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Inventory of issues to be addressed by the Committee

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Report of the Secretary-General

Summary

The present paper contains the report that sets out the activities of a working group tasked with developing an inventory of issues for the Committee's consideration at its second session.¹ At its first session, the Committee of Experts considered that a detailed and comprehensive description of the issues that should be addressed in the coming years was indispensable to define the scope of the Committee's work and role in the future. The report summarizes the process by which the working group was formed and the mechanism of deliberation. Drawing upon detailed submissions and broad global geospatial consultation, the report describes the inventory of issues that have been collated and consolidated within the following nine thematic groups:

- (a) Developing a national, regional and global strategic framework for geospatial information;
- (b) Establishing institutional arrangements and legal and common frameworks;
- (c) Building capability and capacity, especially in developing countries;
- (d) Assuring the quality of geospatial information;
- (e) Promoting data sharing, accessibility and dissemination;
- (f) Embracing trends in information technology;
- (g) Promoting geospatial advocacy and awareness;
- (h) Working in partnership with civil society and the private sector;
- (i) Linking geospatial information to statistics.

* E/C.20/2012/1.

¹ The full report is available in the language of submission only from http://ggim.un.org/ggim_committee.html.

The inventory will serve as a reference document to inform the scope and possible timing of the workplan for the Committee in the coming years. The report also considers a selection of immediate and prioritized key issues that were seen as being the most relevant and important and as having the potential to make tangible progress in the near future. The Committee is invited to express its views on the inventory of issues and associated activities for consideration in its future work programme.

I. Introduction

1. In making its decision to establish the United Nations Committee of Experts on Global Geospatial Information Management in July 2011, the United Nations Economic and Social Council (ECOSOC) requested a comprehensive report for the year 2016 to review the functioning of the Committee of Experts in order to allow Member States to assess its effectiveness (ECOSOC Resolution 2011/24). The Committee's terms of reference describe, in very broad terms, the objectives and functions of the Committee. These were viewed as an important starting point from which the Committee could define its future work programme.

2. At its first session, in October 2011, the Committee considered a note by the Secretariat proposing to establish an inventory of issues to be addressed by the Committee in future sessions (E/C.20/2011/5). It was considered that, in order to plan in concrete terms and prepare for future sessions of the Committee, a detailed and comprehensive description of the issues that should be addressed in the coming years is indispensable to define the scope of the Committee's work and, thus, define the critical role the Committee will play in the future.

3. In considering the proposal, the Committee expressed its views on the major substantive geospatial issues and decided on a broad global consultation process, engaging not only the member countries but also the relevant international organizations and the private sector. The Committee decided to establish a Working Group in order to elaborate a detailed inventory of issues, as well as a proposed work plan of actions to be implemented in the next few years for the Committee's consideration at its second session.

4. The present report summarizes the activities of the Working Group tasked with developing an inventory of issues for the Committee's consideration at its second session. It describes the inventory of issues that have been collated and consolidated within nine thematic groups from 23 submissions. The Committee is requested to express its views on the inventory of issues, and identify key priority issues and associated activities as the basis for development of the Committee's work plan going forward in the next five years. Points for discussion and consideration are provided in paragraph 18.

II. Activities of the Working Group on Inventory of Issues

5. At its first session, the Committee established the Working Group on Inventory of Issues with the mandate to develop and report on an inventory of issues for consideration at its second session. Membership of the Working Group was finalized in the weeks immediately following the first session to be led by the Co-Chairs of the Committee. It has 19 members representing all geographic regions of global geospatial information management.

6. With respect to the initial scope of the inventory, and taking into consideration the short time interval before the second session of the Committee in mid-August 2012, the Working Group has taken a practical approach to its task by collecting, collating, and consolidating many of the key issues from the 19 members prior to a broader global consultation process. As many geospatial issues are generic and tend to be shared among different nations, particularly those within a geographic region, it was felt that the majority of the issues would be captured by the Working Group's

initial ‘first pass’ compilation. Given the time constraints, determining an inventory of issues in such a manner was viewed as a pragmatic and efficient approach. The Working Group was invited to prepare submissions in early December 2011.

