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## Committee of Experts on Global Geospatial Information Management

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Item 10 of the provisional agenda\*

### Developing a global map for sustainable development

## Development of a global map for sustainable development

### Report of the Secretary-General

#### Summary

The present paper summarizes the report for consideration in developing a global map for sustainable development that will serve as a geospatial portal for pooling available information to meet the urgent national, regional and global needs for geospatial information.<sup>1</sup> The report provides the context for the proposal and highlights that geospatial information services and platforms have become key contributors to improved policy formulation and enhanced capability in monitoring and reporting on sustainable development and other global concerns. The report highlights the Committee's commitment to effectively managing geospatial information globally and contains a proposal to establish a global geospatial information platform that is operationally ready and provides authoritative and consistent geospatial data. The platform would be built and managed by Member States and operated under the supervision of the Committee. The platform would bring together current projects and prototypes and serve the needs of the global community in the areas of disaster risk reduction, humanitarian aid and the monitoring of sustainable development. The report emphasizes that such a platform would also enable national geospatial institutional arrangements, policies, frameworks and standards to be tested and to progress in conjunction with the efforts of Member States and international organizations and with the Committee's programme of work. The Committee is invited to express its views on the different options for developing a global map for sustainable development.

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\* E/C.20/2012/1.

<sup>1</sup> The full report is available in the language of submission only from [http://ggim.un.org/ggim\\_committee.html](http://ggim.un.org/ggim_committee.html).

## **I. Introduction**

1. The role of geospatial information in informing sustainable development policies and their monitoring and implementation was explicitly mentioned in the report of the Secretary General which led the Economic and Social Council (ECOSOC) to establish the UN Committee of Experts on Global Geospatial Information Management (UNCE-GGIM). This echoed the call for better data and information platforms for decision making in Agenda 21 adopted at the United Nations Conference on Environment and Development (Rio de Janeiro, 1992), and in the Plan of Implementation of the World Summit on Sustainable Development adopted at the World Summit on Sustainable Development (Johannesburg, 2002).

2. Location-based and other geospatial information services and enabling platforms have matured and become key contributors to improved policy formulation and enhanced capability to monitor and report on sustainable development and other global concerns. They can be used to understand and integrate social, economic, and environmental perspectives at specific locations at local, regional, national, and global scales. Geospatial information platforms are able to provide a solid and comprehensive information base, integrate quantitative information across sectors, and present sound information to decision-makers in innovative and comprehensible formats.

3. At the United Nations Conference on Sustainable Development (Rio+20), held in Rio de Janeiro in June 2012, in which countries set directions for the world for integrated economic, social and environmental policymaking for the future, two UN-GGIM related side events demonstrated the vital role authoritative geospatial information is playing in supporting sustainable development across the globe, and in providing financial benefits to users. The Rio+20 outcome document 'The Future we Want' specifically recognized the importance of "reliable geospatial information" in the areas of national disaster risk reduction strategies and plans, and for sustainable development, policymaking, programming and project operations. Additionally, the outcome document emphasized the need to support developing countries in their efforts to collect reliable and accurate environmental data.

4. As part of the Committee's commitment to effectively managing geospatial information globally, an operationally ready global geospatial information platform of authoritative and consistent geospatial data and information should be considered, built and managed by the Member States and operated under the supervision of UN-GGIM. Bringing together a number of current projects and prototypes, it will serve the needs of the global community in the areas of disaster risk reduction, humanitarian aid, and the monitoring of sustainable development.

## **II. Geospatial Information and Sustainable Development**

5. As the global population continues to grow, the pressure to sustain and provide for this growth has increased. Available resources – both non-renewable and renewable – are under increasing stress. As never before, global environmental issues such as deforestation, desertification, climate change, and soil loss require not just local responses but global coordination and collaboration to address and improve the environmental degradation that is impacting our ability to ensure sustainable development for all nations and communities. At the

same time, with more individuals and communities affected the vulnerabilities to and impacts of natural disasters are unprecedented. This problem is exacerbated given the unequal infrastructure of the global economy and accelerating inequality within and across nations.

6. A background paper on the advancement of geospatial policies, practices, and technologies since Rio+10, provided by consultants for UN-GGIM in preparation for Rio+20 (Item 4 of the present agenda), made several pertinent observations and recommendations with regard to geospatial information and sustainable development. The paper noted that the Earth Summit (1992) and the World Summit on Sustainable Development (Rio+10, 2002) recognized the need for the integration of different types of information, on the environment and social and economic development, into a common framework. A strong case was made for geography as an integrating mechanism for data and information relating to the challenges of sustainable development. However, with issues pertaining to sustainable development being deeply connected and increasingly complex, the information, technical, and institutional requirements to achieve this geospatial integration proved to be difficult to overcome.

