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Coordination of United Nations activities related to geospatial information management

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Note by the Secretariat

Summary

The present paper contains the report on the coordination of United Nations activities related to geospatial information management.

At its fourth session, held in New York from 6 to 8 August 2014, the Committee of Experts adopted decision 4/112, in which it expressed its appreciation to the United Nations Geographic Information Working Group (UNGIWG) and the United Nations Group of Experts on Geographical Names (UNGEGN) for their contributions to the coordination of United Nations activities related to geospatial information. The Committee of Experts stressed the need for continued coordination and the clarification of the roles and responsibilities of geospatial information activities within and outside the United Nations system by the members of the Working Group; welcomed the coordination efforts of the Working Group aimed at avoiding fragmentation and at using the scarce resources of the United Nations system effectively; encouraged the Working Group to intensify those efforts, also taking into account the regional dimension, and to work closely with the Committee of Experts and Secretariat in that regard; and invited the Working Group to report to the Committee at its next session.

The report, prepared by the Secretariat with the assistance of UNGIWG, UNGEGN, and the United Nations Inter-Agency Meeting on Outer Space Activities (UN-Space), describes the activities carried out by the aforementioned United Nations entities to intensify closer coordination within the United Nations geospatial information community.

* E/C.20/2015/1.

I. Introduction

1. At its fourth session, held in August 2014, the Committee of Experts considered the report prepared by the United Nations Geographic Information Working Group (UNGIWG). In making decision 4/112 the Committee:

- (a) Thanked UNGIWG for the report and background document on the coordination of United Nations activities related to geospatial information, and also thanked UNGEGN for their contribution in the form of a background document, highlighting the importance of accurate place names;
- (b) Stressed the need for continued coordination and the clarification of roles and responsibilities of geospatial information activities within and outside the United Nations system by the members of UNGIWG;
- (c) Welcomed the coordination efforts of UNGIWG in order to avoid fragmentation and to effectively use scarce resources of the United Nations system;
- (d) Encouraged UNGIWG to intensify its efforts in this regard, taking also into account the regional dimension, and to work closely with the UN-GGIM Secretariat; and
- (e) Invited UNGIWG to report back to the Committee at its next session.

2. The Committee of Experts is invited to take note of the report, and to express its views on the way forward in the coordination and clarification of roles and responsibilities of geospatial information management activities both within and outside the United Nations system. Points for discussion and decision are provided in paragraph 34.

II. Activities on geographic information management, geographical names and space related activities within the United Nations system

3. The United Nations Geographic Information Working Group (UNGIWG) is a voluntary network of United Nations professionals formed in 2000 and working in the fields of cartography and geographic information science. UNGIWG addresses common geospatial issues - maps, boundaries, data sharing and data exchange, and geospatial standards - that affect the work of United Nations Organizations and Member States. UNGIWG also maintains connections and formal liaisons with other specialized bodies, nongovernmental organizations, research institutions and industry to develop and maintain common geographic databases and geospatial technologies to enhance normative and operational capabilities. Based on past practice, UNGIWG can also report on requests to the United Nations Chief Executives Board for Coordination (CEB). Current Co-chairs for the Working Group are the Department of Safety and Security (DSS) and the Office for Outer Space Affairs (UN-OOSA) of the United Nations Secretariat. Their term was extended

until August 2015 as a result of the vote to shift the 2015 UNGIWG plenary from March to an August date (3-5 August 2015).

4. As of June 2015, no new United Nations entities have joined UNGIWG, thus membership at the organization level is the same as reported in 2014. Several field-based GIS experts of various entities have however newly joined the UNGIWG mailing list as a result of a number of outreach and awareness-raising activities by the Co-chairs. A number of existing members have also expressed interest in becoming more active once again in inter-agency geospatial coordination, an encouraging development in the current context.

5. As part of re-branding and re-focusing efforts under the United Nations Spatial Data Initiative (UNSDI) as was reported during the fourth session, the UNGIWG has continued to focus on operational level cooperation, while continuing to recognize the importance of a functional and properly resourced spatial data infrastructure for the United Nations system as an enabler for more efficient operations.

6. The Department of Field Support (DFS), the Economic Commission for Africa (ECA) and the Office for the Coordination of Humanitarian Affairs (OCHA) continued to work closely to collect, update and maintain selected Second Administrative Level Boundaries (SALB) datasets. These datasets were agreed in 2004 as standard and fundamental data for the UNGIWG community. This data should be considered as one of the fundamental global datasets needed also in times of crisis and emergency response, or for United Nations operations in general. It further has the potential to contribute as a baseline geospatial information resource in providing a tangible contribution to the post-2015 development agenda. Its completion is seen as a priority by the UNGIWG members, while allocation of proper resources and full support from Member States is still needed for that purpose.

