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Geospatial information and services for disasters

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Note by the Secretariat

Summary

The present paper contains the report prepared by the Working Group on Geospatial Information and Services for Disasters for consideration by the Committee of Experts on Global Geospatial Information Management.

At its eighth session, held in New York from 1 to 3 August 2018, the Committee of Experts adopted decision 8/111, in which it commended the working group for its efforts with regard to the adoption of Economic and Social Council resolution 2018/14 entitled “Strategic Framework on Geospatial Information and Services for Disasters” and to the development of an assessment tool to assist Member States and the United Nations Global Geospatial Information Management regional committees in evaluating and developing national implementation plans. In addition, the Committee emphasized the need to have real-time integration of statistical and geospatial data to connect people with locations and encouraged the working group to align its messages with the Integrated Geospatial Information Framework since disaster risk reduction and management was a critical beneficiary of national geospatial capability. In this present report, the working group provides information on its intersessional activities, including the implementation of the Strategic Framework, review by the Bureau of the Committee of Experts of the assessment survey tool and the development of the working group’s future work programme and terms of reference. Activities under consideration include supporting the preparation and implementation of the Integrated Geospatial Information Framework, finalizing and seeking endorsement of the assessment survey tool and supporting the development of a statistical framework on disaster-related statistics.

* E/C.20/2020/1

I. Introduction

1. The importance of geospatial information and services in disaster risk reduction and management (DRRM) cannot be underestimated, since disasters affect people, properties, infrastructure, economies, and the environment. The increasing need for the interlinkage of geospatial information and its services for disasters was recognized by the Committee of Experts with the establishment of the Working Group on Geospatial Information and Services for Disasters at its fifth session in August 2015. With a specific mandate to develop and implement a strategic framework, the Working Group has resolved to work in a practical manner and aligned with the outcome and follow-up to the Sendai Framework for Disaster Risk Reduction 2015-2030 and its implementation.

2. The Working Group worked towards developing a strategic framework that brings together all stakeholders and partners involved in DRRM to ensure that the necessary geospatial information and services are available, of quality, and accessible in a coordinated way for decision making and operations before, during and after disasters.

3. At its seventh session in August 2017, the Committee of Experts adopted the “Strategic Framework on Geospatial Information and Services for Disasters”.¹ In making decision 8/111 at its eighth session in August 2018, the Committee commended the Working Group for its continued efforts, which ultimately led to the Economic and Social Council (ECOSOC) adopting resolution 2018/14.² This resolution endorsed the Strategic Framework as a guide for Member States in their respective national activities to ensure the availability and accessibility of quality geospatial information and services across all phases of DRRM.

4. Furthermore, the Committee commended the efforts of the Working Group in the development of a simple and practical assessment tool to assist Member States and the regional committees of the Committee of Experts to evaluate and develop national implementation plans, and to monitor and report on progress with regard to the implementation of the Strategic Framework. The Committee also encouraged the Working Group to align its messages with the Integrated Geospatial Information Framework, since DRRM was a critical beneficiary of national geospatial capability.

5. The opportunity of using geospatial information to support decision-making in DRRM is now recognised at the highest levels, with the Special Representative of the Secretary-General for Disaster Risk Reduction declaring³ that “we are fast approaching the point where we may not be able to mitigate or repair impacts from realized cascading and systemic risk, particularly those due to climate change. The urgency is evident. It demands much greater ambition around the speed and magnitude of the changes the global community needs to make; changes that must be proportionate to the scale of threat”. These changes need to be underpinned by informed decision-making to have the largest possible impact. At the heart of informed decision-making is geospatial information, with the Integrated Geospatial Information Framework noting that “geospatial information is a foundational element that can be used to enable informed, data-driven decision-making as it is a crucial component of the national infrastructure and knowledge economy; a blueprint of what happens where, and the means to integrate a wide variety of government services”⁴. Ultimately

¹ http://ggim.un.org/documents/UN-GGIM_Strategic_Framework_Disasters_final.pdf

² E/RES/2018/14

³ Page iii, the Global Assessment Report 2019, section “Foreword”

⁴ Page 4, the Integrated Geospatial Information Framework, section “Introduction” as annexed to E/C.20/2018/16/Add.1

geospatial information can support DRRM decisions at local, national, regional, and global levels.

