
Economic and Social Council

19 June 2013

Committee of Experts on Global Geospatial Information Management

Third session

Cambridge, United Kingdom of Great Britain and Northern Ireland

24-26 July 2013

Item 14 of the provisional agenda*

Development of a knowledge base for geospatial information

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Report of the Secretariat

Summary

The present paper contains the report on developing a knowledge base for geospatial information. At its second session, held in August 2012, the Committee of Experts on Global Geospatial Information Management welcomed a proposal to create a knowledge base for geospatial information (see E/2012/46, decision 2/105). The report summarizes the activities carried out since the second session of the Committee of Experts and outlines the actions to be undertaken to create a searchable repository that can be continuously updated and that will build upon the existing resources of the Committee of Experts website. The report highlights a study of the best practices/case studies compiled by Member States to illustrate the successful use of geospatial information in their organizations; and three survey-based studies, on the status of national geospatial information management and systems, on global geodetic information management, and on the status of mapping in the world. The information collected from the surveys will be used to develop country profiles, good practices and lessons learned in the dissemination and use of geospatial data and will be made accessible through the geospatial information knowledge base. The Committee of Experts is invited to take note of the report and to express its views on the way forward for the global geospatial information community, under the coordination of the Committee of Experts, in developing a road map for building a knowledge base for geospatial information.

* E/C.20/2013/1

I. Introduction

1. At its second session, held in August 2012, the Committee of Experts on Global Geospatial Information Management welcomed the proposal to create a knowledge base for geospatial information (E/2012/46, decision 2/105) and recognized that this creation is mandated by the ECOSOC 2011 resolution that established the Committee of Experts. The Committee agreed that such a knowledge base should take advantage of already existing knowledge bases created by international professional organizations and by other entities, and also agreed that in building such a knowledge base, it should consider the following additional aspects: (i) list educational and training institutions that provide training in geospatial information; (ii) consider including toolkits and technical resources to increase capabilities; (iii) quality assessment of the websites linked to the UN knowledge base; (iv) ensure that this knowledge base is user-friendly so that users can find and use the materials from the knowledge base; (v) efforts should be made to prioritize and categorize the type of knowledge to be included in the knowledge base; and gaps in knowledge will be identified and addressed by the Committee going forward. The Committee also welcomed the offer by Member States to assist in the development of the knowledge base.

2. In this regard, the Secretariat has initiated work with Member States and international organizations on some of the content and elements for the knowledge base. The Secretariat has worked with countries to compile some of the best practices/case studies to illustrate the successful use of geospatial information in their organizations. It has also worked with the countries and some international organizations on three survey-based studies, on the status of national geospatial information management and systems, on global geodetic information management, and on the status of mapping in the world. With the information collected and the existing material in hand, the Secretariat has initiated the preparation of a prototype of the knowledge base in order to enter into a dialogue with Member States on its final structure and the platform to be used for its implementation.

3. The present report provides an overview of the activities carried out to collect information for the content for the knowledge base and to initiate a prototype to be presented to Member States for review and comment. The Committee of Experts is invited to take note of the report and to express its views on the way forward for the global geospatial information community, under the coordination of the Committee of Experts, in developing a road map for building a knowledge base for geospatial information.

II. Activities carried out to build the knowledge base

4. To initiate the building of the knowledge base portal, the Secretariat has started to focus on the resource content of the knowledge base. An important element of content identified is the provision of best practices/case studies at the national, regional and global levels that contribute to the value proposition and understanding of geospatial information by policy and decision makers. The Committee is indeed mandated since its inception to compile and disseminate best practices, particularly those related to legal instruments, management models and technical standards. At its second session, the Committee of Experts agreed that Member States provide relevant best practices and user case studies to the Secretariat so that they may be shared. As reported in this third session (E/C.20/2013/3/Add.1), 54 best practices/case studies have been received from Member States, with 40% from Europe, 20% from Asia and the Pacific, 15% from Africa, 11% from the Americas and 11% from the Arab States.

5. The Secretariat has also worked with Member States and some regional and international organizations to conduct three complementary questionnaires on the status of national geospatial information management and systems, on global geodetic information management, and on the status of mapping in the world, involving all official national geospatial information authorities in the world. With regard to the status of mapping in the world, a survey-based study has been conducted in cooperation with the International Society for Photogrammetry and Remote Sensing (ISPRS). The results of the analysis concern 91 countries which have responded to the questionnaire (as detailed in the report E/C.20/2013/15/Add.1 of this third session). For the present status and role of Governments in adopting and maintaining a globally connected geodetic reference frame, the survey, carried out in cooperation with the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP) and the International Association of Geodesy (IAG), has had responses from 95 Member States (as detailed in the report E/C.20/2013/4/Add.1 of this third session). A more general survey on the status of national geospatial information management and systems has been conducted recently and approximately sixty countries have responded to date (as detailed in the report E/C.20/2013/5/Add.1 of this third session).

6. The collection of case studies and the results obtained from these 3 survey-based studies constitutes useful material for the content of the knowledge base. In this regard, the Secretariat has initiated work on the concept and the structure of how the Committee may want to organize the knowledge base elements. The Secretariat has opted to proceed with a prototype approach, using an off-the-shelf product that has been previously customized and implemented for various areas of work within the UN Statistics Division. The prototype offers the advantage to provide some initial information content able to be shown and demonstrated to the Committee of Experts at this third session. It particularly allows the Member States to participate in reviewing the prototype and providing constructive feedback for its improvement in terms of design, structure and content. The prototype (snapshot provided in Annex 1) incorporates the material collected through the survey-based questionnaires and the case studies. It also incorporates the existing material of the UN-GGIM website, including the Spatial Data Infrastructure (SDI) & National Policies and the National SDI's of countries and their national reports.

III. Future activities

7. The survey-based questionnaires will provide a valuable overview on the status of mapping, geodetic reference frame applications and geospatial information infrastructures in each of the Member States. In addition, the results will help to create a country profile on geospatial information. While this is an important step towards a better understanding and overview of the components of a national geospatial information infrastructure and their status in different countries, what is more important is to identify the gaps experienced by countries, and help find the best ways to work with them and the relevant organizations on how to overcome these gaps. Therefore, further work should be carried out in the form of a detailed analysis of the three questionnaires to identify the gaps and devise a road map for supporting Member States in need to strengthen their geospatial information capacities.

8. The work on the knowledge base will continue after the initial prototype has been reviewed by the Member States. It will incorporate all the items advised by the Committee of Experts at its second session as cited in the introduction above. It is envisaged that the final product, a user-friendly portal, should be completed and presented to the Committee of Experts at its fourth session in 2014. The Committee of

Experts is invited to take note of the report and to express its views on the way forward for building the knowledge base portal for the international geospatial information community, including encouraging Member States to assist in the development of the knowledge base.

Annex 1

Prototype knowledge base portal