7. In the context of the Global Sustainable Development Report 2015¹, of which geospatial experts in departments and offices, such as Department of Economic and Social Affairs (DESA), DFS, ECA, and Office for Outer Space Affairs (UNOOSA), contributed to the drafting of the report, while input and contributions review was also sought from the broader UNGIWG community. There is an acknowledgement in the sustainable development community that there is a need to strengthen the science-policy interface (SPI) for sustainable development, and the importance of data and monitoring for sustainable development goals. In this regard, a chapter of the Report profiled the region of Africa, where there were clear illustrations on how geospatial information was providing policy makers with better evidence-based decision making tools.

8. The United Nations Group of Experts on Geographical Names (UNGEGN) was established following Economic and Social Council (ECOSOC) resolution 715 A (XXVII) in 1959, with responsibility for encouraging the standardization of geographical names, and promoting the national and international benefits to be derived from standardization. UNGEGN convenes Conferences and Sessions and

¹ Global Sustainable Development Report is expected to be launched in June 2015 and contribute to the 2015 session of the High Level Political Forum (HLPF) on Sustainable Development (<https://sustainabledevelopment.un.org/content/documents/1758GSDR%202015%20Advance%20Unedited%20Version.pdf>)

carries out its work through the activities of ten Working Groups, 24 linguistic/geographical Divisions, and two Task Teams. UNGEGN is one of nine standing expert groups that reports to ECOSOC. UNGEGN's main areas of work include capacity development, delivery of toponymic training programmes and the management of the World Geographical Names Database² which stores the names of countries and major cities with population of more than 100,000.

9. Geographical names are essential elements on geospatial information products and services, and bring together components of geography, history, cartography, language, culture, oral tradition, psychology and politics, and identify places locally, nationally and globally. Geographical names are key elements in almost all our socio-economic activities, such as postal services, planning and census work, trade and commerce, search and rescue operations, emergency aid and disaster relief, and transportation, providing an effective means of communication. Each geographic entity needs to be uniquely identified without ambiguity and therefore the need to standardize geographical names.

10. Increasingly, UNGEGN has been strengthening its working relations with its liaison officers and international partners. This is seen in its advocacy regarding the importance of geographical names as a fundamental data theme for spatial data infrastructures with the Committee of Experts and joint participation with the International Cartographic Association in the International Map Year events. These actions were noted at UNGEGN's twenty-eighth Session in April 2014, in Decision 29/104 that recognised the importance of maintaining relationships between UNGEGN and their partners, and Decision 28/108 that acknowledged the efforts to integrate geographical names data into spatial data infrastructures and the increasing importance of the utilization of volunteered geographic information and crowd-sourced data (E/2014/78). The strengthening of UNGEGN's relationship with the Committee of Experts was re-affirmed in a joint UNGEGN Bureau and Divisional meeting held in May 2015, with the decision that UNGEGN should be represented at all sessions of the Committee of Experts in the future.

11. Consequent to the increased collaboration with the Committee of Experts, UNGEGN experts participated in the Third High Level Forum on UN-GGIM held in Beijing, China in October 2014, and at the UN-GGIM regional meeting for Africa in Tunis, Tunisia in December 2014.

12. In its efforts to strengthen toponymic training and education, UNGEGN and the United Nations Statistics Division (UNSD), in collaboration with Tunisia's National Centre for Cartography and Remote Sensing, staged a regional workshop on geographical names from 12-16 January 2015 in Tunis, Tunisia. The deliverables from the workshop were the creation of a framework for Tunisia's national committee on geographical names, the preparation of a road map for the establishment of an African national names bureau, and 19 persons received training in toponymy from three African countries, Botswana, Burkina Faso and Tunisia.

13. As part of its increased advocacy to advance the importance of geographical names and its inextricable relevance as a fundamental geospatial data theme, UNGEGN invites UN-GGIM stakeholders to learn more about toponymy by visiting

² World Geographical Names Database: <http://unstats.un.org/unsd/geoinfo/geonames/>

its website³ which houses the world's most comprehensive repository on geographical names documentation dating back to 1960, and note the online BSc level web course available on toponymy⁴.

14. The United Nations Statistics Division (UNSD), in its efforts to strengthen and integrate global geospatial activities within its Secretariat responsibilities (UNGEGN, the Committee of Experts, Regional Cartographic Conferences for the Americas and Asia and the Pacific), has initiated discussions with each of the relevant Bureaus to examine operational modalities, with the objective of determining the most effective and efficient operations in sync with the Committee of Experts. The 29th Session of UNGEGN will be held in Bangkok, Thailand from 25-29 April 2016, and Member States are invited to attend.

