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Reports by regional entities and thematic groups

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Note by the Secretariat

Summary

The present paper contains the report on the regional and thematic activities and achievements of the following six entities: the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific; the Permanent Committee for Geospatial Data Infrastructure of the Americas; the Committee on Development Information, Science and Technology of the Economic Commission for Africa; the Preparatory Committee of United Nations Global Geospatial Information for Europe; the Regional Committee of United Nations Global Geospatial Information Management for the Arab States; and the Joint Board of Geospatial Information Societies.

In its report, the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific describes the activities it has undertaken since the Nineteenth United Nations Regional Cartographic Conference for Asia and the Pacific, convened in Bangkok from 29 October to 1 November 2012. The Regional Committee was renamed during that time, and three new working groups were established on: (a) a geodetic reference framework for sustainable development; (b) data sharing and integration for disaster management; and (c) place-based information management for economic growth. The Regional Committee also highlights its coordinating efforts with the Committee of Experts and covers the priority issues and challenges in the Asia-Pacific region that should be discussed and addressed in the global context.

In its report, the Permanent Committee for Geospatial Data Infrastructure of the Americas describes the activities and achievements of its working group, based on its 2009-2013 workplan. It also provides an overview of the progress of work under the following seven thematic areas: (a) institutional capacity-building; (b) planning, standards and technical specifications; (c) best practices and guidelines for the development of spatial data infrastructures; (d) innovations in national geospatial information authorities; (e) knowledge gathering on topics relevant to spatial data infrastructures for the region; (f) assessment of the status of developments in spatial data infrastructures in the Americas; and (g) technological means for access to and dissemination of geospatial data.

* E/C.20/2013/1

In its report, the Committee on Development Information, Science and Technology of the Economic Commission for Africa describes actions taken as follow-up to the Addis Ababa Declaration on Geospatial Information Management and other activities considered as being of interest to Member States and stakeholders. The activities focused on policy issues; technical issues; capacity-building; and international cooperation and liaison efforts. In particular, mention is made of an expert group meeting that was held to set the stage for preparing a framework on facilitating the legal and regulatory aspects of geospatial information utilization in Africa.

In its report, the Preparatory Committee of United Nations Global Geospatial Information for Europe describes the preliminary steps taken towards the creation of a regional committee of United Nations global geospatial information for Europe. The Preparatory Committee comprises representatives of Member States, European Union institutions and existing European umbrella organizations having a specific interest in the subject. It is the intention of the Preparatory Committee to work with Member States towards the creation of a regional committee in the second quarter of 2014.

In its report, submitted on behalf of the Regional Committee of United Nations Global Geospatial Information Management for the Arab States, the Economic and Social Commission for Western Asia (ESCWA) describes the outcomes of a seminar on regional cooperation in geospatial information management that was held in Doha, Qatar, on 7 February 2013, on the margins of the second High-level Forum on Global Geospatial Information Management. At the seminar, Member States agreed on and endorsed the need to establish a regional committee on global geospatial information management, with support from the ESCWA secretariat and to discuss and advance the regional interests of the Committee of Experts. It also describes the process to be adopted towards establishment of the Regional Committee and the plans for future activities in the region.

In its report, the Joint Board of Geospatial Information Societies describes the recent activities of its member organizations, including their recent advances in technologies, methodologies and standards. It also describes the future activities of Joint Board member organizations in supporting and developing the needed skills and information resources required to facilitate the timely and efficient collection, management, assessment, monitoring, representation and provision of global geospatial information for the United Nations global geospatial information management community.

The Committee of Experts is invited to take note of the report.

I. Report of the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific

A. Summary

1. This report covers activities carried out by the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP) since the last report submitted to the Second Session of the United Nations Committee of Experts on Global Geospatial Information Management held in New York from 13-15 August 2012. The report highlights the Committee's activities since the Nineteenth United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP), while particular focus was given to the actions which UN-GGIM-AP had taken in order to contribute to the furtherance of the United Nations initiative on Global Geospatial Information Management (UN-GGIM). These actions are the renaming of the committee's name from Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP) to UN-GGIM-AP and the support for the activities on geodetic reference system. Finally, the report addresses the priority issues and challenges in Asia and the Pacific region that should be discussed in the global context.

B. Background

2. On 1 November 2012, PCGIAP was renamed to UN-GGIM-AP in accordance with the Resolution adopted at the Nineteenth United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP). This renaming aims to strengthen PCGIAP's efforts by aligning the unique needs and interests of Asia and the Pacific with UN-GGIM. UN-GGIM-AP inherits exactly the same membership and missions as those of PCGIAP. The committee members as well as working groups continue to take active part in UN initiative in order to contribute to the furtherance of UN-GGIM.

C. Committee's Activities

1. Establishment of the new Working Groups

3. With the above objectives in mind, the Committee established three new working groups for the period of 2012-2015 at the first plenary meeting held in November 2012. Each working group conducts activities according to the resolutions adopted at 19th UNRCC-AP. Full text of the Resolution is attached as Annex I. This part provides summary of description of each working group and its activities.

WG1: Geodetic Reference Framework for Sustainable Development

4. The primary task of the WG1 is to facilitate cooperation in geodetic data sharing amongst national agencies in order to build a common geodetic reference framework across the region and the project priorities. WG1 carries out activities to identify strategies and methodologies based on Resolution 1 of the 19th UNRCC-AP. Major projects of WG1 include Asia-Pacific Reference Frame (APREF) project, Asia Pacific Regional Geodetic Project (APRGP), Asia-Pacific Regional Height System Unification (APRHSU), and Asia Pacific Geodetic Capacity Building (APGCB). The purpose of APREF project is to create and maintain a densely realized and accurate geodetic framework, based on continuous observation and analysis of Global Navigation and Satellite System (GNSS) data. WG1 has been making continued efforts for APREF project, which was mandated by Resolution 1 of the 18th UNRCC-AP in 2009. As of April 2013, GNSS data from CORS network of approximately 480 stations, contributed by 28 countries are available. GNSS network stations have increased from 420 to 480

