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Items for information: integration of statistical and geospatial information

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 2013/235, the Secretary-General has the honour to transmit the report of the Expert Group on the Integration of Statistical and Geospatial Information. The report provides information on the establishment of the Expert Group and summarizes the major issues discussed at its first meeting, held in New York from 30 October to 1 November 2013. It outlines the main recommendations to emerge from the meeting, including the proposal to organize an international conference on the integration of statistical and geospatial information, in New York in August 2014, in conjunction with the fourth session of the Committee of Experts on Global Geospatial Information Management.

The Commission is invited to take note of the present report.

* [E/CN.3/2014/1](#).



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

I. Introduction

1. At its forty-fourth session, the Statistical Commission considered the question of developing a statistical-spatial framework in national statistical systems (see [E/2013/24](#), chap. II, sect. A). In its decision [44/101](#) (see [E/2013/24](#), chap. I, sect. C), the Commission strongly supported the linking of social, economic and environmental data to time and location attributes in order to enrich and maximize the potential of statistical information and welcomed the proposal to organize an international conference as a way of reaching out and developing best practices, bringing together both statistical and geospatial professional communities, as well as the proposal to develop an international statistical geospatial framework. In that regard, the Commission requested the Statistics Division of the Department of Economic and Social Affairs of the Secretariat to establish an expert group composed of representatives of both statistical and geospatial communities to carry out work on developing a statistical-spatial framework as a global standard for the integration of statistical and geospatial information.

2. At its third session, held in Cambridge, United Kingdom of Great Britain and Northern Ireland from 24 to 26 July 2013, the Committee of Experts on Global Geospatial Information Management adopted decision 3/107 (see [E/2013/46](#), chap. I, sect. B), in which it acknowledged the critical importance of integrating geospatial information with statistics and socioeconomic data and the development of a geospatial-statistical framework, especially in the context of the ongoing debate on the post-2015 development agenda, and supported the decision of the Statistical Commission to create an expert group on the integration of geospatial information and statistical information.

II. Establishment and first meeting of the Expert Group

3. In pursuance of Statistical Commission decision [44/101](#) and Committee of Experts decision 3/107, the Statistics Division has established the Expert Group on the Integration of Statistical and Geospatial Information,¹ composed of experts with an even professional mix of statistical and geospatial expertise, and with good geographical representation.

4. The first meeting of the Expert Group, held in New York from 30 October to 1 November 2013, was attended by 34 experts from the statistical and geospatial communities and from international organizations. The statistical community was represented by Australia, Finland, France, Germany, India, Japan, Norway, Saint Lucia and the United States of America. The geospatial community was represented by Belize, Bangladesh, Brazil, Egypt, Germany, Japan, Poland and the Republic of Korea. International representatives were from the Economic and Social Commission for Western Asia (ESCWA), the Statistics Division, the Cartographic

¹ At the recommendation of experts in the field, the name of the expert group was changed from “Expert Group on Developing a Statistical-Spatial Framework in National Statistical Systems” to “Expert Group on the Integration of Statistical and Geospatial Information”.

Section of the Department of Field Support of the Secretariat, and the European Commission. A full list of attendees is contained in annex I to the present report.

5. The modalities of the Expert Group were determined and agreed upon and the co-chairs, from Australia representing the statistical community and from Mexico representing the geospatial community, were elected for a term of three years.

6. The agenda for the meeting (see annex II to the present report) was considered and adopted. The contributions of all members were positive and fully supportive of the need to integrate statistical and geospatial information, including through the sharing of knowledge, the building of capabilities and expertise, the adoption of common terminology and the identification of opportunities for communication and collaboration.

III. Major outcomes of the first meeting

7. The Expert Group discussed and agreed on its terms of reference, as shown in annex III to the present report. **The Expert Group seeks the endorsement of the Statistical Commission and the Committee of Experts on Global Geospatial Information Management for the proposed terms of reference.**

8. It was noted that the importance of the integration of statistical and geospatial information goes beyond population and housing census activities to a broader agenda including agriculture and economic censuses, environmental-economic accounting and the post-2015 development agenda. **In that regard, the Expert Group agreed to review the terms of reference every three years or in conjunction with a change of chair.**

9. One of the key issues discussed was the various practices and approaches used to determine and represent geographical units for statistical purposes. The Expert Group agreed to undertake a global consultation on geocoding practices, linking and integration practices and geographic classification practices. The purpose of the consultation will be to better understand and articulate practices, particularly a comparative analysis of grid-based versus population-based approaches to geocoding, integration and geographic classifications. Australia, Brazil, Mexico and Poland agreed to collaborate with the Statistics Division on the global consultation, building as much as possible on existing global consultation processes.

