation of Surveyors

Academic Network

- 63) Carleton University
- 64) Southwest Jiaotong University

Private Sector Network

- 65) Esri
- 66) Geospatial Initiatives Ltd
- 67) Location International

Civil Society

- 68) Health GeoLab Collaborative