stations since 2012. Along with APREF project, WG1 supported the APRGP Annual GNSS Campaign, coordinated by Geoscience Australia (GA). The campaign enables countries without Continuously Operating Reference Stations (CORS) to connect their national geodetic infrastructure to the regional/global network. APRGP2012 was carried out from 9th September 2012 to 15th September 2012 and data were contributed from eleven countries and regions. APRHSU project aims to encourage data sharing and facilitate technical exchange towards height system development. The project launched in May, and survey questionnaire on the height system in Asian-Pacific region is now being prepared. In addition to these projects, step forward is taken for the regional geodetic capacity building project through APGCB project. As a part of the project, seminar on geodetic reference frame has been planned from 21-22 June 2013 in Manila, Philippines. The seminar is jointly organized by WG1, the IAG (International Association of Geodesy), the FIG (Fédération Internationale des Géomètres), ICG (International Committee on GNSS) and the PhilGEGS – Philippines Geodetic Engineering and Geomatic Society.

WG2: Data Sharing and Integration for Disaster Management

5. Recognizing that Asia and the Pacific region is the most disaster-prone region in the world, WG2 undertakes projects to support data sharing for disaster management, including research to identify user requirements associated with risk assessment, preparedness planning, rescue and recovery in accordance with Resolution 2 of the 19th UNRCC-AP. Initial research on existing national and international Geoportals for sharing data and information related to disaster management has been conducted and the questionnaire was sent to the member countries. As of April 2013, responses from 12 countries were received. WG2 conducted the analysis of the responses and suggested that since most of countries have appropriate situation in data accessibility and sharing, data resources, spatial data for disaster management and access network and web services, initiating the project to develop a regional clearinghouse and gradually improving it can be a way to efficiently achieve the regional disaster management.

WG3: Place-based Information Management for Economic Growth

6. As geospatial information is an enabler of economic growth, WG3 conducts projects to encourage national geospatial information authorities in the region to utilize and share geospatial information through web/cloud based platforms and other smart based services as well as to support development of a legal framework required to support the integration, sharing, access to and dissemination of this emerging place-based data by following up on Resolutions 3-6 of the 19th UNRCC-AP. In coordination with International Society for Photogrammetry and Remote Sensing (ISPRS) WG IV/2, WG3 has been conducting the investigation of the status of development of place-based information management in Asia & Pacific Region. Common requirements for place-based information management related to the economic growth and society development will be defined based on the investigation. In addition, WG3 supported the organization of joint symposium with ISPRS TC IV on Geospatial Databases and Location-based Services held in Suzhou, China from 14-16 May 2013.

2. Establishment of the new website

7. UN-GGIM-AP Secretariat developed a new website for the committee at http://www.un-ggim-ap.org/. The website is designed to provide visitors with general information of the committee as well as important news, information and event notices.

3. Fostering relationships with the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)

8. In order to address regional challenges, developing greater cooperation between UN-GGIM-AP and ESCAP was considered during 19th UNRCC-AP in Bangkok. Both agreed to continue to work closely to facilitate mutual understanding. In February 2013, some of the UN-GGIM-AP member countries attended the Regional Workshop on Geo-referenced Disaster Risk Management Information System for South-East and East Asia and the Pacific, organized by ESCAP. The workshop helped to strengthen the capacity of disaster management authorities among the UN-GGIM-AP member countries.

D. Coordination and contribution to UN-GGIM

9. In addition to the renaming of the committee, UN-GGIM-AP is conducting following activities as a part of the Committee's project in order to contribute to the furtherance of UN-GGIM.

1. Support for the activities on geodetic reference system

10. At the Second Session of the UN-GGIM, the importance of the global geodetic infrastructure was highlighted and the concept of a global geodetic questionnaire was proposed. At the informal geodetic consultations conducted in conjunction with 19th UNRCC-AP last October, the format of a questionnaire and content was discussed. As a result of discussion, it was agreed to develop the geodetic questionnaire so that responses will provide an evidence base for future action within the United Nations. To support this, UN-GGIM-AP WG1 geodetic experts developed a questionnaire and distributed globally in December 2012 by UN-GGIM Secretariat. Responses were summarized by WG1 and key findings from 93 survey responses were presented by the Chair of WG1 at the Second High Level Forum on GGIM held in Doha, Qatar. Also, WG1 is planning to submit a joint paper with IAG for the Third Session of UN-GGIM and assist the development of a Geodetic Roadmap. UN-GGIM-AP WG1 will continue to support the UN-GGIM activities that lead to a resolution at the UN General Assembly through WG1

2. Submission of diagnostic assessment of the inventory of issues

11. In response to the decision 2/103 of the 2nd session of the UN-GGIM, the Secretariat prepared the report of the diagnostic assessment of the UN-GGIM inventory of issues incorporating the opinions received from the member countries. The report was submitted to UN-GGIM Secretariat in December 2012.

3. Call for participation to UN-GGIM user case studies and questionnaire

12. To encourage the submission of UN-GGIM user case studies and questionnaires from the countries in Asia and the Pacific region, UN-GGIM-AP Secretariat has approached each country to call for participation.

E. Priority issues and challenges in Asia and the Pacific region that should be addressed and discussed in the global context

13. The 19th UNRCC-AP adopted Resolutions which reflects outstanding priority issues of the region. Our priority issues include implementation of Global Geodetic Reference Frame, establishment of a global geospatial information framework and operating platform, and establishment of best practices in institutional arrangements and frameworks. As Asia and the Pacific represent 60% of the world's population, these issues should also be discussed in the global context. This part summarizes the details of priority issues.

1. Implementation of a Global Geodetic Reference Frame

14. UN-GGIM-AP has been supporting the development of the Asia-Pacific Reference Frame (APREF) based on the data gathered through the GNSS networks in the region. Although the number of countries adopted a Global Geodetic Reference Frame has been increasing through these activities, some member countries still rely on local geodetic datum. Considering the region has highest tectonic activities on the earth, there are urgent needs to adopt Global Geodetic Reference Frame in these countries. While UN-GGIM-AP continues its effort to establish a regional geodetic reference framework, the support from United Nations and global communities are essential to continue the path. To encourage and support these countries, the 19th UNRCC-AP adopted a resolution that urges UN-GGIM to consult with member States to adopt and sustain a Global Geodetic Reference Frame and provide a road map for its implementation. In this connection, UN-GGIM-AP indentifies that an implementation of a Global Geodetic Reference Frame needs to be considered as priority in UN-GGIM.