10. In parallel, the Expert Group agreed to a research programme into the genesis, advantages, benefits of and issues associated with a grid-based approach and population/administrative approach to the collection, compilation and dissemination of statistics. The United States, in conjunction with Australia, Brazil, Finland, France, India and Poland, agreed to contribute to this research activity.

11. A focus on the development of a statistical-geospatial information infrastructure in support of the 2020 round of censuses was also discussed. The Expert Group agreed that all censuses, including population and housing, agriculture, economic and other censuses, were important. However, the Expert Group also stressed the importance of prioritization and focus, and agreed that the forthcoming round of population censuses was a particular opportunity and focus. **In that regard, the Expert Group requested the Statistics Division to propose a course of action that would best deliver an integrated statistical and geospatial solution to the 2020 round of population censuses.**

12. The Expert Group discussed and explored at length the terminology and understanding of methodologies and practices, including integration, linking, geocoding and geographic classifications. It was acknowledged that, in order to meet the objective of providing a forum for coordination and dialogue among representatives of both statistical and geospatial communities, with a view to developing and advancing the implementation of a global statistical-geospatial framework, it was important to first share knowledge of existing terminologies and practices. **The Expert Group agreed to develop a web-based portal to share knowledge, including a glossary of terminology, and requested the Statistics Division to host the portal.**

13. Information was provided about other international initiatives in the statistical community, in particular the Economic Commission for Europe High-level Group for the Modernization of Statistical Production and Services, and also initiatives in the geospatial community. The latter include the development by the Open Geospatial Consortium of the standard for linking geospatial data, such as census boundaries, with corresponding statistical data. Furthermore, the International Organization for Standardization and the Open Geospatial Consortium are preparing a template of standards needed for the fundamental layers of a spatial data infrastructure for presentation at the fourth session of the Committee of Experts in August 2014. **The Expert Group agreed that it was important that both metadata statistical and geospatial communities reach out to each other, and asked the Statistics Division to make contact with relevant groups dealing with metadata standards to inform them of the establishment of the Expert Group and put in place coordination mechanisms.**

14. The contributions and comprehensive discussions enabled the Expert Group to formulate and agree on a work programme, as outlined in annex IV to the present report. The participants stressed the importance of an action-oriented programme and that the issues to be addressed should be selected on the basis of prioritization, clarity and focus. **The Expert Group seeks the endorsement of the Statistical Commission and the Committee of Experts on Global Geospatial Information Management for the proposed work programme.**

IV. Organization of an international conference

15. The proposal of the Statistical Commission and the Committee of Experts to hold an international conference was also discussed. **To minimize costs and maximize attendance, the Expert Group agreed to hold the conference in conjunction with the fourth session of the Committee of Experts on Global Geospatial Information Management in August 2014, noting that it would be important to ensure good representation from the statistical community.** The Expert Group requested the Statistics Division to organize the conference, following a format of plenary and panel sessions. Australia, Belize and Mexico agreed to work with the Statistics Division on a conference programme.

16. It was agreed that the findings of the global consultation, the research activity and the collaboration plans for the 2020 round of population censuses would be presented at the international conference.

17. A proposal for the international conference is contained in annex V to the present report. **The Expert Group seeks the endorsement of the Statistical**

Commission and the Committee of Experts on Global Geospatial Information Management for the international conference proposal. In particular, the Expert Group welcomes input from the Statistical Commission and the Committee of Experts on the level and breadth of invitation to the conference.

V. Activities related to global geospatial information management

18. The Committee of Experts on Global Geospatial Information Management held its third session in Cambridge, United Kingdom, from 24 to 26 July 2013. The report on the session is contained in document [E/2013/46](#).

19. With regard to future activities of the Committee of Experts, as mentioned earlier, its fourth session will be held in New York from 4 to 6 August 2014 in conjunction with the international conference on the integration of statistical and geospatial information. In addition, the third High-level Forum on Global Geospatial Information Management will be held in Beijing in October 2014. While the sessions of the Committee of Experts are intergovernmental in nature and held annually, the High-level Forum is meant to be hosted, when possible, by countries as an open forum that brings together member States and interested stakeholders, including representatives of international organizations, the private sector, non-governmental organizations and academia, to address current critical issues on geospatial information management and discuss a set of concrete policy proposals and actions for the future.