6. In this present report, the Working Group provides information on its intersessional activities, including the implementation of the Strategic Framework, the review of an assessment survey by the Expanded Bureau of the Committee of Experts, and the development of the Working Group's future work programme. Activities under consideration include: defining the scope of a new work programme and a supporting Working Group structure; supporting the preparation and implementation of the Integrated Geospatial Information Framework; and supporting the development of a statistical framework on disaster-related statistics. The Committee of Experts is invited to note of the report and to consider endorsement of the assessment survey. Points for discussion and decision are provided in paragraph 32.

II. The intersection of disaster risk reduction and management and geospatial information

7. Through the work and activities of the Working Group, global initiatives, such as the 2030 Agenda for Sustainable Development and the Global Platform for Disaster Risk Reduction now recognise the crucial insights that geospatial information can provide. This provides a great opportunity for the Working Group to support Member States and other stakeholders to create an enabling environment for the constructive and substantive use of geospatial information in DRRM. The Working Group is committed to enhancing DRRM with geospatial information.

The United Nations World Geospatial Information Congress (UNWGIC)

8. The first United Nations World Geospatial Information Congress (UNWGIC) was held in Deqing, China from 19 to 21 November 2018, convened under the purview of the United Nations and hosted by the Government of China, through the Ministry of Natural Resources and the Zhejiang Provincial Government. The UNWGIC⁵ convened a diverse group of geospatial leaders and actors which were brought together from all stakeholder groups, including: national and international geospatial agencies and systems; academia; industry; the business community; the private sector; and, civil society. As part of the main sessions of the UNWGIC, members of the Working Group, including from the Secretariat, presented as part of a session⁶ "Disasters will happen: How can we be better prepared" to consider aspects of the Strategic Framework with the broader geospatial community.

9. The session reviewed how authoritative, timely, and accessible geospatial information is integral to every stage of the disaster risk reduction and management cycle, particularly for rehabilitation and reconstruction activities. Participants discussed⁷ that to achieve Sustainable Development Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable", an environment that can effectively respond to disasters should be fostered. The ensuing discussion noted that geospatial information providers must be prepared to engage with the DRRM community, and that vulnerability and baseline datasets must be properly accessible, analysable, and interoperable to support disaster-responders and preparedness activities.

⁵ Discussed in detail in E/C.20/2020/4/Add.1 presented at this session.

⁶ <http://ggim.un.org/unwgic/nov21-parallel-Disasters-will-happen-how-can-we-better-prepare/>

⁷ Report of the UNWGIC: http://ggim.un.org/unwgic/documents/UNWGIC_Report.pdf

50th Statistical Commission – Disaster Related Statistics

10. At its 50th session in March 2019, the United Nations Statistical Commission considered a report by the Secretary-General⁸ entitled “Disaster-related statistics”. This report *inter alia* advises the Commission of the Strategic Framework, noting its role to serve as a guide for Member States in their national activities to ensure the availability and accessibility of quality geospatial information and services in all phases of the emergency cycle and to reach out and engage with decision-makers.

11. In making decision 50/116, the Statistical Commission noted the growing relevance of, and greater focus on, statistics related to both hazardous events and disasters, acknowledged the already considerable coordination and cooperation in that regard, and emphasized the need for further capacity-building and training on this important topic. Furthermore, the Commission urged the international statistical community to expand its capacity building efforts in statistics relating to hazardous events and disasters to assist countries in strengthening capacities for disaster management agencies, national statistical offices, and other related contributors of official data to meet reporting requirements for evidence-based approaches to achieving national development policies, plans and programmes, and the goals and targets in the Sendai Framework and the 2030 Agenda for Sustainable Development.