15. The international community faced a volatile period in terms of responding to new types of emerging crisis in 2014 and 2015. The UN Mission for Ebola Emergency Response (UNMEER) was established on 19 September 2014 after the unanimous adoption of UN General Assembly resolution 69/1 and UN Security Council resolution 2177 (2014) in response to the 2014 Ebola virus disease (EVD) outbreak. The Department of Field Support (DFS) deployed Geospatial Information Services (GIS) experts to UNMEER headquarters from the first day of the mission's operations to collect, process and analyse geospatial data for the Ebola affected countries, and provided geospatial information products and services to support the mission's decision-making, situational awareness, planning, remote monitoring and surveillance.

16. Due to the high number of Global Ebola Response partners and the constantly changing nature of the EVD outbreak, the provision of timely and accurate information; synthesised geospatial information products, information sharing and coordination among partners was imperative. The Secretariat, upon request and consultation with the UN-GGIM Bureau, launched a study aimed at identifying best practices and benchmarks for improving effective geospatial information management during an emergency response. The study looks at technical and management aspects of geospatial information services provision and coordination mechanisms among emergency response stakeholders to improve geospatial information policy, processes and services for emergency response.

17. The results of the study can be used as a baseline for the Committee of Experts to leverage its mandate and role as national geospatial authorities, and how to better link to the decision making process, in close cooperation with the international geospatial players, at times of emergency response by providing better evidence-based geospatial information.

18. Hazard mapping is playing an increasingly important role in early warning systems, and platforms such as the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) of UNOOSA which provides universal access to all types of space-based information and services relevant to disaster management to support the full disaster management cycle, are becoming vital tools for United Nations operations.

³ UNGEGN website: <http://unstats.un.org/unsd/geoinfo/ungegn/default.html>

⁴ UNGEGN-ICA webcourse on Toponymy: http://unstats.un.org/unsd/geoinfo/UNGEGN/docs/data_ICAcourses/index.html

19. Parallel to the use of such platforms, agencies such as United Nations High Commissioner for Refugees (UNHCR) are extensively using satellite imagery to map refugee camp locations and their access to assistance and protection. These products are also complemented by services provided by United Nations Institute for Training and Research's Operational Satellite Applications Programme (UNOSAT) who are increasingly providing rapid mapping products and services (e.g. damage assessment) to offices and departments such as OCHA of UNICEF.

20. As part of increased awareness building within the United Nations community, the Office of Information and Communication Technology (OICT) of the United Nations Secretariat organised a Data Literacy Series called United Nations Mapping Day Learning Event in United Nations headquarters on 5 June 2015. Presentations during this workshop was delivered by OICT, DFS Geospatial Information Section (formerly Cartographic Section)⁵ and Office for the Coordination of Humanitarian Affairs (OCHA) and Open Street Map, with the aim to increase the awareness of what kind of geospatial activity, support and services is already been taken place within the United Nations Secretariat. From the questions by the participants, it was evident that there is an increased interest by the user community in leveraging geospatial information in their operational work for the Organisation.

21. The Inter-Agency Meeting on Outer Space Activities (UN-Space), under the leadership of the Office for Outer Space Affairs, continues to examine how space science and technology, and its applications, could contribute to the Millennium Declaration and the post-2015 development agenda process. UN-Space held its 35th session⁶ from 27 to 28 May 2015, in Bonn, Germany. In addition to its agenda, that includes the use of spatial data, UN-Space decided on the theme of the flagship report of the Secretary-General on the coordination of space-related activities within the United Nations system for the period 2016-2017. The objective of the report will be to assist the Committee on the Peaceful Uses of Outer Space in its preparation for the 2018 fiftieth anniversary of the United Nations Conference on the Exploration and Peaceful Uses of Outer "UNISPACE+50". This report will provide an overview of the contribution of the United Nations system to global space governance and their efforts and input to the main pillars of UNISPACE+50, and at promoting international cooperation in the peaceful uses of outer space.

22. Following its practice of promoting dialogue among United Nations entities, Member States and other stakeholders, the 12th open session of UN-Space was organized as an integral part of the joint United Nations/Germany International Conference on Earth Observation – Global solutions for the challenges of sustainable development in societies at risk (Bonn Conference), held in Bonn from 26 to 28 May 2015. Convened in the format of a joint UN-Space – Bonn Conference High-Level Panel on Space-based information for Development, the Panel provided an opportunity for participants to engage in a dialogue with the United Nations system to review challenges and opportunities in mainstreaming earth observations in key areas under the post-2015 development frameworks, and to look into common perspectives for increasing the use of space-derived information for attainment of global development goals.

