



**Second Preparatory Meeting of the Proposed United Nations Committee of  
Experts on Global Geographic Information Management**

New York, 10-11 May 2010

**Report**

## **Introduction**

1. The United Nations Statistics Division (UNSD) of the Department for Economic and Social Affairs (DESA) in cooperation with the Cartographic Section of the Department of Field Services (DFS) convened the Second Preparatory Meeting on Global Geographic Information Management in New York, 10-11 May 2010. Experts from 16 countries (Australia, Brazil, Burkina Faso, Canada, Chile, Cuba, Egypt, Finland, Germany, Guatemala, India, Japan, Mexico, Republic of Korea, UK, USA) and 15 Regional and International Organizations (EuroGeographics, EUROGI, FIG, ICA, IHO, IGU, ISCGM, ISPRS, GSDDI, GEO/GEOSS, Joint-Board of GIS/ESRI, ISO/TC 211, OGC, UNGEGN, PSMA) attended the Meeting (see Annex 1). The meeting was co-chaired by Mr. Luiz Paulo Fortes (Brazil) and Mr. Hiroshi Murakami (Japan).
2. Mr. Paul Cheung, Director of UNSD, welcomed the experts and thanked them for the support received since the first meeting in Bangkok in October 2009 regarding the initiative to establish a global mechanism for discussion and coordination of critical issues in the field of geographic information management. He stressed again the need and relevance of such a global mechanism, in order to respond effectively to the need for multi-layered information on global issues and during humanitarian crises, and to support sustainable development and place-based development strategies. Better coordination among geographic information authorities across countries would also improve the ability of this professional community to harness and manage the rapid innovations through the adoption of new technology, especially in the private sector. In this context, Mr. Cheung emphasized the need for the global mechanism to be ultimately country-driven.
3. Six scoping papers had been prepared and were briefly introduced by the respective authors (see list in Annex 2).

## **Discussion**

### **Current initiatives in geographic information management**

4. The meeting reviewed some current national, regional and international initiatives in geographic information management. There was general agreement that there was a paradigm shift due to rapid evolution of technology and its impact of access and integration of location-based information. Rapid technological development, whilst clearly important and critical for the future, is not the main issue. The most important challenge lies in the area of effective coordination and infrastructure management, both at the national and international level, in order to develop the full potential of the geospatial information and the underlying technology and to make it accessible to and effectively used by a broad range of users.

### **Relevance of a global mechanism on GGIM**

5. The coordination and sharing of different elements of geographic information is one of the major challenges facing many countries today. Information must be managed and exchanged at a variety of scales from the local to the national and to the global

level and this has to be a complementary process. At local and country levels, the government's role is shifting from being a primary supplier of authoritative geographic data to a coordinating and regulatory role and to facilitate partnerships among the producers and consumers of geographic information. At regional and global levels, many international initiatives dealing with specialized aspects of geographic information have been created.

6. It was recognised that what is currently lacking is a global mechanism, a country-driven consultative process to effectively coordinate ongoing work in the wide field of geographic information, to develop common tools and to bring geographical information to bear on global policy issues. Establishing a more formal framework would enable Member States to develop effective strategies on how to build and strengthen capacity for the management of geographic information, especially in developing countries.
7. Such a global mechanism, under the auspices of the United Nations could, furthermore, raise awareness of politicians and decision-makers of the scope and significance of geographic information and its powerful analytical potential when effectively integrated with statistical and other information systems. In this context, it was proposed that in order to reach out to decision makers and the public at large, easy to understand terms such as "location-based" or "place-based" information should be used. The underlying value-statement or vision-statement is that location-referenced information is critically important for socio-economic development.

