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## Committee of Experts on Global Geospatial Information Management

### Fifth session

New York, 5-7 August 2015

Item 11 of the provisional agenda\*

### Knowledge base for geospatial information management

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### Note by the Secretariat

#### Summary

The present paper contains the report of the Secretariat on the new developments brought to the knowledge base for geospatial information management for consideration by the Committee of Experts on Global Geospatial Information Management.

At its fourth session, held in New York from 6 to 8 August 2014, the Committee of Experts adopted decision 4/108, in which it took note of the report of the Secretariat on the status of development of the knowledge base for geospatial information management, including its functionalities and suggestions for its being connected to web-based portals. The Committee of Experts acknowledged the importance of the knowledge base in providing critical and relevant information, including case studies and reports; encouraged Member States to continue to contribute relevant material for the knowledge base; urged regional geospatial information management entities to contribute to the maintenance and promotion of the knowledge base; and requested the Secretariat to report to it at its fifth session. The report of the Secretariat provides an overview of the new items, content and functionalities added to the existing resources of the knowledge base. The geospatial information content, collected from various sources, including a number of Member States, related global geospatial information management forums and regional committees, is made available through the knowledge base portal. The report outlines a number of actions to be taken in order to ensure that the repository of geospatial information management is searchable and continuously updated.

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\* E/C.20/2015/1

## **I. Introduction**

1. At its fourth session, held in August 2014, the Committee of Experts, by decision 4/108 (see E/2014/46), took note of the report of the Secretariat on the status of development of the knowledge base for geospatial information, including its functionalities and suggestions to be connected to other web-based portals. The Committee of Experts acknowledged the importance of the knowledge base in providing critical and relevant information, including case studies and reports; encouraged Member States to continue to contribute relevant material for the knowledge base; urged regional geospatial information management entities to contribute to the maintenance and promotion of the knowledge base; and requested the Secretariat to report to it at its fifth session.

2. In pursuance of the directive from the Committee of Experts, the Secretariat, during the intersessional period, sought suggestions on additional items and provision of relevant documents from Member States and regional Committees, to be added to the knowledge base. New items have been added thus strengthening the content and offering available resources to users. The intention was to have a dynamic resource that provides a simple user interface to search, browse, and find easily information, targeting global users, whether from national geospatial information authorities, national statistical offices and other governmental organizations, or regional and international organizations, academia, NGOs and the general public (<http://ggim.un.org/knowledgebase/Knowledgebase.aspx>).

3. The present report provides an overview of the new items, content and functionalities added to the existing resources of the knowledge base. The geospatial information, collected from various sources, including a number of Member States, related global geospatial information management forums and regional committees, is made available in the knowledge base. The report outlines the actions to be taken in order to ensure that this global repository for geospatial information management is searchable and maintained. The Committee of Experts is invited to take note of the report and to express its views on the way forward in regards to the maintenance and management of the knowledge base. Points for discussion and decision are provided in paragraph 18.

## **II. New items, content and functionalities of the knowledge base**

4. Taking into account decisions made by the Committee and comments provided by Member States, following the presentation of the knowledge base at the fourth session of the Committee of Experts (E/C.20/2014/11 Add.1) and subsequent email requests, the Secretariat has added, renamed and restructured categories and sub-categories of the knowledge base structure to enable ease of access and discovery. The categories Global, Regional and National have remained and additional sub categories added. Under the Global category the following sub-categories have been added, these are “Global Geodetic Reference Frame”, “Geospatial Information and SDGs” and “Integration of Geo-Statistical Information”.

5. The Secretariat with, the assistance of Interns, populated the knowledge base with key content. Documentation on educational/training institutions, technical resources, and links to geospatial information websites, as well as for the national geospatial information laws and directives were uploaded to the knowledge base under the Global/UN-GGIM Resources Center category and sub-category.

6. Two major items the Committee of Experts has been working on were added and highlighted: the Global Geodetic Reference Frame, and the Integration of Geospatial and Statistical Information. The Global Geodetic Reference Frame is a generic term describing the framework which allows users to precisely determine and express locations on the Earth, as well as to quantify changes of the Earth in space and time. Since its inception, the Committee of Experts has recognized the growing demand for more precise positioning services, the economic importance of a global geodetic reference frame and the need to improve the global cooperation within geodesy. A historical achievement was realized when the United Nations General Assembly adopted the UN resolution on a Global Geodetic Reference Frame for Sustainable Development that was led by the Republic of Fiji. Information on the resolutions, the Working Group newsletters and supporting documents is provided.

7. The Statistical Commission and the Committee of Experts “acknowledged the critical importance of integrating geospatial information with statistics and socio-economic data, and the need to develop a statistical-spatial framework, especially in the context of the on-going debate on the post-2015 development agenda”. They established in November 2013 an Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI) to carry out work on developing a geospatial-statistical framework as a global standard for the integration of statistical and geospatial information. Key content on the important work programme items the Expert Group is working on is provided.

### **III. Future trends in geospatial information management**

8. A new item to be added to the knowledge base is the “Future Trends in Geospatial Information Management: the five to ten year vision”. This important reference report has been appreciated by many users and keeps the professional geospatial community abreast of new trends in geospatial information and particularly with the impact of these geospatial technologies. The first version was published in 2013 and has since been translated into all six official UN languages plus Korean and Japanese.