VI. Conclusion

20. The establishment of the Expert Group, bringing together global statistical and geospatial experts to discuss and address common issues, reflects the recognition of the importance of the integration of geospatial information and statistics in supporting social, economic and environmental policy decision-making, including at the subnational level. The Expert Group was satisfied that the first meeting was successful in laying the foundation for effective coordination and collaboration. For the Expert Group to build on this at future meetings, it is imperative that the professional statistical community, in partnership with relevant national geospatial information authorities, remain fully engaged in the work of the Expert Group.

21. The Commission is invited to take note of the progress achieved in the establishment and the work of the Expert Group on the Integration of Statistical and Geospatial Information.

Annex I

List of participants in the first meeting of the Expert Group on the Integration of Statistical and Geospatial Information

Australia

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Canberra

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Bangladesh

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Egypt

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Cairo

Finland

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Statistics Finland

France

Vincent Loonis
Head of Spatial Methods Unit
French National Institute of Statistics and Economic Studies
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Germany

Bernd Richter
Head of Geoinformation Division
Federal Agency for Cartography and Geodesy
Frankfurt

Susanne Schnorr-Backer
Head of Unit
Coordination of Regional Statistics, Indicators

India

Bharat Bhushan Singh
Deputy Director General
Field Operation Division, National Sample Survey Office
Ministry of Statistics and Programme Implementation
New Delhi

Japan

Naoki Makita
Director
Statistics Production Support Division
Tabulation Department
National Statistics Centre

Koichiro Furuichi
Unit Chief
Statistics Information Systems Division, Statistics Bureau
Ministry of Internal Affairs and Communications

Mexico

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Vice-President of the Instituto Nacional de Estadística y Geografía
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Norway

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Statistics Norway
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Poland

Jacek Jarzabek
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Head Office of Geodesy and Cartography of Poland
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Dominik Kopczewski
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Im, Eunsun
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Geospatial Information Research Division
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Lee, Hosang
Associate Research Fellow
Geospatial Information Research Division
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Timothy Trainor
Chief, Geography Division
United States Census Bureau

Vincent Osier
Chief of Geographic Standards and Criteria Branch
United States Census Bureau

European Commission

Gunter Schäfer
Eurostat
Luxembourg

Economic and Social Commission for Western Asia

Juraj Riecan
Director, Statistics Division

Statistics Division, Department of Economic and Social Affairs

Stefan Schweinfest
Acting Director

Greg Scott
Inter-Regional Adviser, Global Geospatial Information Management

Amor Laaribi
Global Geospatial Information Management Coordinator

Cecille Blake
Global Geospatial Information Management Secretariat

Alessandra Alfieri
Section Chief, Economic Statistics Branch

Cartographic Section, Department of Field Support

Kyoung-Soo Eom
Chief, Cartographic Section

Ayako Kagawa
Chief, Geospatial Support Unit

Geraldine Velandria
Geo-Support Unit, Cartographic Section

Annex II

Agenda of the first meeting of the Expert Group on the Integration of Statistical and Geospatial Information, New York, 30 October-1 November 2013

- Item 1 Opening of the meeting
 - Opening and objectives of the meeting
 - Introductions
 - Election of co-chairs
 - Opening statement by co-chairs
- Item 2 Agenda and other organizational matters
 - Agenda and organization of the meeting (Statistics Division)
- Item 3 Statistical Commission programme review: “Developing a statistical-spatial framework in national statistical systems”
 - Presentation on programme review and outcomes of Statistical Commission and Committee of Experts meetings (Statistics Division) (discussion)
- Item 4 Finalize the proposed terms of reference
 - Workshop session (Australia)
- Item 5 Towards a global statistical geospatial framework: overview presentations
 - Trends in the Committee of Experts in geospatial information management, including location and geospatial information in “big data” (Statistics Division)
 - The statistical spatial framework (Australia, Mexico)
- Item 6 Towards a global statistical geospatial framework: geospatially coding statistics (Eurostat)
 - National practices in geospatial coding and referencing statistics (Finland, Republic of Korea)
 - Geographic data linking, including dynamic linkage (Germany)
- Item 7 Review of first day’s proceedings
- Item 8 Towards a global statistical geospatial framework: common geographic classifications and boundaries
 - National practices in geographic classifications and boundaries, including dissemination geographies (United States, Australia, Mexico, Japan)
- Item 9 Towards a global statistical geospatial framework: metadata standards and interoperability (location and geo-referencing)
 - Review of international statistical and geospatial metadata standards and frameworks (Statistics Division, ESCWA, Australia)