2. Establishment of a global geospatial information framework

15. Because the region is prone to different types of severe natural disasters, the 19th UNRCC-AP adopted a resolution on data sharing and integration for disaster management that aims to develop a regional geoportal for disaster management. In this connection, UN-GGIM-AP would like to propose to UN-GGIM that the work for the Global Map for Sustainable Development (GM4SD) to be conducted on a priority basis, as GM4SD WG focuses on the study of urban hazard and disaster mapping in order to develop a proto-type geospatial information platform that delivers authoritative and consistent global reference datasets for sustainable development. The needs of the Asia and the Pacific region can be met by the progress of GM4SD.

3. Establishment of best practices in institutional arrangements and frameworks

16. Reaching out to the countries that have not been active in regional/international activities and providing a program that helps them to build adequate capacity on geospatial information management would be another priority. The Committee has successfully assisted NGIAs/NMOs in many countries in the region in modernizing their roles and responsibilities. Therefore, countries that have been active in the Committee's activities have made significant progress in their SDI development and spatial enablement in their governments. On the other hand, roughly 40% of member countries in the region have never or seldom participated in regional activities or responded to the past questionnaire surveys conducted by PCGIAP and UN-GGIM-AP. Little information is available on the geospatial activities in these countries or the reason why they have not been actively involved in the regional activities. Such divide between these two types of member countries needs to be reduced by reaching out to the inactive countries so that the member countries in the region will equally grow in geospatial information management capabilities.

F. Conclusion

17. While strengthening PCGIAP's efforts, UN-GGIM-AP will continue to support member countries by aligning the unique needs and interests of Asia and the Pacific with UN-GGIM. To respond to unique needs and interest, the Second Plenary meeting which is scheduled for 28-30 October this year in Teheran, Islamic Republic of Iran, will discuss NGIAs' Roles in Successful Disaster Response, aiming to contribute to strengthening regional capacities for disaster response among member countries.

II. Report of the Permanent Committee for Geospatial Data Infrastructure of the Americas

A. Summary

18. In this section the activities of the Permanent Committee for Geospatial Data Infrastructure of the Americas (PC-IDEA) during the period 2009-2013 are described. Based on the resolutions issued by the 9th United Nations Regional Cartographic Conference for the Americas (UNRCC-A), held in 2009, PC-IDEA established a Working Group on Planning (GTplan), which is composed by representatives of Brazil, Canada, Chile, Colombia, Cuba, Guatemala and Mexico, under the leadership of Chile and co-leadership of Canada. A work plan was established by GTplan covering seven themes, each one under the responsibility of a country representative: institutional capacity building; standards and technical specifications; best practices and guidelines for the development of Spatial Data Infrastructures (SDI); innovations in National Geospatial Information Authorities; knowledge gathering on topics relevant to SDI for the region (observatory on SDI); assessment of the status of SDI development in the Americas; and technological means for discussions related to SDI. Two questionnaires applied to PC-IDEA member countries in 2011 and 2013 contributed to address the activities to be carried out during this term and to assess the progress achieved by the countries of the region.

B. Introduction

19. The Permanent Committee for Geospatial Data Infrastructure of the Americas (PC-IDEA) was established on February 29, 2000, based on the Resolution #3 of the 6th United Nations Cartographic Conference for the Americas – UNRCC-A (1997), to maximize the economic, social and environmental benefits derived from the use of geospatial information. This is accomplished through knowledge and exchange of experiences and technologies between countries, based on common standards which would allow the establishment of the Geospatial Data Infrastructure of the Americas. Furthermore, PC-IDEA implements the regional mechanism associated to the United Nations Global Geospatial Information Management (UN-GGIM) initiative.

20. Among the main objectives of PC-IDEA, the following ones can be listed:

- Establish and coordinate policies and technical standards for the development of geospatial data infrastructure for the Americas;
- Promote the establishment and development of National Spatial Data Infrastructure (NSDI) in each PC-IDEA member country;
- Promote the interoperability of information and systems among member countries, through the use of standards;
- Encourage the sharing of geospatial information among all member countries in the Americas, while respecting their autonomy and their national laws and policies;
- Stimulate cooperation, research, sharing of experience in areas of knowledge related to geospatial data;
- Advise in the drafting of guidelines and strategies to support PC-IDEA member countries in developing geospatial information, considering the individual needs of each country;
- Set priorities for information sharing, considering the regulatory framework of each member country;
- Promote SDI training activities and technology transfer.

21. The Committee currently consists of 24 countries of the Americas as follows: 3 countries from North America (representing 100% of that sub-region), 7 countries from Central America (100%), 11 countries from South America (92%) and 3 countries from the Caribbean (23%). As established in the 9th UNRCC-A (2009), the Chair and Secretariat for the period 2009 to 2013 are carried out by Brazil. The statute (http://www.cpidea.org/documentos/Statute_PCIDEA_maio2011_final_eng.pdf) establishes an Executive Board, whose members ideally reflect the criteria of a sub-regional balance.

22. The PC-IDEA prepares its work plans in accordance with the resolutions adopted by UNRCC-A which take place every four years. In the last one which was held in New York in August 2009, seven resolutions were established related to the activities of the PC-IDEA, as follows:

a) Work plan of the Permanent Committee for Geospatial Data Infrastructure of the Americas and establishment of working groups

b) Mechanisms for the building of spatial data infrastructures

c) New study on the status of mapping by country and region

d) Forum for sharing special data infrastructure best practices

e) Follow-up meeting on disaster risk management and spatial data infrastructure

f) Funding issues

g) Support of spatial data infrastructure in the developing countries of the Americas and in particular in the Caribbean region

23. To comply with these resolutions, the PC-IDEA established a Working Group on Planning (GTplan) in May 2010, which has worked together with the Board, in the preparation of the Committee's Program of Work for the period 2009-2013. It aimed to promote capacity building, institutional strengthening and other products and actions that are already available to member countries and it is expected that by the end of 2013 it will be finalized. In addition, the Committee seeks to communicate its activities through lectures presented at events and made available through its website (www.cp-idea.org). The activities carried out since 2009 are reported in the following sections, including links to relevant documentation produced.