7. Detailed submissions of issues were received from the 19 Working Group members by January 2012. Although the methods of submission were diverse in nature, there was notable similarity in the issues expressed. This was expected given the relatively homogeneous nature of geospatial information development in national geospatial information authorities. Similarly, there was also notable consistency in the issues being raised such that they could be readily grouped into a number of thematic groups by the Working Group.

8. During February and March 2012, the Working Group collated and consolidated the issues and structured them into 9 thematic groups of baseline issues. The complete and consolidated inventory of issues is contained in Annex I of the present report. The following 9 thematic groups of issues have been identified:

- a) Develop a national, regional and global strategic framework for geospatial information;
- b) Establish best practices in institutional arrangements, legal and common frameworks;
- c) Build capability and capacity, especially in developing countries;
- d) Assuring the quality of geospatial information;
- e) Promoting data sharing, accessibility and dissemination;
- f) Embracing trends in information technology;
- g) Promoting geospatial advocacy and awareness;
- h) Partnering with civil society and the private sector; and
- i) Linking geospatial information to statistics.

9. The consolidated preliminary list of the inventory of issues was circulated in early April 2012 for global consultation with all Member States and other stakeholders. Additional submissions were received.

10. While the inventory provided a comprehensive insight into the status of “what” issues are relevant to many of the national geospatial information authorities and relevant international organizations engaged in geospatial information management, it did not provide any specific means as to “how” these issues will be addressed. Therefore, considerations as to how these issues may be addressed were also sought during the consultation process.

11. The inventory has demonstrated three important cross-cutting themes. They are: 1) Promoting geospatial advocacy and awareness; 2) Promoting data sharing, accessibility and dissemination; and 3) Establishing best practices in institutional arrangements, legal and common frameworks. These themes serve as useful principles in guiding future activities.
12. At the request of the Committee, considerations were given to identifying a selection of immediate and prioritized ‘key issues’ that were seen as being the most

relevant and important, and that could be considered realistic to make tangible progress within the next few years. At the same time the Committee is requested to be action orientated in its approach to its work programme so that tangible outcomes may be seen and leveraged by the Member States. The key issues are listed below and the Committee is requested to consider incorporating the following important actions in its work programme.

13. **(i) Agreement to and implementation of core global reference datasets by specific themes.** A continuing gap in the successful unification of a national, regional and global geospatial information management capability is the lack of an agreed set of readily available and authoritative global reference datasets by specific themes. The importance and value of authoritative geospatial information, and the core fundamental reference geographies upon which all other information is based, is recognized by all Member States. These datasets by themes, required to be anchored to an improved global geodetic reference framework, would be developed and maintained by the national geospatial information authorities as an inherent responsibility of the Member States. Where appropriate, they should be readily accessed and shared amongst countries to meet operational objectives, and be adopted by international organizations including the UN agencies. Examples of datasets by themes may include; elevation, water, transport, vegetation, human settlement, carbon emission, and other socioeconomic and environment indicators. Concerted efforts should also be made to bring the developing countries to a base level of capability with respect to their framework datasets.
14. **(ii) Establishing a global geospatial information framework and operating platform.** The geospatial information framework and operating platform will be the delivery mechanism for the authoritative and consistent global reference datasets to serve the needs of the global community in the areas of disaster risk reduction, humanitarian aid, and sustainable development. It would adhere to global standards and interoperability principles. The platform would be a global information and communication mechanism for UN-GGIM, and would also enable national geospatial information frameworks, standards and delivery platforms to be tested and progressed along side other Member States.
15. **(iii) Increasing the global geospatial information base.** The national geospatial information authorities tend to emphasize the domain of 'land information' and approach the information base from a terrestrial perspective. However, there is a growing recognition that there is a need to expand this land-based information base to include the requirements of the marine environment and space-based information. There are existing efforts in these areas (for example, International Hydrographic Organization (IHO), United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) and Global Earth Observation System of Systems (GEOSS), but they are not yet well connected with or leveraged by the Committee in meeting its objectives in global geospatial information management. Consideration for the effective integration of statistical information with existing geospatial information could also be an important objective.
16. **(iv) Establishing best practices in institutional arrangements and frameworks.** Many Member States and those in the developing areas in particular, are at different stages of geospatial evolution and maturity in terms of institutional arrangements and legal frameworks. There is a need to develop and elaborate guidelines and standards for these countries, describing existing models of institutional arrangements and their strengths and shortcomings, and how they may be aligned with the latest and most appropriate developments. There is also an urgent