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- Item 10 Towards a global statistical geospatial framework: overarching topics
 - National experiences in managing confidentiality and data access (Australia, India)
 - Case studies of geospatial capability-building programmes — geospatial and statistical organizations (Brazil, Poland)
 - International capacity-building programmes and funding opportunities (discussion)
 - Item 11 Implementing a global statistical geospatial framework: 2020 round of censuses
 - Countries perspectives for the 2020 round of population censuses and opportunities for increased application of geospatial information (Statistics Division, Australia) (discussion)
 - Item 12 Review of second day's proceedings
 - Item 13 Expert Group photograph
 - Item 14 Develop Expert Group work programme
 - Workshop session
 - Item 15 Finalize Expert Group work programme and determine working group arrangements
 - Plenary discussion
 - Item 16 Discuss arrangements for international conference
 - Timing and location
 - Conference content (with reference to morning discussion)
 - Item 17 Other business
 - Revise Expert Group arrangements with reference to conference discussion

Annex III

Terms of reference of the Expert Group on the Integration of Statistical and Geospatial Information

Note: The establishment of a United Nations statistical-geospatial expert group was requested by the Statistical Commission at its forty-fourth session, in March 2013, and endorsed by the Committee of Experts on Global Geospatial Information Management at its third session, in July 2013.

Objectives and functions

1. The overall objectives and functions of the Expert Group will be:
 - (a) To provide a forum for coordination and dialogue among representatives of both statistical and geospatial communities with a view to developing a global statistical-geospatial framework as a standard for the integration of statistical and geospatial information;
 - (b) To propose workplans and guidelines to advance the implementation of a global statistical-geospatial framework so that there is increased information to support social, economic and environmental policy decision-making, including at the subnational level;
 - (c) To address various technical, institutional and information policy issues related to the implementation of a global statistical-geospatial framework, especially issues related to confidentiality;
 - (d) To pursue the implementation of the statistical-geospatial framework in the 2020 round of censuses with the understanding that it would apply to other initiatives, including other censuses, such as agriculture censuses, economic censuses etc., and global initiatives such as the post-2015 development agenda and big data.
2. To achieve these objectives, the programme of work of the Expert Group will focus on the following:
 - (a) Undertake activities that foster collaboration between statistical and geospatial communities at the national and international levels, including to identify and address issues common to linking socioeconomic information to a location and implementing a global statistical-geospatial framework;
 - (b) Evaluate the statistical-geospatial framework developed by the Australian Bureau of Statistics and determine if and how it could be internationalized;
 - (c) Support the development, promotion and sharing of guidance material and best practice documentation in relation to a global statistical-geospatial framework;
 - (d) Identify existing capability development programmes in national statistical offices and geospatial communities that could be leveraged to develop geospatial components suitable for other national statistical offices and geospatial agencies, including the ability to promote and standardize geocoding processes, methodologies and frameworks (for example, dynamic linking techniques);

(e) Promote and encourage close collaboration between national statistical offices and their national geospatial counterparts during the 2020 round of censuses so that statistical and geospatial integration occurs, and encourage adoption of global statistical-geospatial framework principles in this work;

(f) Encourage the use of existing, and the development of new, data and metadata standards as well as other standards to enhance the interface of location-based datasets from multiple sources;

(g) Encourage the development of approaches to increase geospatial skills and capabilities within national statistical offices and geospatial agencies;

(h) Encourage the development of communication mechanisms to increase the visibility of geospatial activities, beyond specialist geospatial units that exist in some national statistical offices and other agencies, to help keep the statistical and geospatial communities aware of the developments coming from the Expert Group's programme of work;

(i) Encourage the development of geospatial analytics;

(j) Encourage the work of the geospatial community towards developing spatial data infrastructures, and their potential use for improving integration of statistical and geospatial information.

3. The Expert Group will bring to the attention of the Statistical Commission, the Committee of Experts on Global Geospatial Information Management and the Statistics Division new developments relating to the integration of geospatial and statistical information, the work on developing a global statistical-geospatial framework and developments coming from the Expert Group's programme of work.