C. Administrative issues

1. Vice Presidency

24. With the retirement of Mr. Mario Reyes from the National Institute of Statistics and Geography (INEGI) in Mexico in 2009, Mr. Christian Aqueveque, representative from Chile and also vocal for South America, was elected as the new vice-president of PC-IDEA during the Executive Board meeting held in May 2010 in New York. In 2011, the representative from Chile to the PC-IDEA became Mr. Esteban Tohá, who after consulting the statutes, assumed the position of vocal for South America and, later, the Vice-Presidency of the Committee. Since March 2013, when Mr. Tohá stepped out as Representative of Chile in PC-IDEA, the Vice-Presidency is vacant.

2. New representative from Central America

25. After approval of the Committee, as established in the statutes, Mr. Oscar Leonel Figueroa Cabrera, was appointed to fill the position of vocal for Central America, replacing Mr. Ronald Estuardo Arango Ordoñez, both from the National Geography

Institute (NGI) from Guatemala. With the start of the new managing director of NGI-Guatemala, Mr. Edwin Guillermo Santos Mansilla, and after due consultation with the Committee, he was confirmed as the new vocal for Central America in June 2012.

3. Representative from the Caribbean

26. In the 9th UNRCC-A, Cuba was elected vocal for the Caribbean. However, as it has not shown continued interest in playing this role, this position is currently in a transitional stage and it is in the process of being replaced.

4. Vocal for South America

27. During the 9th UNRCC-A Mr. Cristian Aqueveque Iglesias, Representative from Chile in PC-IDEA at that time, was appointed vocal for South America; later he was replaced by Mr . Tohá Esteban González, also from that country. and recently, after due consultation with the Committee, the current representative from Chile, Mr. Matías Soto Fortuño, took this vocal position.

5. New Logo

28. In 2012 a new logo was designed, with texts in Spanish and English, to be used in promotional texts for events and sites.

6. Fundraising efforts

29. In 2010 two requests for resources were submitted to fund the Committee's activities:

i. Project proposal submitted to CYTED (Iberoamerican Program of Science and Technology for Development)

30. The Project proposal sought to establish an Iberoamerican Network to enhance and maximize the use of Spatial Data Infrastructures (SDI) in territorial planning, with the overall objective of stimulating the creation of the scientific and technological research network associated with the PC-IDEA. Its purpose would be to develop methodologies and applications for geospatial data and services, making use of Spatial Data Infrastructures-SDI, for territorial planning, risks associated with territorial vulnerability and the use of sustainable natural resources, aiding the decision making process. Countries participating were: Brazil, Cuba, Colombia, Chile, Guatemala and Portugal. This project aimed to the participation of all countries of the Committee and not only those which are directly involved with submission of the documentation. Aside from the objectives mentioned above, the proposal would facilitate the participation of members and other practitioners involved with the work of PC-IDEA in meetings. The total budgeted amount was 33 thousand Euros per year for four years and the presentation of this proposal took place in April 2010. In December of that year, the Secretary of CYTED stated that it had not been approved and there would be a new call for 2011.

ii. World Bank

31. Presented to the World Bank in Brazil through the Institutional Development Fund Programme-IDF. The Project "Strengthening Spatial Data Infrastructures-SDI of the Americas" proposed to maximize the economic, social and environmental use of geospatial information, seeking to promote building SDI in the countries which have not yet started this process, as well as strengthening the implementation and the

sustainability of the SDI countries of the Americas. Justification to request funding for strengthening and empowering of the Americas is in the scope of the SDI. The proposal was submitted in October 2010 with a total budget of US $ 672,645.00 for three years. Among the activities planned, there were two relevant aspects of the project to be mentioned: meetings of working groups and conducting an event devoted to disaster and risk prevention and various courses and trainings for the Americas. In February 2011, a representative from the World Bank in Brazil confirmed that this project had not been approved.

iii. Pan-American Institute of Geography and History (PAIGH)

32. In 2012 a project to cover some of PC-IDEA Working Groups activities was submitted to PAIGH, considering their alignment with PAIGH Panamerican Agenda 2010-2020 - which proposes to support national initiatives based on international standards and concepts of spatial data infrastructure. The project was approved at the 44th Meeting of PAIGH Steering Council, held in Buenos Aires, Argentina, in November 2012, with a value of US $ 8,000.00.

7. New statute

33. The document was adopted in May 2011 and is available in Spanish and English in http://www.cp-idea.org/documentos/Estatuto_CPIDEA_maio2011_final_esp.PDF and http://www.cp-idea.org/documentos/Statute_PCIDEA_maio2011_final_eng.pdf. The Portuguese version is in the process of being translated and is expected to be available in 2013.

D. Participation in meetings and presentations

34. In the past four years, PC-IDEA organized and participated in 26 relevant professional meetings, both within the region and globally. In connection with these events, representatives of PC-IDEA produced over 50 documents and substantive presentations on a variety of topics including the "Importance of policies and legal instruments for the building of spatial data infrastructures in the Americas", "Geospatial Information Activities in the Americas (SDI Development in the Americas)"; "Creation of institutional capacities, education and capacity building"; "Norms and technical Specifications"; "Challenges in Geospatial Policy Formulation and Institutional Arrangements"; "PC-IDEA Perspectives on SDI Policy and Standards"; "A Common Glossary for PC-IDEA"; "Providing Data to SDI: the Role of the Public and the Private Sectors"; "An overview on the status of SDI relevant issues in PC-IDEA member countries"; "Monitoring Sustainable Development – Why Location Matters"; and The Importance of Geospatial Information on Natural Risks Management in the Americas. Detailed information is available in the PC-IDEA final report, available on its website.