need to determine the best mechanisms to provide knowledge, education and support to the newest entrants into the national geospatial arena so as to ensure that they understand the importance of certain geospatial principles: e.g. coordinate reference frameworks, authoritative framework data and data standards; and have the means to implement such principles under the most suitable institutional arrangements.

17. The Committee has before it the final consolidated inventory of issues (Annex I) as determined by the Working Group and global consultation with the Member States and relevant international organizations in May 2012.

III. Points for discussion and decision

18. The Committee may wish to:

- (a) Take note of the work done by the Working Group on the Inventory of Issues;**
- (b) Provide guidance on the inventory of issues under the 9 themes;**
- (c) Adopt the inventory of issues as the basis for the development of the Committee's work plan;**
- (d) Identify and consider key priority issues as the priority activities of the Committee.**

Annex I

Inventory of Issues

1. Develop a national, regional and global strategic framework for geospatial information

- a) Research and summarize existing national/international strategic geospatial information policies, principles and guidelines as benchmark inputs into the UN-GGIM strategic framework.
- b) Leveraging and building upon existing regional initiatives, develop the high level UN-GGIM strategic framework (vision and roadmap) for ECOSOC 2016.
- c) Determine and provide appropriate communication mechanisms and key messages that articulate the ‘value proposition’.
- d) Initiate a targeted program to engage and sustain high level political and influential champions.

2. Establish best practices in institutional arrangements, legal and common frameworks

- a) Research and summarize existing institutional arrangements, guidelines, standards and practices, and potentially benchmark.
- b) Develop and/or elaborate guidelines and standards for countries, describing existing models of institutional arrangements and their strengths and shortcomings, and how they may be aligned with the latest technological developments.
- c) Establish and promote the necessary institutional arrangements and frameworks that enable the national geospatial information authorities of Member States to develop and reach a level of geospatial consistency and maturity.
- d) Establish a legal framework for authoritative geospatial data collection, discovery, access, sharing and integration. This would include the prevention of intentional distribution of incorrect information.
- e) Develop cross-border data sharing and collaboration practices to reduce duplication of effort.
- f) Develop interoperable and quality management principles, in the context of open government initiatives.
- g) Determine mechanisms to provide knowledge, education and support to new entrants into the industry to ensure that they understand the importance of certain geospatial principles: e.g. coordinate reference frameworks, authoritative framework data and data standards.

3. Build capability and capacity, especially in developing countries

- a) Develop effective strategies for capacity assessment and capacity development in developing countries.

- b) Build knowledge and create structures for cooperative research and development.
- c) Develop an inventory of training and standard education packages for the next generation of geospatial information users.
- d) Discover and report appropriate funding schemes/programs, potential pilot projects, and opportunities available worldwide.
- e) Establish and/or identify programs to be directly or indirectly offered to the producers, users and decision makers of Member States, covering the many fields related to geospatial information and the underlying technology.