12. The Working Group takes note of the Commission’s decision, and the associated report by the Secretary-General, and will consider its role in enabling the work of the Commission regarding disaster-related statistics.

The Global Platform for Disaster Risk Reduction 2019

13. The sixth session of the Global Platform for Disaster Risk Reduction was held 13-17 May 2019 in Geneva, Switzerland. The Global Platform called for accelerated action in achieving the seven targets of the Sendai Framework for Disaster Risk Reduction 2015-2030 and highlighted the importance of disaster risk reduction to achieve the 2030 Agenda for Sustainable Development, and the contribution of the Sendai Framework towards initiatives that include the Paris Agreement, the Agenda for Humanity, the New Urban Agenda, and, the SIDS Accelerated Modalities of Action (SAMOA) Pathway among others.

14. In concluding the Global Platform, the co-Chairs noted that “the risk landscape is changing quickly. Diverse risks, ranging from climate and biological to cyber risk have to be accounted for. The addition of new hazards has brought new constituents, including finance, environmental, and private sector actors, to the risk conversation ... risk is complex and non-linear. Expanded understanding of the full impact and the cascading effects of natural and man-made hazards is critical”.⁹

15. One of the main substantive outcomes of the Global Platform is the Global Assessment Report 2019¹⁰, a biannual report by the United Nations Office for Disaster Risk Reduction (UNDRR). The 2019 Report notes that “the availability of relevant geospatial and statistical information can assist countries to better understand, formulate policies on, and manage risk and impacts”¹¹, directly referencing the role of the Strategic Framework in the need for data to be discoverable, available, accessible

⁸ E/CN.3/2019/16

⁹ Co-Chair’s Summary of the Global Platform “Resilience Dividend: Towards Sustainable and Inclusive Societies”
https://www.preventionweb.net/files/58809_chairsummary.pdf

¹⁰ <https://gar.unisdr.org/>

¹¹ Page 385, the Global Assessment Report 2019, section 14.1 “Significance of urban areas and local level action in the 2030 Agenda”

and usable for DRRM. Furthermore, the Report highlights that the sharing of data among stakeholders is critically important, calling for increased coordination and collaboration among stakeholders, underlying the need for interoperable geospatial information that can be integrated into other domains.

16. The Working Group takes note of the Global Assessment Report 2019, specifically where it references the role of the Strategic Framework and will consider how to forge stronger links with UNDRR to further foster the usage of geospatial information and technologies within the DRRM community.

The Sustainable Development Goals Report 2019

17. The role of DRRM is highlighted in the Secretary-General's Sustainable Development Goals Report 2019¹², released on 9 July 2019. The Report notes that "from 1998 to 2017, the scale of direct economic losses resulting from climate- and geophysical-related disasters was estimated at almost \$3 trillion USD, of which climate-related disasters accounted for 77 per cent of the total (a rise of 151 per cent from 1978 to 1997). Over that period, climate-related and geophysical disasters claimed an estimated 1.3 million lives. More than 90 per cent of all disasters were caused by floods, storms, droughts, heatwaves or other extreme weather events"¹³. In these cases, the poorest countries are experiencing a disproportionate share of damage and loss of life attributed to disasters with the report noting that "disasters kill 130 people for every one million people in low-income countries compared to 18 per one million in high-income countries".

18. The Working Group takes note of the Report and will consider how best to strengthen its work to support the implementation of the 2030 Agenda.

III. Activities of the Working Group

Implementation of the Strategic Framework

19. The Strategic Framework on Geospatial Information and Services for Disasters was adopted by ECOSOC on 2 July 2018 under resolution 2018/14 and is available in all six official languages of the United Nations on the Working Group's webpage. The Committee of Experts, at its eighth session in making decision 8/111, noted that ECOSOC invited Member States, their relevant government bodies, the United Nations system, international organizations, donors, the private sector, academia and non-governmental organizations with responsibility for disaster risk reduction and management, in accordance with their mandates, to adopt the Strategic Framework, recognizing that disaster risk reduction and management required the commitment and cooperation of all stakeholders.