Membership, composition and terms of office

4. The Expert Group will comprise high-level experts from national Governments and international organizations from both the statistical and geospatial communities. In appointing their national representatives, Member States will seek to designate experts with specific knowledge drawn from the fields of statistics and geospatial information. Where only one representative is appointed, Member States will encourage collaboration between representatives at the national level. Member State representatives would also be selected so as to ensure equitable regional representation.

5. The Expert Group will elect two co-chairs, one from the statistical community and the other from the geospatial community. Each will serve for a three-year period, renewable once for an additional three years.

6. If considered appropriate, the Expert Group will establish a bureau to assist the two co-chairs in moving activities forward outside of Expert Group meetings. The Expert Group may establish subgroups to work on particular aspects of the programme under its oversight.

7. The Expert Group will liaise as required with other international groups that may have an interest in linking statistical and geospatial information, including the Committee of Experts on Global Geospatial Information Management, the Committee of Experts on Environmental-Economic Accounting, the Cartographic

Division and the Expert Group on Revising the Principles and Recommendations for Population and Housing Censuses.

8. The Expert Group will review and, if appropriate, revise its terms of reference every three years, and in conjunction with a change in chairs.

Reporting procedure

9. The Expert Group will report to the Statistical Commission and the Committee of Experts on Global Geospatial Information Management.

Frequency of meetings

10. The Expert Group will normally operate virtually and try to meet in conjunction with appropriate meetings.

11. The Expert Group will operate with the help of a website to facilitate communication, collaboration, knowledge management and information.

Secretariat

12. The Statistics Division of the Department of Economic and Social Affairs will serve as the permanent secretariat of the Expert Group. It will provide the day-to-day management and coordination, host and maintain the website and undertake all internal and external communication on behalf of the Expert Group. In cooperation with the co-chairs, the secretariat will coordinate, monitor and report on the activities of any subgroups, organize and develop the agenda for the Expert Group meetings, maintain the website and issue notices from the Expert Group.

Annex IV

Proposed work programme of the Expert Group on the Integration of Statistical and Geospatial Information

- Form a subgroup (Australia, Brazil, Mexico, Poland, Statistics Division) to develop a global consultation questionnaire on (a) geographical classifications and practices and (b) geocoding practices, with a view to preparing a comparative analysis of the grid and population/administrative approaches to the integration of statistical and geospatial information
- Build on the existing questionnaires from the global geospatial information management process to ensure coordination rather than duplication, in time to present findings to the fourth session of the Committee of Experts and the international conference
- In parallel with the work on the questionnaires, research (Brazil, Finland, France, Saint Lucia, United States, European Commission) the genesis, the advantages and disadvantages etc. of the grid-based and population/administrative approach to the collection, compilation, analysis and dissemination of statistics, in time to present findings at the international conference
- Form a subgroup (Australia, Belize, Mexico, Statistics Division) to develop the International Conference proposal further
- Reach out to the metadata standards groups in both the statistical and geospatial communities (Poland, Statistics Division, European Commission); timing to be determined by the Statistics Division
- Reach out to the Statistics Division Demographic and Social Statistics Branch to discuss how the Expert Group can best engage with the 2020 round of population censuses, with the focus on contributing, not doing (Statistics Division in first instance); timing: as soon as possible by the Statistics Division
- Start process of arriving at common terminology: collect existing information on terms, meanings, identify gaps etc. (Finland, Statistics Division, European Commission)
- Develop a schedule with activities, their dates and those responsible for them
- Finalize terms of reference and seek endorsement by both the Statistical Commission and the Committee of Experts
- Finalize a work programme and seek endorsement by both the Statistical Commission and the Committee of Experts
- Finalize international conference proposal and seek endorsement by both the Statistical Commission and the Committee of Experts
- Establish website; Expert Group members initiate work on the work programme elements they have offered to contribute to; send meeting outcomes/presentation to Expert Group members
- Expert Group members to provide feedback within their countries

Annex V

Proposal for an international conference on the integration of statistical and geospatial information

- The Expert Group agreed that August 2014 was an appropriate time
 - If a country comes forward and wants to host, the conference could be decoupled from the fourth session of the Committee of Experts
 - The Expert Group requested the Statistics Division to investigate logistical and operational issues associated with hosting an international conference in New York
 - Volunteers are needed to be part of the international conference organization/ programme committee
 - Thematic approach (e.g. like the high-level forums, plenary, panel sessions, but no parallel sessions) preferred
 - Need to ensure strong buy-in from chief statisticians
-