E. Books, Chapters, Magazines and Interviews

35. Several texts in books, chapters, magazines were written during this term like "Diagnóstico sobre temas relevantes da gestão da informação geoespacial e desenvolvimento das Infraestruturas de Dados Espaciais (IDE) nos países das Américas" (CP-IDEA 2011 e 2013), "Aciones y Resultados del Comité Permanente para la Infraestructura de Datos Geoespaciales de las Américas (CP-IDEA) - 2009 a 2013 (Revista Cartográfica nº 88 do IPGH), Book: Fundamentos de las Infraestructuras de Datos Espaciales – IDE - Espanha, Chapter 38 – "CP-IDEA: Actualidade y Perspectivas cercanas". Interviews for MundoGEO Magazine and Geoconnect Event (Brazil), Geospatial World Magazine (India), Mapping Magazine (Spain), SNIT Newsletter (Chile) and INDE Newsletter (Brazil).

F. Work plan 2009-2013

36. Prepared by the Working Group on Planning (GTplan), under the leadership of Chile and co-leadership of Canada. The plan was developed based on seven themes developed during the 2009-2013 period, namely:

- Theme 1: Institutional Strengthening, Education and Capacity building – coordinated by: Colombia
- Theme 2: Standards and Technical Specifications – coordinated by: Mexico
- Theme 3: Best practices and guidelines for the development of the SDI – coordinated by: Canada
- Theme 4: Innovation in the national cartography organisms – coordinated by: Brazil
- Theme 5: Inventory of relevant issues on SDI for the region – coordinated by: Guatemala and Chile
- Theme 6: Evaluation of the development status of the IDE of the Americas – coordinated by: Cuba and Canada
- Theme 7: Implementation of technological means for discussion related to access to geospatial data and dissemination of this data – coordinated by: Chile

37. Besides the activities described above, it was recommended by the 9th UNRCC-A to hold an event on prevention of disasters and risks focusing on SDI which took place on August 17, 2012 in Rio de Janeiro in the scope of the Latin American Geospatial Forum (http: //www.lagf.org). This event was organized in collaboration with Geospatial Media and Communication. The event featured nine presentations on the subject made by representatives of many countries in the Americas. At the end seven recommendations have been released to serve as a guide for future activities in this area.

38. To support planning activities, two questionnaires were developed and applied covering the issues of training, standards and specifications, best practices and a guide to SDI, Innovations in National Mapping Institutes and Status of SDI implementation in Committee members of the Americas. The first questionnaire consisted of 76 questions developed by the GTplan and applied to members of the PCIDEA referring to the year 2011. 20 members responded to the questionnaire (no answer from Cuba, Dominican Republic, Guyana and United States). Analyses were processed in 2012 and the result was available in August 2012 during the 9th Plenary Meeting held in Rio de Janeiro.

39. The structure of the report includes a description of the methodology used to gather data and the subsequent data processing. To the extent possible, a comparison was made between the questionnaire results of 2008 and 2011, where existed a point of comparison. Finally, the detailed conclusions are presented in three technical annexes:

- Annex A: Academic programmes offered in countries of the Americas.
- Annex B: Best practices and successful stories documented in member countries of PC-IDEA.
- Annex C: Legal or juridical instrument which supports the SDI in each country, when available.

40. This publication was available in digital and printed formats in Spanish, English and Portuguese. A CD-ROM was enclosed, containing a digital version of the publication, complemented by the responses of individual countries which have authorized their publication. In 2013 a simplified version of the questionnaire was applied to member countries in order to monitor the SDI progress over the period 2011-2013. 21 members responded to the questionnaire (no answer from Dominican Republic, Guyana and the

United States). The diagnosis, as well as analysis and comparison with the previous survey results will be presented during the 10th UNRCC-A. Based on the 2011 questionnaire, the Work Plan for the period 2009-2013 was completed by GTplan and is available at www.cp-idea.org/documentos/plano_trabalho/Plano_Trabalho_ENG.pdf.

41. In the 9th PC-IDEA Meeting held in Rio de Janeiro, Brazil in August 2012, the Working Group on Standards and Technical Specifications (GTnet) was established in collaboration with the Open Geospatial Consortium (OGC) and with the participation of six countries: Bolivia, Brazil, Canada, Colombia, Honduras and Mexico, the latter as coordinator of the group. The group goal is to establish a set of standards and technical specifications for the region within a common regulatory framework.

G. Other Committee activities

42. Other activities include:

1. Transfer of the website from Mexico (INEGI) to Brazil (IBGE), and later to Chile (SNIT) which, in addition of managing the current site, has also built a new website. The site has been completely redesigned and will be launched on the occasion of the 10th UNRCC in August 2013.
2. Preparation of texts and interviews for news releases and specialized professional journals.
3. Targeted dissemination of information on the work and activities of the Committee through marketing material and special e-mail messages.
4. Dissemination of news items especially referring to relevant events of interest through via the mailing list of members and collaborators.
5. Preparation of various reports to inform on the work of the Committee at relevant fora (UN-GGIM, for instance).

H. Cooperation and Partnerships

43. The 2013-2015 Joint Action Plan to Expedite the Development of Spatial Data Infrastructure of Americas (PAIGH, SIRGAS, PC-IDEA and GeoSUR). The Action Plan that the participating agencies are proposing to jointly carry out in this effort must translate into a significant boost to the development of SDI initiatives in the region and an important contribution to access and use of the existing geospatial information in the Americas. The Plan is a starting point and work plan to cooperate on targets that are common to the agencies and can extend its scope as new initiatives and forms of collaboration are identified. In practice, it is a matter of initially ensuring that the PAIGH 2010-2020 Pan American Agenda, the SIRGAS Work Plan, the 2009-2013 PC-IDEA Work Plan and the GeoSUR 2013-2015 Action Plan coincide as much as possible. (http://www.ipgh.org/Iniciativas/JointActionPlan.pdf)

44. Proposal of Cooperation between the Panamerican Institute of Geography and History (PAIGH) and the United Nation Statistic Division (UNSD) regarding PC-IDEA. An activity in progress, this initiative was supported by PAIGH Resolution number 8 (November 2010) and PAIGH Resolution number 4 (November 2011).