4. Assuring the quality of geospatial information

- a) Determine agreed data quality assurance with consistent practices.
- b) Increase efforts to standardize and harmonize fundamental data models globally.
- c) Articulate the specific role national geospatial information authorities have in providing quality, current and authoritative national geospatial information as a valuable and critical enabler for effective decision-making.
- d) Recognize and communicate the value, and the limitations, of the recent emergence of crowd sourcing, open street map, and volunteer geographic information, and how it can be effectively harnessed.
- e) Consider the emerging use of modern mobile applications and visualization techniques to communicate issues and solutions.

5. Promoting data sharing, accessibility and dissemination

- a) Determine if and/or how national geospatial information authorities can best share geospatial information in an official and sustainable manner. This has particular relevance and application to disaster management and response.
- b) With the increasing expectation for “free” data at the point of use, consider issues related to the provision of free data and open data, and to potential barriers to realizing such access.
- c) Consider how geospatial information and thematic data can be effectively integrated and accessed in a structured manner through a global data model and operating platform.
- d) Scope the potential for a maintained global benchmark data service, including a base set of global reference and thematic datasets, harmonized and free of charge.
- e) Consider the roles and requirements of information beyond the terrestrial environment, including the marine environment and space-based information.
- f) Determine the provision of effective and useable metadata beyond national borders.

- g) Research and document the different data licensing models used around the world for reference by Member States.

6. Embracing trends in information technology

- a) Determine means by which emerging technology trends can be better researched, understood, and supported.
- b) Support and promote technology transfer for geospatial open source software, as part of UN-GGIM capacity development activities.
- c) Provide advice and education on emerging directions including ‘Data as a Service’ – giving the ability to directly consume information that is held by the authoritative source; and ‘Big Data’ – the ability to process and mine enormous amounts of data.
- d) Guidance on the use of the cloud for geospatial information management.
- e) Metrics on changes in the affordability of acquiring geospatial information.

7. Promoting geospatial advocacy and awareness

- a) Advocate paradigm shift – from data-centric ‘provider’ focus to a spatially enabled ‘user’ focus by government and civil society.
- b) Articulate and promote the benefits of leveraging the true value of geospatial information for evidence-based decision making, thereby stimulating innovation, improving effectiveness and productivity, and realizing increased value and relevance to Governments.
- c) Document and disseminate good practices in international and open standards, specifications, and interoperability.
- d) Consideration for a Statement of Ethics to help guide the behavior of all entities engaging in the acquisition, production, management, and dissemination of geospatial information.
- e) Create a “Resource Center” or “Global Knowledge Base” under the GGIM web banner (similar to the approach Statistics has taken) with inputs from all the Member States under a number of specific themes. For example, key data licensing policies. Documents could include: Good practice, Key features, Country profile, etc. and could be based on the model seen at: http://unstats.un.org/unsd/dnss/kf/dissemination_country_docs.aspx

8. Partnering with civil society and the private sector

- a) Articulate the essential role of the international geospatial information organizations, the private sector, and civil society in the future of geospatial information management.
- b) Determine means by which the private sector can quickly extend and benefit from UN-GGIM with value adding, collaboration, and innovation, to the benefit of the Member States.

- c) Develop agreed mechanisms (or opportunities) under the UN-GGIM framework which will allow the private sector and civil society to align their roles/contribution so we can work together as one and deliver as one, particularly in cases of natural disasters, crisis response, and pilot projects.

9. Linking geospatial information to statistics

- a) Determine how Government agencies, such as national geospatial information authorities, and other actors on geospatial information can best work together with national statistical offices in order to best exploit the synergies of both domains.
- b) Explore and recommend effective governance structures for the long term planning and the management of projects in geospatial information and statistics with relevance and added value for the other domain.
- c) Determine effective ways of linking or combining the different metadata conventions and systems for geospatial and statistical information.
- d) Establish guidelines and identify best practices for spatial analysis projects with relevance to statistical work or indicators.
- e) Explore ways of combining statistical databases and Geoportals hosting spatial datasets in terms of creation, presentation and use of the information.