#### **A new global architecture**

8. The meeting reviewed practical models for a global architecture on GGIM, noting the previous UN mandates on the UN Statistical Commission (UNSC), the UN Regional Cartographic Conferences, as well as the Conferences for the Standardization of Geographical Names and its expert group. It was recognized that the UNSC model is very effective due to its well defined official national membership and its regular annual meetings. It was furthermore recognized, that in the field of geographical information, professional organizations, such as GSDI, FIG, ICA, ISPRS, the Joint Board of GIS, UNGEGN would have to play an important supportive role and would in turn see their specialized initiatives facilitated under the wider UN umbrella.
9. It was suggested that a new global architecture could consist of an Expert Committee and a Global Forum. The Expert Committee would meet more frequently - possibly annually - and be charged to coordinate specific areas of work. The Global Forum could help to provide a venue for a more global approach to geographic information and better advocacy to politicians and decision makers. Such a Global Forum could bring all member states together and address critical issues through an inter-governmental mechanism.

#### **Paradigm shift**

10. While recognizing that considerable progress has been made in managing geographic information through existing or planned Spatial Data Infrastructures (SDIs), some limitations of the existing SDI models were outlined, including their supply-driven, rather than demand-driven approach. It was noted that there is a move away from existing classical approaches to mapping towards geography (places) and geographic

information (locations). It was recognized that no model would fit it all, and the proposed global forum could give visibility to a variety of existing models. However, member states may need guidelines such as the models offered by IMO or IHO, in providing some measurement indicators.

11. Some emerging trends in geographic information were discussed. The use of social media using maps through networks such as Facebook, Wikipedia, etc. was noted. Volunteer geographic information processes are also emerging and amateur mapmakers are now ready to produce and immediately publish and disseminate maps globally to support their cause. The use of Open StreetMap for the earthquake in Haiti is one such recent example. Topographic maps are increasingly built through Radar imagery. All this reflects a paradigm shift from data availability to information availability

### **Data integration**

12. The meeting recognised that geography and statistics are closely interconnected. The spatial distribution of social, economic and environmental indicators guides policy decisions on regional development, service provision, urban planning and many other topics. Integration of geographic data with statistical data needs to be encouraged further. A good example of data integration is the transportation roads project that is underway and which involves the US Census Bureau, USGS and other governmental organizations.
13. Suggestions were made that cadastral and maritime information should also be integrated. Geographical names were seen as being necessary elements of any SDI and geographic information management system, and providing key entry points for data access. The ongoing work of UNGEGN was recognized as addressing particular existing global needs of both a technical and cultural nature. UNGEGN expressed its willingness to participate in a GGIM mechanism and global forum.

### **Some technical issues**

14. With regard to the technical issues to be addressed by the global forum on GGIM (technical standards, data integration and data policy), the approach suggested is to capitalize and build on existing achievements and work. The global forum should promote the development and implementation of technical standards as they permit comparability among countries, aggregation of information and the effective exchange of experiences. Technical and practical guidelines should be developed on how to implement standards at the national level, such as, for example, for “land cover”.
15. The interoperability of systems and data could only be achieved if the main stakeholders are prepared to share their data. This suggests a two-step process: (i) overcome barriers (legal and institutional) to share data; then (ii) proceed with technical interoperability. A review of existing best practices for data sharing has been proposed as an important issue for the Global Conference and effective arrangements for data sharing are definitely considered to be a key element in the terms of reference of the expert committee. A Charter for data sharing may be needed, even if developing such a Charter would take time. In this respect, it was recognized that GEO/GEOSS are processes that could be followed.

16. Other issues to be further investigated include the development of a generic template with the core layers to build a National SDI, which takes into account: (i) How to maintain the level of collaboration among the different stakeholders; (ii) Focus on how to outline a network of best practices; (iii) How to take into account the cultural dimension and humanize the participation (policy of social inclusion-including indigenous people); (iv) Shaping the coordination; and (v) Sustainability of national SDIs.