45. In addition to the initiatives mentioned so far, a PC-IDEA brochure has been jointly produced by UNSD and PC-IDEA to be sent to the Caribbean countries in order to stimulate them to join the Committee and to participate in its activities.

I. Final Products

46. The following final products will be available to PC-IDEA members and to all community at the end of this term:

1. **Capacity Building:** an observatory with the corresponding demands and offers in this area released through the website, an user manual, a plan of courses and a report with the implementation strategies of this plan;
2. **Standards and Specifications:** Legal Framework report, Core Standards Report, Data Model and a Standards Database;
3. **Best Practice**: a SDI manual and Best Practice list available on the website;
4. **Innovations:** a report containing a study about Innovations on Mapping/Geographic Institutes;
5. **Technology**: a new website with a user manual for it; and
6. **General scope:** the 2009-2013 final report, and 2011 and 2013 Diagnostic Reports.

J. Conclusions

47. All goals established by the 9th UNRCC-A have been achieved, in addition to many products/activities that have been generated/carried out during this term. The work plan has been implemented in such a way that the next Executive Board may promote its continuity, in case this is envisaged. Numerous working meetings have been held during this term: four plenary meetings, one Executive Board meeting and seven GTplan meetings. Besides, a large number of virtual meetings have also been held. All these activities have certainly contributed to the achievement of all goals for this period. PC-IDEA and its work have been widely divulged through participation in many events with presentations, written texts for publications, and release of promotional material.

48. During these four years, some attempts to obtain financial support have been carried out, in order to speed up the work of the Committee which would allow achieving even more challenging goals. Unfortunately, these initiatives have not been successful, except for a partnership established with PAIGH. This is an aspect that may be taken into account by the next Executive Board. It is recommended that a continued effort be made towards engaging all countries of the region in PC-IDEA activities, especially from the Caribbean.

49. Recently an important cooperation has been established with four regional entities of the Americas which deal with the geospatial information issue: PAIGH, SIRGAS, PC-IDEA and GeoSUR. Their activities and responsibilities have been re-visited and a 2013-2015 work plan have been developed which will benefit all countries involved with them. Capacity building, events organization, joint documents production, standards and specifications, web services, and etc., are areas that may be improved with this cooperation. This effort is very important to optimize initiatives, avoiding their overlap and amplifying the results on the establishment of the SDI in the Americas.

50. PC-IDEA recognizes the importance of the UN-GGIM initiative, which aims to set a high level forum, coordinated by the member countries, for global geospatial information management. PC-IDEA was glad with the opportunity of actively contributing to the process of building this initiative and its corresponding UN Committee of Experts.

III. Report of the Committee on Development Information, Science and Technology (CODIST), Subcommittee on Geoinformation (CODIST-Geo)

A. Introduction

51. This report covers activities carried out by the Africa region with regard to geospatial information management, through the Committee on Development Information, Science and Technology (CODIST) Subcommittee on Geoinformation. The CODIST Subcommittee on Geoinformation (CODIST-Geo) subsumes the activities of the UN Regional Cartographic Conference for Africa. It also performs the functions of a "Permanent Committee on SDI" in other regions. The report includes actions taken as a follow-up to resolutions in the Addis Ababa Declaration on Geospatial Information Management adopted by the Africa Preparatory Meeting on GGIM and other activities considered as being of interest to member States and partners. The activities were focussed on: (i) Policy issues, (ii) Technical issues, (iii) Capacity building, and (iv) International cooperation and liaison.

B. Policy Issues: Fostering National Policies and e-Strategies Development

52. During the period under review, CODIST-Geo organized the third session of the Committee on Development Information, Science and Technology meeting. The Sub-committee on Geoinformation met on 13th March 2013. Two pre/post CODIST events were held on 12th and 14th March 2013. These included a workshop on ICT for Disaster Risk Management and a Workshop on Community Mapping. The meeting resolved in:

- Expressing support for the current repositioning process at UNECA that leads to the merging of geoinformation activities with statistics in line with the GGIM initiative and the recommendation of StatCom Africa.
- Recommending that the oversight and supervisory functions of the geoinformation subcommittee of CODIST be transferred to an equivalent subcommittee of StatCom Africa with the name of GGIM-Africa.
- Encouraging member States to participate in and contribute to the work of the UN Committee of Experts on GGIM.

1. GGIM in Africa

53. The following activities were undertaken for the implementation of the GGIM Africa:

- Participation in the second high-level forum of GGIM, held in Doha, Qatar from 4-6 February 2013.
- Participation in the Working Group on Global Map for Sustainable Development.

2. National Spatial Data Infrastructures (NSDI) development in the Continent

54. Advisory services were provided to member States aiming at fostering geoinformation policies development in the continent.

- **Burkina Faso:** Partnering with IGN France International (the French National Institute of Geographic and Forest Information) and the Geographic Institute of Burkina Faso (IGB) to organise a regional seminar entitled: National Spatial Data Infrastructures: which benefits for African emerging countries? The seminar reviewed experiences and best practices in developing and implementing integrated NICI-NSDI policy in African countries.
- **Côte d'Ivoire:** Organisation of the first "Salon Geomatique 2012" of Côte d'Ivoire aimed at developing a sensitisation campaign towards citizens, business, decision makers and the community at large on geoinformation concepts, products and services.

- **Algeria:** contribution to the national stakeholders conference on Infrastructure of Geographical Data in Algeria, so as to raise awareness, share experiences and best practices in developing and implementing integrated national spatial data infrastructure.
- **Niger:** Technical assistance on the establishment of NSDI steering mechanism along with drafting an action plan for the "Plan Géomatique National", the country proposed NSDI.