20. The Working Group encourages Member States to proactively participate and support international agreements on DRRM and thus adopt and implement the Strategic Framework. In doing so, Member States and the DRRM community are encouraged to engage with the Working Group to provide good practices and priorities for action learned in the implementation of the Strategic Framework, and to support ongoing capacity-building.

¹² <https://unstats.un.org/sdgs/report/2019/>

¹³ Page 23, the 2019 Sustainable Development Goals Report 2019, SDG Goal 1, section "The toll of climate-related disasters is rising, with poorer countries most affected"

21. As part of the Philippines' effort to promote and implement the Strategic Framework, an information drive was initiated by dedicating a special issue of "InfoMapper", the National Mapping and Resource Information Authority of the Philippines (NAMRIA) annual publication, to the Strategic Framework. This was circulated among national government agencies and other stakeholders in DRRM. Furthermore, the Strategic Framework was presented at a meeting with the National Disaster Risk Reduction and Management Council (NDRRMC), where it was acknowledged that geospatial information planning should be an integral part of the national disaster risk reduction and management plan.

22. The Philippines has also supported a preliminary assessment of how the Strategic Framework can be implemented at the local level, through an implementation of the Strategic Framework among its Collective Strengthening on Community Awareness on Natural Disasters (CSCAND) member agencies. The results identified institutional capacity gaps related in all five priority areas identified in the Strategic Framework, providing a pathway for the strengthening of institutional capacity in the realm of DRRM.

Development of the Assessment Survey

23. The Committee of Experts, in making decision 8/111, commended the efforts of the Working Group towards the development of a simple and practical assessment tool to assist Member States and the Committee's regional committees to evaluate and develop national implementation plans. An Assessment Survey entitled "UN-GGIM Strategic Framework on Geospatial Information and Services for Disasters Assessment Survey" has been prepared as a tool to assist Member States in establishing their capacity to implement the Strategic Framework with the view to provide further guidance to support capacity gaps within priority areas for action as defined by the Strategic Framework. The Assessment Survey is now provided as a background document to this present report for consideration and endorsement by the Committee of Experts.

24. The Assessment Survey is an 11-page document containing 38 core questions that should take approximately 30 to 45 minutes to complete. In brief:

- (a) Section I provides an introduction from the co-Chairs of the Working Group to the Assessment Survey. This introduction details the objective, use, benefits, remarks to identify the ideal characteristics of the respondent(s), and instructions on how it should be completed;
- (b) Section II provides definitions of the terminology used in the Assessment Survey. These aim to provide a clarity of the terms used within the Assessment for the respondent(s);
- (c) Section III provides background information regarding the Assessment Survey;
- (d) Section IV provides the survey questions. These questions are based on the five priority areas of the Strategic Framework¹⁴. The responses to each question are based on a scale of 0 to 4: 0 - Unaware of the Strategic Framework and its implementation; 1 - The initiative is not yet implemented; 2 - The Strategic Framework is currently being implemented with major tasks still need to be done; 3 - The Strategic Framework is currently being implemented, with minor tasks still to be done; and, 4 - The Strategic Framework is fully implemented; and,

¹⁴ 1. Governance and policies; 2. Awareness raising and capacity building; 3. Data management; 4. Common infrastructure and services; and, 5. Resource mobilization.

- (e) Section V encourages respondent(s) to provide additional remarks and attach supporting documentation to make the responses to questions as factual as possible. This is the final section of the Assessment Survey.