7. Today the required technologies, data, and institutional frameworks have progressed significantly and have reached a level where location-based policies and the effective use of geospatial information has the real potential to be powerful drivers for sustainable development. All of the issues impacting sustainable development can be analyzed, mapped, discussed and/or modeled, and monitored within a geographic context. Modern geospatial information tools are able to provide the integrative framework necessary for global collaboration and consensus decision making – providing the right data to the right people at the right time. The same geospatial content, re-purposed, can support applications ranging from agricultural management, to emergency planning and response, to scientific collaboration on climate change, to transportation planning. All of these applications have implications for sustainable development and livability.

8. The background paper made a number of recommendations to provide guidance on how geospatial information can be effectively used to help deliver sustainable development, two of which include: continued consideration and development of geography as an integrative framework for sustainable development applications, decision support, and policy development; and identification of new and emerging technologies and how these technologies can enhance our ability to better respond to sustainable development issues.

### **III. The Need for a Global Map for Sustainable Development**

9. The outcomes of Rio+20 renew the urgent call for an agreed global geospatial framework and operational platform, able to provide a common reference base at the national, regional and global scales, on which thematic geospatial information can be assembled and disseminated to monitor and report on sustainable development and other global concerns. Effectively a geospatial portal containing a comprehensive global digital information database of thematic data at various levels of detail, this enabling technical platform would be used to monitor the various indicators for sustainable development in a geospatial context, and could be used to further develop other applications to support socio-economic and environmental indicators.

10. Additionally, such a global geospatial portal would enable national geospatial institutional arrangements, policies, frameworks and standards to be tested and progressed in an interoperable environment across borders and technologies in conjunction with national geospatial information authorities, international organizations, and the Committee's programme of work. The portal would also be a viable global information resource and communication mechanism for UN-GGIM and the Member States, particularly with regard to reporting tangible outcomes to ECOSOC in 2016. This proposal has strong support from Member States and it is widely felt the time has come for such a portal, being managed and supervised by the Member States through UN-GGIM.

11. As ECOSOC has recorded its special concern that the work of the Committee should build upon existing efforts and work that has been done, a number of global projects and prototypes are relevant. The Global Map project is an operational global spatial data infrastructure at 1:1 million scale, and with eight data layers (4 vector and 4 raster) designed to aid in environmental and sustainable development decision making. Global Map is managed by the International Steering Committee for Global Mapping (ISCGM) and receives substantial support from the Geospatial Information Authority of Japan, which hosts the secretariat. Currently there are 164 nations and 16 regions, including Europe and Antarctica, involved in Global Map and represented by the national geospatial information authorities. Nations which participate in Global Map sign an agreement to make their data available at low or no cost for non-commercial purposes, and to follow the standards and specifications arrived at by mutual consent. Each nation is responsible for providing its own coverage.

12. In dealing with humanitarian and other concerns, the UN undertakes various mapping activities. Sharing of the mapping products are being done through the UN geographic information working group. Based on the feedback from UN agencies, there is an urgent need to develop a standard platform to provide accurate, authoritative, and well-maintained geospatial information to assist UN activities.

13. Although unrelated as a data theme, the OneGeology project, a dynamic global geospatial data portal, is very similar in concept to the needs of a global map for sustainable development, and is proof that such platforms are achievable. OneGeology is an international initiative of the national geological surveys (presently 165 organizations from 117 countries) who are working together to make existing geological map data accessible in whatever digital format is available in each country. One of the main objectives of the initiative is to transfer know-how to those who need it, adopting an approach that recognizes different nations have differing abilities to participate. The delivery approach is that of a distributed model – a dynamic set of geological map data served mostly on a national basis by individual geological surveys to a web portal. As such, it will be frequently updated and improved and reflect the most up to date data from the geological surveys.

14. The inventory of issues to be addressed by the Committee in future sessions (Item 5 of the present agenda) has identified a number of key issues for consideration in its work programme. These include: agreement to and implementation of core global datasets by specific themes; establishing a global geospatial information framework and operating platform; and increasing the global geospatial information base. Developing a global geospatial map portal for sustainable development is a tangible mechanism to address and overcome these substantial issues for the Committee.

15. The Committee is requested to express its views and consider the establishment of an operational global geospatial information platform of authoritative and consistent geospatial data, to be built and managed by the Member States and operated and disseminated to global users under the supervision of UN-GGIM. Bringing together current projects and prototypes, it will serve the needs of the global geospatial community in the areas of disaster risk reduction, humanitarian aid, and the monitoring of sustainable development.

16. The following features are the proposed key elements of the Global Map for Sustainable Development:

i) It will contain solely technical information. No politically sensitive information will be reflected.

ii) It will be driven by Member States through an appropriate governance mechanism supervised by the Committee. The process will be inclusive and include the user communities.

iii) The data will be authoritative, credible and supplied by Member States.

iv) It will be acknowledged as the 'standard platform' to aid policy and decision making for the global geospatial community, and will be promoted as such to all user communities.

#### **IV. Points for discussion**

**17. The Committee may wish to:**

**(a) Consider the need for a global map for sustainable development;**

**(b) Provide guidance on the process of developing the technical base for this portal and; and**

**(c) Establish a technical working group to draft a road map for its implementation.**