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Report of the Expert Group on the Integration of Statistical and Geospatial Information

Note by the Secretary-General

In accordance with Economic and Social Council decision 2017/228, the Secretary-General has the honour to transmit herewith the report of the Expert Group on the Integration of Statistical and Geospatial Information. In its report, the Expert Group summarizes the activities it has undertaken since the forty-eighth session of the Statistical Commission, in accordance with Commission decision 48/108. The Committee of Experts on Global Geospatial Information Management, by its decision 6/107, adopted the five guiding principles of the global statistical geospatial framework. In addition, the Expert Group provides information on its focus on the consolidation and implementation of the five guiding principles, including in the preparation of country-level examples, and on assuming the overall coordination role for activities in the area of the integration of statistical and geospatial information. The Commission is invited to note the Expert Group's progress made on its work to consolidate and implement the framework and to take note of the Expert Group's views on coordinating activities in the area of the integration of statistical and geospatial information.

* E/CN.3/2018/1.



I. Introduction

1. Pursuant to Statistical Commission decision 44/101, in 2013, the Statistics Division of the Department of Economic and Social Affairs of the Secretariat established the Expert Group on the Integration of Statistical and Geospatial Information, which comprises members of both the statistical and geospatial professional communities of Member States. The Expert Group reports to both the Statistical Commission and the Committee of Experts on Global Geospatial Information Management at each of their respective annual sessions.

2. The overall objectives and functions of the Expert Group are to pursue the implementation of the global statistical geospatial framework and its application towards the 2020 round of censuses with the understanding that it would apply to other initiatives, including other censuses, such as agriculture censuses and economic censuses, and to the implementation of the 2030 Agenda for Sustainable Development.

3. In the present report, the Expert Group summarizes the activities it has undertaken since the forty-eighth session of the Commission, including the main outcomes of its fourth meeting, held in Stockholm in November 2017, at which the Expert Group reported on progress made in the implementation of the global statistical geospatial framework and efforts to promote awareness, capacity-building and implementation in regard to the framework. The Commission is invited to take note of the present report and to note the progress made by the Expert Group in the elaboration, adoption and implementation of the global statistical geospatial framework, and the continuing international consultation that has taken place in that regard.

II. Seventh session of the Committee of Experts on Global Geospatial Information Management

4. At its seventh session, convened in New York in August 2017, the Committee of Experts on Global Geospatial Information Management commended the practical efforts of the Expert Group to increase regional collaboration and visibility in promoting the implementation of the global statistical geospatial framework, including through the workshop on integrating geospatial and statistical standards.

5. The Committee of Experts noted the efforts of Member States to strengthen the integration of geospatial and statistical information and encouraged the continued refinement and implementation of the global statistical geospatial framework, including by formulating standardized data and metadata interoperability, paying attention to big data, developing technical tools and processes that are able to address challenges relating to regional and subregional integration and, in that context, considering specific examples of institutional agreements and practices.

6. The Committee of Experts endorsed the emphasis placed by the Statistical Commission on strengthening the mandate of the Expert Group by its assuming the overall coordination role for all activities in the area of the integration of statistical and geospatial information, and for regional statistical bodies in order to develop and strengthen partnerships with the regional committees of the Committee of Experts, including in the implementation of the 2030 Agenda for Sustainable Development and considering the growing importance of geo-statistical integration in the context of integrating data from surveys, administrative sources and geospatial information.

III. Fourth meeting of the Expert Group on the Integration of Statistical and Geospatial Information

7. The fourth meeting of the Expert Group was held in Stockholm on 9 and 10 November 2017 and hosted by Statistics Sweden. The Expert Group meeting followed on from the workshop on the integration of geospatial and statistical standards, held on 6 and 8 November 2017, convened jointly by the Economic Commission for Europe and the Committee of Experts on Global Geospatial Information Management at the offices of Statistics Sweden.

8. The aim of the Expert Group meeting was to review the outcomes of the sixth and seventh sessions of the Committee of Experts on Global Geospatial Information Management and the outcomes of the sessions of the Statistical Commission relating to the global statistical geospatial framework and to discuss ways of coordinating activities in preparation for the 2020 round of censuses and other integration activities related to statistical and geospatial information. The meeting was attended by 29 participants from 15 countries (Australia, Brazil, Canada, France, Germany, India, Japan, Mexico, New Zealand, Norway, Philippines, Poland, Sweden, United Kingdom of Great Britain and Northern Ireland and United States of America), five regional and international organizations (Statistics Division, Economic Commission for Africa, Economic Commission for Europe, United Nations Population Fund and Eurostat) and from the private sector network of the Committee of Experts on Global Geospatial Information Management.