9. In acknowledging the benefit and impact that the Future Trends report has had in the global geospatial information community, and in light of the 2016 ECOSOC review of all aspects of the Committee’s work and operations, the Committee, at its fourth session, decided that an update of the Future Trends report should be completed in 2015 in order to assist in informing the review. With leadership from Ordnance Survey, United Kingdom, this new updated report has been prepared through a global consensus process. As well as exploring new areas, the version highlights changes to the trends identified in the original report, showing how the role of governments is changing, and documenting the increasing role of data collection technologies and processes.

10. The 2015 version of the Future Trends report will be provided to the Committee at this fifth session and observes that in a world which is increasingly driven by the consumer, the most significant geospatial information changes will not come through singular technologies, rather the linking of multiple technologies and policies. The updated report recognises this and explores these ideas through a series of themes, focusing on four emerging and developing trends: Artificial intelligence and Big Data; Internet of things and smart cities; Integration of statistics and geospatial information; and, Indoor and outdoor mapping.

## **IV. The status of mapping in the world**

11. Another item to be highlighted is the “Status of Mapping in the World” as it has been a continuing effort carried out by the International Society for Photogrammetry and Remote Sensing (ISPRS) as a valuable contribution to the work of the Committee since 2012. With contributions from 115 Member States (as at June 2015), the status of mapping provides a synopsis of the information collected on the infrastructure for mapping in various countries and regions, giving a comprehensive picture of the key trends, issues and gaps in the status of mapping and geospatial information in the world. The topographic mapping effort is scale dependent and, up until today, national geospatial information authorities are the major institutions to deliver authoritative and reliable base information on this basis for thematic issues relevant to sustainable development. Yet, some national geospatial information authorities from developing countries are still facing difficulties to provide information at the required resolution or scale range, and to keep the information up to date, even though new technologies have improved the ability to do so.

12. Currently, information on this topic is provided and embedded under the category related to questionnaires, and specifically under the sub-category related to the questionnaire on the Status of Mapping in the World. Dedicating a separate category for this item and taking it up to a higher level will make it more visible and allow users to view interactive maps and discover the evolving status of mapping in different countries.

## **V. Further developments**

13. As stated in previous reports on the development of the knowledge base, it is advantageous to have the information contained in the knowledge base organized by country to measure progress and changes over time in the status of geospatial information. The questionnaires related to the status of geospatial information within countries gain to be carried out online through the knowledge base portal with a periodic analysis to have indicators on the progress made by countries. More importantly these indicators will allow identifying the gaps experienced by countries, and help find the best ways to work with them and the relevant organizations on how to overcome and close these gaps.

14. Another important body of information needed for the knowledge base and already proposed is a UN-GGIM Fact Book detailing Member States’ geospatial information management profiles. Such a profile would provide information on the organization, data and standards, technical infrastructure, and current programmes and projects. A case of a country profile is available on the knowledge base portal as well as a proposed template for the Member States profile. This profile is now available to be filled out by Member States and sent to the Secretariat. UN-GGIM Regional Committees are being requested for assistance in this process, and to contact their respective regional Member States and provide the Secretariat with the country profiles.

## **VI. Conclusion**

15. The current development of the knowledge base is nearing the stage of a final product. The population of the knowledge base will continue and be ongoing, although it is a ‘work in progress’ at this time, as the requiring resources are not always available. In this regard, the Secretariat would like to thank China for supporting the knowledge base and dedicating fellows from the National Administration of Surveying, Mapping and Geoinformation (NASG) to work on its development. The knowledge base portal is still open for further developments upon requests from Member States, the main users targeted by this knowledge base.

16. Since the knowledge base has created upon requests from the Member States, and dedicated primarily to their user needs, its sustainability relies on the degree of involvement of and input from the Member States. This is a crucial issue, and the main motivation for the Secretariat requests for contribution of material from the Member States and a continued provision of updated documents on the status of development of their geospatial information infrastructures. While this may seem a small impost to national geospatial information agencies, the benefits of having such an important global geospatial knowledge resource available, especially for developing countries to explore and learn from, is immense and should not be underestimated.

17. The contribution of the UN-GGIM Regional Committees is equally important to populate the knowledge base with useful and productive information on the progress made at regional levels. In particular, Regional Committees could help with the provision of country profiles of their member countries, as this Fact Book is very helpful to measure the progress being made at national and regional levels in the field of geospatial information.

## **VII. Points for discussion**

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

**(a) Take note of the report and the respective contributions by Ordnance Survey and the ISPRS in producing the 2015 version of the Future Trends in Geospatial Information Management and Status of Mapping in the World;**

**(b) Express its views on the way forward for the knowledge base portal, including additional items to be incorporated;**

**(c) Encourage Member States to contribute material and assist in the provision of relevant information at a national level;**

**(d) Encourage Member States and Regional Committees to provide material for the development of the UN-GGIM Fact Book consisting of Member States' profiles, and consider whether the profiles should be made public information;**

**(e) Provide guidance on what mechanisms will be put in place for the maintenance of the knowledge base, and what other kinds of data and/or information the geospatial information community wish to have access to; and**

**(f) Provide guidance on the time frame within which a progress report should be submitted at a future meeting.**