Process of Review of the Assessment Survey

25. The Assessment Survey was initially presented to the Expanded Bureau of the Committee¹⁵ in Amsterdam, the Netherlands, on 1 April 2019, for comment and review. It was then agreed that a wider consultation on the Assessment Survey could be conducted through the five regional Committees of UN-GGIM. Following the Expanded Bureau meeting the Regional Committee of UN-GGIM Americas submitted their observations on the Survey which were addressed. Additionally, comments were received from Armenia and Canada. Feedback noted that the Assessment Survey was found to be clear, concise, and in alignment with the Strategic Framework. Both countries indicated that they were looking forward to completing the Survey as a mechanism to establish the status of the interlinkages between national geospatial information and services for disaster management.

26. The Working Group is now considering how to make the Assessment Survey available through an online mechanism, to ensure the maximum number of responses by Member States and stakeholders. Additionally, the modalities of how to review and report the ensuring outcomes of the Survey are still to be discussed and elaborated.

IV. Evolving the Working Group's work and activities

27. The Working Group now considers that its initial objectives as set out in its Terms of Reference have been achieved and its initial work completed. Accordingly, the Working Group is considering its next steps.

28. The Working Group has not convened a physical meeting since its meeting on the margins of the eighth session of the Committee of Experts in August 2018. To support the preparation of this present report, and to consider potential avenues of future work, a virtual meeting of the Working Group was held on 19 June 2019. In attendance were 15 participants from the 56 members of the Working Group: 6 Member States and 1 non-member State – Japan, Mexico, New Zealand, the Philippines, Sweden, the United Kingdom of Great Britain and Northern Ireland, and the State of Palestine; and, 6 representatives from the private sector, non-government organizations, and international organizations – Digital Globe, Esri, Group on Earth Observations, Humanitarian OpenStreetMap Team, and URISA.

29. The virtual meeting noted the changed environment in which the Working Group now operates, specifically as the Strategic Framework has now been adopted and is in the process of being implemented by Member States. In recognising the urgent and critical need for geospatial information and services for disasters, the Working Group urges the Committee of Experts to consider maintaining the work and activities of the Working Group and its associated item on the agenda of the Committee's annual sessions.

30. The Working Group has identified five potential areas of future work:

- (a) The implementation and monitoring of the Strategic Framework;
- (b) The promotion, outreach, and awareness-raising of the Strategic Framework to the wider DRRM community;

¹⁵ http://ggim.un.org/meetings/Bureau_Meetings/Expanded_Bureau_Meeting_Report_April_2019.pdf

- (c) The design and implementation of scenario-based exercises on different hazards and disaster scenarios, including predictive modelling, that can test and improve the implementation of the Strategic Framework at a national and regional level;
- (d) Support the Statistical Commission to advance its programme of work regarding disaster-related statistics; and,
- (e) Support and align with the work of the Integrated Geospatial Information Framework.

31. The Working Group will convene its next physical meeting on the margins of this ninth session, on 5 August 2019, to discuss in detail the potential areas and scope of the Working Group's anticipated future work. The Working Group will also discuss appropriate structures and management arrangements, including reconstituting its membership, developing a new Work Plan, and revising its Terms of Reference. This is to achieve its anticipated newly established work targets, activities and objectives as set by the Committee of Experts. The revised Work Plan and Terms of Reference could then be discussed and considered by the Expanded Bureau of the Committee of Experts during the intersessional period and, pending their agreement, tabled for endorsement at the Committee's tenth session in August 2020.

V. Points for discussion

32. **The Committee is invited to:**

- (a) Take note of the present report of the Working Group, and express its views on the proposed next steps and future work of the Working Group as outlined in section IV above;**
- (b) Endorse the 'UN-GGIM Strategic Framework on Geospatial Information and Services for Disasters Assessment Survey' (provided as a background document to this present report) as a tool for Member States to develop national implementation plans for geospatial information and services in support of disaster risk reduction and management; and**
- (c) Urge Member States, the United Nations system, and, relevant international organizations to implement the Strategic Framework nationally and regionally, and to participate in the future activities of the Working Group.**