9. The Expert Group discussed in detail the current progression of the global statistical geospatial framework. The following six key issues were identified:

(a) Strong support has already been generated within the global statistical community for the framework and the work of the Expert Group, but there is a need to increase engagement and understanding in the geospatial community;

(b) The Expert Group must focus on elaborating the details underpinning the five principles of the framework so it may be used effectively in national implementation, in particular in support of the 2020 round of censuses and the implementation of the 2030 Agenda for Sustainable Development;

(c) The Expert Group strongly supported the outcomes of the workshop on the integration of geospatial and statistical standards, endorsed the future work and collaboration activities identified at the workshop, agreed to contribute where possible and encouraged other international organizations and countries to also contribute to those projects;

(d) The Expert Group agreed to further promote, support and explain the value and utility of the framework by pursuing the broad communications strategy devised at the meeting;

(e) The Expert Group will consider how to engage with partners to promote capacity development to enable the sustainable integration of statistical and geospatial information, in particular in support of the 2020 round of censuses;

(f) The scope of the Expert Group will broaden, as it becomes the overall coordination group for all activities in the integration of statistical and geospatial information.

10. At the meeting, presentations were made on the 2020 round of censuses and how it would provide capacity development opportunities for countries when enacting

their national census activities, in particular regarding integration of statistical and geospatial information. An important point made in the subsequent discussion was that engagement with mapping agencies was not an inherent activity for many national statistical offices. There was consensus across the Member States attending of the need to engage now, and frequently, to ensure good technical communication between geospatial, mapping and statistical agencies and that they were working towards the achievement of good outcomes from the coming round of censuses, as well as that there were common partners from international donors and development agencies that could leverage their relationships to support and encourage a more collaborative and integrated approach between statistical and geospatial agencies.

11. The endorsement of the principles of the global statistical geospatial framework, and the current work on the elaboration of their underpinning details, is very timely, with the latter becoming urgently needed to support the 2020 round of censuses. The importance of censuses as critical to the building and sustaining of the data foundation of the 2030 Agenda for Sustainable Development was also acknowledged. It is especially relevant for supporting the global indicator framework of the 2030 Agenda, as the global statistical geospatial framework supports both production and disaggregation of data for small-area geographies.

12. From that discussion, the Expert Group agreed to convey a simple, key message to the Statistical Commission, namely, that all statistical unit record data should be collected or associated with a location reference, and that ideally it should allow for geospatial coordinates with x- and y-values to be produced for each record.

13. Prior to the Expert Group meeting, many members participated in the workshop on the integration of geospatial and statistical standards, which many members also helped to organize and facilitate. With a good balance of geospatial and statistics experts, the workshop provided a unique opportunity to increase the collaboration between the statistical and geospatial communities, in particular about technical models, frameworks and standards, their associated terminologies and crossover points.

14. The Expert Group further considered the outcomes of the meeting and recognized how they directly facilitated advancing the global statistical geospatial framework. As a result, the Expert Group strongly supported greater collaboration and work between the two communities in the area of interoperability. The Expert Group also agreed to contribute, where possible, and encouraged other international organizations and countries to also contribute to those efforts. The Expert Group brings to the attention of the Statistical Commission the annex to the present report, which contains the lists of short-term and longer-term projects proposed at the workshop and endorsed by the Expert Group as areas to advance interoperability. The list and any progress made with regard to those projects will be reported to the Committee of Experts for their guidance and endorsement.

15. During virtual meetings held prior to the fourth meeting in Stockholm, the Expert Group agreed to form five working groups. Each working group is focused on elaborating one of the five principles of the global statistical geospatial framework. At the fourth meeting of the Expert Group, the working groups presented the current consideration of the underlying aspects of each principle, areas identified for further consideration and work and plans for further work. Materials compiled or developed by the groups, including country and regional case studies, will be published on the website of the Committee of Experts. That information will support the adoption and implementation of the framework by providing guidance on a range of possible

pathways and ways to promote good practices, with the aim of supporting countries to achieve optimal implementation from various starting points.

16. The promotion of good practices is considered crucial to supporting geospatial capacity development within countries. It is particularly important in regions such as Africa, where it has been identified as important to enabling reporting under the global indicator framework of the 2030 Agenda for Sustainable Development, for example through using disaggregation methods.