### **Public rendering of data and the private sector**

17. The public rendering of geographical data and the role of the private sector was discussed. Some participants noted that, while the private sector has created innovative ways to disseminate geographic data by providing low-cost digital maps and other valuable location-based services, the information provided is still contextual and insufficient for sound decision making. It was stressed that geographic information related to the formal designation on national territories and used for other official purposes needs to be rendered by national authorities and not by the private sector and that generally, any data to be provided by the private sector should be authenticated by an appropriate national authority. Some proposed that since security is a concern in the mapping arena, a minimum amount of base data should be available to the public, but that a line should be drawn for sovereignty and security matters. Others raised the issues of confidentiality and citizen rights to privacy.
18. Some participants proposed that national authorities should focus on providing the most accurate data and information for the public domain, and the role of the private sector would be to provide the distribution network for this data. In this sense the private sector should be considered as a partner. For the global forum, this issue of public rendering of data and the role of the private sector, including the partnership concept and participatory approach, needs to be further investigated.

### **Global policy applications**

19. It was generally recognized that there is a challenge to better identify and effectively support users. The credibility of the professional community, for instance, hinges critically on the ability to respond in a timely fashion to disasters and urgent events. This may sometimes pose the dilemma of access to data versus accuracy of data.
20. As for specific global policy applications, two major priority areas were identified: vulnerability to climate change and disaster risk management. At the country level, we need to build a risk mapping programme for preparedness as well as an automated geo-referencing/rapid mapping programme using satellite imagery and in-situ data. At the global level, we need to build a comparative global framework that can help expedite our global response. The Global Map experience is instructive in this respect. The key to understanding the dynamics of climate change and its impact on both natural systems and on populations is to create a stable and reliable reference framework capable of integrating data from a variety of sources. It is important to be able to include data describing change over time into a single system, for which standards and a coordination mechanism to integrate the various data are required.

## **Strengthening capacities**

21. Many participants stressed that the global forum would provide a unique opportunity for knowledge transfer and capacity building. Several international organizations expressed their interest and willingness to assist countries and noted that a number of them have the potential to do this, since some already have working groups dealing with capacity building and training issues. There was general agreement on the importance of technology transfer to developing nations. In this context the importance of “enablement” to achieve desired specific results was stressed, rather than just the provision of general capacity building support.

## **Conclusion**

22. The meeting reached the conclusion that a global mechanism on geographic information management under the auspices of the United Nations is required and supported the idea of moving ahead with plans to organize and formalize this. The United Nations Economic and Social Council in its forthcoming session in July 2010 has been requested to commission a report on this issue and will provide the opportunity to develop detailed proposals on the scope and the modalities of the global mechanism for adoption in 2011.
23. In this context, the announcement of the Republic of Korea to offer to host a Global Forum in the second half of 2011 was warmly welcome. This would provide a historical opportunity to discuss many issues at the global level and to formulate and launch a programme of work. It was agreed that the preparation and anticipated follow-up of this Global Forum would need to be supported by the proposed committee of experts. It was deemed necessary to develop clear terms of references including a definition of the mission and objectives of the proposed committee of experts on GGIM. Several nations and international organizations expressed their willingness to serve on a drafting committee for this purpose. One specific task for the committee of experts in the near future would be to start with the substantive preparation of the 2011 Global Forum.

## Annex 1: List of participants

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**Annex 2.** List of scoping papers

<b>Paper No.</b>	<b>Author</b>	<b>Title/(Country/Organization)</b>	<b>Title of the paper</b>
1	Mauro Salvemini	President of EUROGI	Reflections about a global forum for Geographic Information management
2	Abbas Rajabifard	President of GSDI Association	Data Integration and Interoperability of Systems and Data
3	Olaf Ostenson	Chair of ISO/TC 211	Technical solutions and Standards: How ISO can support a forum for global geographic information management
4	Luiz Paulo Fortes	Director of Geoscience, IBGE, Brazil	Data Integration
5	Fraser Taylor	President of ISCGM	GGIM: Some Institutional and Data Sharing Issues in Integrating Geospatial and Statistical Data
6	Claude B. Tapsoba	Director General, Institut Geographique du Burkina	Capacity Building and Technology Transfer for GGIM