3. Enabling legal and regulatory frameworks for geoinformation utilization in Africa

55. CODIST-Geo prepared a draft study that: i) reviewed the critical aspect of setting an enabling legal framework for geospatial information management in Africa; ii) identified the potential stakeholders; iii) reviewed the need for establishment of legislative frameworks; iv) reviewed and proposed data access/sharing/re-use policies (national and international levels), licensing models, Intellectual Property Rights (IPR), and copyright, liability, security and privacy issues.

56. CODIST-Geo organized an expert group meeting to set the stage for preparing a framework on enabling legal and regulatory aspects of geoinformation utilization in Africa. The following accomplishments came out of the expert group meeting:

- Assessment of the critical aspects of an enabling regulatory and legal environment when developing geospatial information management policies.
- Identification of best practices on the establishment of legal and regulatory frameworks for geospatial information management.
- Mapping out of the stakeholder in the areas of (i) government agencies; (ii) private industry; and, (iii) citizens.
- Design of the approach to be used when developing a holistic legal framework.
- Development of a proposal with a logical framework of identified priority actions (objectives, responsibilities/tasks, results, activities, chronogram and related costs).

57. The way forward will be the preparation of a guideline on enabling legal and regulatory frameworks for geoinformation utilisation in Africa. It was said that the desirable legal framework should have the following deliveries:

- Formulation of policies and guidelines on custodianship, responsibilities and mandates.
- Development of legal and regulatory frameworks including standards and interoperability, data quality and related issues.
- Setting up of a management/steering committee composed of representatives of the major stakeholders (or other suitable management arrangement), with its secretariat at ECA.
- Training of experts on the use of the developed Guidelines and methodology.

C. Technical issues : Geoinformation Resources for Development

58. The activities carried out in this programmatic area at aim increasing the number of information and knowledge resources and services developed at the regional, subregional and national levels to improve availability and use of information for development in Africa. The activities also encompass promotion of the common and interoperable tools and standards.

4. Implementation of Programmes and Projects

59. Several regional geospatial databases are being developed, incrementally updated and accrued to support regional initiatives. These databases form the core of the African Regional Spatial Data Infrastructure. These include: the continuous update of the African component of the Second Level Administrative Boundaries (SALB) geodatabases; ii) the sourcing, collecting, processing, validating and building of the African infrastructures geodatabases. CODIST-Geo has also continued its work on developing "Guidelines of Best Practice for the Acquisition, Storage, Maintenance and Dissemination of Fundamental Geo-Spatial Datasets" as part of the Mapping Africa for Africa initiative. These guidelines are intended to serve as a valuable tool for National Mapping Agencies and others in providing the fundamental geospatial information.

5. Online Applications and Services

60. It aims at developing and promoting information and knowledge resources, applications and services that improve availability and use of spatially-enabled data for informed decision-making. These online applications will foster streamlined electronic delivery of products and services to achieve more informed decisions, enabling data to be extracted, combined in new ways, and displayed as desired by the user. CODIST-Geo has continued to develop the GeoNyms Application to be used by member States to manage their gazetteers of place names. One country (Madagascar) has now fully adopted it; five others countries are in testing phase and three countries (Ethiopia and Botswana and Egypt) are entering their data with the application.

6. Field projects: The African Geodetic Reference Frame

61. CODIST-Geo pursued its effort to develop through the African Reference Frame (AFREF) Project, a unified geodetic reference frame for Africa so that maps and other geoinformation products can be represented seamlessly. CODIST-Geo negotiated with Trimble and Ordnance Survey to donate respectively ten (10) and twenty-five (25) reference stations to the AFREF project through ECA. CODIST-Geo and the International Steering Committee on AFREF have developed criteria for selecting the locations to install the donated stations. The agreed installation sites are: Sierra Leone, Liberia, Chad, Central African Republic, and DRC.

(a) Custodianship agreements were developed to be signed by the national authority with primary responsibility for geodetic control and surveys.

(b) AFREF steering committee meeting was organized during October 2012. The meeting agreed on some changes to the management structure of AFREF, reviewed the implementation and recommended to explore the possibilities for multiple uses and co-location of GNSS and other earth observation equipment and infrastructure.

(c) A task force of high-level scientists was set up to prepare the methodology for the first computation of the AFREF solution for Africa.

(d) A data sharing policy is being currently drafted. A literature review was conducted to collect, analyze and synthesize relevant materials as inputs to develop a full information charter.

D. Capacity Building and Outreach Activities

62. In terms of capacity building and outreach in the area of geoinformation, CODIST-Geo has continued to collaborate and coordinate activities with its partners to organize seminars and workshops to raise awareness and share knowledge on the importance of using geospatial technology for Africa development agenda. CODIST-Geo started an initiative to build media journalists capacity on relevant issues related to Geoinformation

capabilities, trends and applications and benefits for various societal benefit areas. A dedicated GIS training module was prepared and made available online in ECA e-learning platform. As a result of the first series of training for media professionals, a network of media professionals - the "African Media Forum for Geospatial Information Systems (AMFGIS)" was established, aiming at enhancing the capacity of the media to promote and advocate to policy-makers the importance of geospatial information science and technology.

63. CODIST-Geo participated in several geo-related events, taking these opportunities to interact with broad range of decision makers, users and service providers from various countries. The participation at such meetings is important, as CODIST-Geo takes advantage of these opportunities to deliver keynotes and express the continent's vision and strategy for geospatial science and technology development in Africa. The conferences also offered opportunities to keep abreast with current trends of geospatial services and products.

E. Partnership and International Collaboration

64. CODIST-Geo's work to build partnership with regional and international organizations has continued to voice the continent perspective in the global arena of geospatial information management through provisions of technical inputs and advisory service to several regional initiatives and participation to various forums on geoinformation at national and regional levels.

65. The Africa Space Policy: The African Union Commission has recently launched an initiative to develop an African Space Policy with the aim of coordinating space technology-related institutions focus areas and activities that are in synergy. CODIST-Geo was member of a Working Group that was tasked to deliberate in-depth on the framework for the Development of an African Space Policy and Strategy in order to enable the continent to harness its space resources in a more coordinated and systematic manner.