17. Australia, France and Sweden reported that they are implementing the global statistical geospatial framework, which providing the benefit of efficiencies across the statistical production process, from implementing the framework, while also allowing for improved sharing and integration of statistical and geospatial information between and within national agencies. The framework is also improving the efficiency of monitoring the Sustainable Development Goal indicators.

18. The elaboration of the principles of the framework and the establishment of good practices will be enabled by the use of current and emerging standards, a process considered by the Expert Group as its highest priority. Therefore, the pursuit of a formal standardization process and a range of other lower priority projects will be considered further at a later date.

19. The Expert Group considered the revised mandate provided to it by the Statistical Commission in March 2017 and subsequently endorsed by the Committee of Experts in August 2017. The Expert Group agreed that members would focus on engaging with international bodies for which the integration of statistical and geospatial information formed part of their mandates, and in which many of the members already participate, through strengthening communications material and encouraging further outreach by Expert Group members. Mexico has volunteered to take the lead on that aspect, by developing a knowledge base, compiling communications material, improving the website and supporting the dissemination of information on events relevant to the needs of the Expert Group and wider actors.

20. The current programme of work of the Expert Group will include further consultation with users to assess the usefulness and effectiveness of the global statistical geospatial framework, and will include work on geocoding, privacy and outreach.

IV. Conclusion and the way forward

21. In its decision 7/107 the Committee of Experts on Global Geospatial Information Management urged its regional committees to continue with their outreach and engagement with regional statistical counterparts to further strengthen partnerships and implementation of the global statistical geospatial framework.

22. The global statistical geospatial framework has been applied to local circumstances. Countries such as Sweden, Australia, Mexico and France are reporting on their experiences of the implementation of the framework, generating insights for the adaptation of the framework and the distillation of good practices. With that in mind, members attending the fourth meeting of the Expert Group in November 2017 shared their own country-level examples, contributing to knowledge exchange for the future adoption and implementation of the framework worldwide.

23. Through the efforts of the Expert Group, the Committee of Experts on Global Geospatial Information Management is continuing to work with the Statistical

Commission to expand upon the global statistical geospatial framework as a globally consistent mechanism for enabling the integration of statistical and geospatial information.

24. The Commission is invited to take note of the report and the progress of work of the Expert Group including the list of short term and longer-term projects as annexed, and of the advice of the Expert Group that all statistical unit record data should be collected or associated with a location reference, and that ideally that should allow for geospatial coordinates with x- and y-values to be produced for each record.

Annex

The short-term and longer-term statistical-geospatial interoperability projects recommended at the workshop on the integration of geospatial and statistical standards, convened jointly by the Economic Commission for Europe and the Committee of Experts on Global Geospatial Information Management, and endorsed by the Expert Group on the Integration of Statistical and Geospatial Information at its fourth meeting were as follows:

Short-term high-impact projects proposed

- (a) Draft a beginner's guide to using standards from both communities;
- (b) For both the geospatial and statistical communities, develop communication materials that simply describe the interrelationships between their frameworks, models and standards;
- (c) Conduct a pilot to determine options for persistent identifiers to link aggregate statistical outputs to standard geographies;
- (d) Seek opportunities to work on semantic interoperability issues, such as an ontology for addresses and buildings;
- (e) Improve the discoverability of geospatial tools that are based on standards;
- (f) Develop guidance on how to store geospatial reference objects and links in existing statistical databases;
- (g) Map the data exchange process between statistical and geospatial organizations;
- (h) Examine comparative use cases for the application of traditional geography and emerging grid technologies, in particular for the dissemination of statistics;
- (i) Examine pathways and interest within the statistical community to move to formal International Organization for Standardization standards for models and frameworks, in addition to using existing ones, such as those issued by ISO technical committee 154 on processes, data elements and documents in commerce, industry and administration;

Longer term proposals

- (j) In the reviews of the generic statistical business process model and the generic statistical information model, consider how geospatial processes and information can be represented;
- (k) Include statistics among the global fundamental geospatial data teams of the Committee of Experts;
- (l) Encourage greater collaboration on activities relating to address and building registers;
- (m) Consider common core metadata for geospatially enabled statistical data;
- (n) Continue to communicate and collaborate on materials to explain the different models, frameworks and standards across the two communities, using practical projects as the basis.