⁵ On 25 June 2015, the General Assembly approved the renaming of the Cartographic Section to the Geospatial Information Section (A/RES/69/308), effective as of 1 July 2015, as part of the approved budget for the support account for peacekeeping operations

⁶ <http://www.unoosa.org/oosa/en/ourwork/un-space/iam/35thsession.html>

23. The 35th session of UN-Space welcomed the special report published under the theme “Space for global health” (A/AC.105/1091). The report features the use of space science, technology and information, including geospatial information, to support public health stakeholders in planning, research, prevention, early warning, alerts and health-care delivery. The report recognized that information derived from earth observation and meteorological satellites in combination with geographic information and global navigation satellite technologies has increasingly been used to study disease epidemiology, enabling spatial analysis to identify the ecological, environmental, climatic and other factors that can have a negative effect on public health or spread of certain diseases. The report also serves as an input to the 2018 “UNISPACE+50” event.

24. As a participating organization of UN-Space, the Office for Outer Space Affairs, through its Programme on Space Applications, is contributing to a wide range of capacity-building activities in the field of space-derived geospatial information management, addressing topics such as climate change, disaster management, biodiversity and ecosystems, environmental monitoring and natural resource management and global health. The Office also supports the work of the Regional Centres for Space Science and Technology Education, affiliated to the United Nations which provide capacity building in space-based geospatial applications at the regional level⁷.

25. Efforts are ongoing for improving shared access to very high resolution (commercial) satellite imagery data, as well as to high-resolution digital elevation models (DEM) with global coverage.

26. The UNGEGN community is increasingly noting the consolidation efforts being made by the different geospatial community, and are currently aiming to match such trends.

27. The geospatial community within the United Nations System acknowledges the increased user requirements of geospatial information technology in order to support the United Nations operations, but also embraces the opportunity in engaging directly with UN-GGIM and seeks to ensure that the operational requirements reflect the mandates of the Organization and needs of the Member States. Continued collaboration will enhance the increased synergies in the programme activities carried out by the United Nations System in the future.

28. The UN-Space community is also looking into further activities in which different office and departments can work together and provide effective services to meet their respective operational mandate by reducing duplication of efforts and redundancy, by streamlining and consolidating the activities within the Organization.

⁷ UN-Space: <http://www.unoosa.org/oosa/en/ourwork/psa/index.html>

III. Collaboration, cooperation and coordination of geospatial activities with external partners

29. The United Nations continues to increase its collaborative efforts with the external partners especially in the context of geospatial information activities.

30. The United Nations has been using satellite imagery for their various operations since 2000, and has a Systems Contract that allows the different departments and offices, as well as UN agencies, to acquire satellite images from designated satellite imagery operators. However, the scope and application has been increasing in the past years. Therefore, the Office for Outer Space Affairs has, in February 2015, been successful in signing a Memorandum of Understanding (MOU) agreement with a major commercial global provider of high-resolution satellite imagery to collaborate on satellite imagery and geospatial solutions for development. Other similar agreements with space agencies or governmental entities are under negotiation. Efforts and coordination with external entities continue within the UNGIWG community for improving access and sharing of such commercial or non-commercial satellite imagery data, as well as for high-resolution digital elevation models (DEM) with global coverage. Discussions on this topic to ensure further harmonization and targeting concrete needs will be held at the upcoming UNGIWG plenary.

31. The United Nations was invited by the International Cartographic Association in 2014 to provide input into their digital publication *The World of Maps*⁸ for a chapter on *Map Use at the United Nations* ahead of the International Map Year, which is to be launched in their 27th International Cartographic Conference and its 16th General Assembly from 23-28 August 2015 in Rio de Janeiro, Brazil. Twelve departments, offices and agencies of the United Nations System contributed to the chapter, illustrating that there is a large interest by the United Nations geospatial community to profile their work.

32. UNGIWG continues to be closely engaged with the Open Geospatial Consortium (OGC), as a Principal member, and has made efforts to jointly contribute to the annual OGC membership. Such collaborative, cost-sharing efforts within the United Nations system enable less-resourced entities to have access to various related benefits. Through this collaboration, any UNGIWG member entity continues to have full access to the expertise, technical meetings, processes and documents or standards made available by OGC and can contribute to further standards-setting when needed. Dedicated OGC testbeds or interoperability experiments might also be considered for addressing specific United Nations' needs. Furthermore, UNGIWG continues to maintain Class A Liaison status with the International Standardisation Organisation (ISO) Technical Committee (TC) 211.

33. The reality that many of the collaborative activities that are occurring within the United Nations system are carried out with best effort, poses challenges in terms of sustainability and operability in the future.

⁸ <http://mapyear.org/the-world-of-maps-book/>

IV. Points for discussion

34. The Committee is invited to:

(a) Take note of the report, of the challenges and possibilities identified, and provide its view on the elaboration of better coordination and clarifications of roles and responsibilities of geospatial information management activities both within and outside the United Nations system.

(b) Take note of the study on improving geospatial information policy, processes and services to emergency response by the Secretariat, and express its view on the way forward in consideration, as an action item, for the establishment of a working group to further develop and implement a strategic framework of improved geospatial information management on emergency response.