66. Other Initiatives. They include among others: Global Spatial Data Infrastructure (GSDI): Contribution to the promotion of international cooperation and collaboration in support of local, national and international spatial data infrastructure developments; Group on Earth Observation (GEO): Contribution to the work of GEO, particularly to capacity building programme; Global Monitoring of Environment and Security (GMES): Contribution to the formulation of the GMES & Africa action plan; Various EU FP7 Programmes (ImagineS, AfroMaison, SAGA-EO): Coordination of the input and views of African stakeholders.

F. Perspectives

67. Since CODIST-Geo is also providing regional focus and leadership for geoinformation techniques and methodologies, it conducts studies as needed on emerging concepts and disseminates the knowledge to member States.

68. Volunteer Geographic Information. As the geospatial technology continues to evolve, online services like Google Earth and other virtual worlds permit individuals to become more involved with the creation, maintenance, and distribution of their own geospatial information. We are moving towards more public participation, supporting the empowerment of citizens. For instance, African countries promote decentralization, thus giving to the local communities' significant attention and power in decision making, which impacts on local socio-economic development. The geospatial sector is innovating

through the development of Community Knowledge Systems that are expected to drive the management of information system, addressing complex problems of economic development seamlessly at a global, regional and local level. During the past few years much effort has been put into developing community-based methods to capture and analyse a large amount of data in a systematic manner. This community mapping innovation is considered to be the future trends in geospatial industry development. CODIST-Geo will give close attention to developing strategic guidance on how to strengthen the communities' participation in data collection (crowd-sourcing) as well as in their processing (crowd-processing or crowd-making), analysis and use (crowd-extracting or crowd-understanding).

69. Forthcoming Geo-related Events: CODIST-Geo is engaged in several events that will take place in the coming months in Africa.

- Africa Geospatial Forum 2013. The Africa Geospatial Forum (previously known as Map Africa Conference) provides yearly opportunity to discuss and dialogue between high level policy-makers and stakeholders associated with geospatial science and technology in Africa. The conference that has established a niche audience of high end business community will next be held in Cape Town, South Africa from 13-14 August 2013.
- Joint AfricaGIS 2013 and GSDI 14 World Conference. AfricaGIS™ is the premier conference and exhibition focusing on geo-information science and technologies in Africa. The principal objective of AfricaGIS™ is to provide a platform for geo-information professionals from Africa to learn about geo-information science and technology and its applications. This unique conference provides a forum for geo-information professionals to meet, interact, and be updated on new developments, products and emerging trends and issues. It also provides a unique opportunity for interaction among practitioners to share information and knowledge to advance the development and application of geo-information science and technologies to meet African developmental needs.
- The GSDI World Conference is one of the most premium events in the field of spatial information infrastructures in the world, gathering high level policy-makers and stakeholders from academia, government, public/private organizations, institutions and individuals engaged in the development of spatial information infrastructures.
- The joint conference will be held from 4th to 8th November 2013 at the United Nations Conference Centre at UNECA Headquarters.

Committee on Development Information, Science and Technology (CODIST)

Subcommittee on Geoinformation (CODIST-Geo)

- Derek Clarke (Chief Director: National Geo-spatial Information, South Africa - DClarke@ruraldevelopment.gov.za)- Chair CODIST-Geo Bureau
- Andre Nonguierma (Senior GIS Officer, UNECA – Anonguierma@uneca.org)- CODIST-Geo Secretariat
- http://geoinfo.uneca.org/sdiafrica/
- http://www.uneca.org

IV Progress Report of the Preparatory Committee of United Nations Global Geospatial Information Management for Europe

70. In response to a call for action set out at the Second United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), a Preparatory Committee for a United Nations Global Geospatial Information Management European Regional Committee (UN-GGIM: Europe) has been established to oversee the creation of the Regional Committee. Under the Chairmanship of Walter Radermacher, Director General, Eurostat and co-chaired by Dr Vanessa Lawrence CB, Co-Chair of the UN-GGIM Committee of Experts, the Preparatory Committee for UN-GGIM: Europe has met three times and has made considerable progress towards the establishment of a Regional Committee for Europe.

71. A wide range of interested parties are represented on the Preparatory Committee, including: the Co-Chair of the UN-GGIM Committee of Experts, Eurostat, EuroGeographics representing the National Mapping and Cadastral Agencies (NMCAs), European Commission, European Environment Agency and Statistik Austria representing the European Statistical System. The membership of the Preparatory Committee has remained focused, in this early stage, to allow a broad planning approach to be undertaken. The inaugural meeting was held on 28 November 2012 in Brussels. The meeting was well attended by interested and invited parties and the focus of the meeting was to share views and to allow for discussions around the potential set up of a Regional Committee in Europe. A collaborative framework was agreed upon and the Chair outlined the priorities and goals for the committee.

72. The second preparatory meeting was held on 4 March 2013 in Brussels. The meeting discussed the draft terms of reference which had been prepared by Eurostat; it was agreed that the scope of the terms of reference would need to be widened and that the content would need to be clearer to avoid potential misunderstandings. The Preparatory Committee also discussed the 2nd High-Level Forum for UN-GGIM held in Doha, Qatar and noted the importance being placed on the quality of outputs of the Regional Committees. In Europe, unlike in other regions, there is no UN cartographic conference that acts as an umbrella for the NMCA's; these have served as a catalyst for other Regional Committees. The challenges around this were raised and debated.

73. At its second meeting, the Preparatory Committee also started the work on the Focus Points for UN-GGIM Europe. Building upon the decision at the Second UN-GGIM Committee of Experts to adopt an Inventory of Issues document which serves as a reference document to inform the scope and possible work plan for the Committee in the coming years, a Focus Points document for Europe has been drafted that includes several Focus Points with a specific European perspective. It was agreed that it would not be prudent to start formally to work on the Inventory of Issues until the establishment of the UN-GGIM: Europe Regional Committee as this would be beyond the remit and the capacity of the current Preparatory Committee. It was also agreed that commissioning specific work at this point would anticipate the decision of the formal UN-GGIM: Europe Committee without proper endorsement from Member States.

74. However, in Europe several of the Issues are already being addressed at national and European Level. It was agreed to establish an inventory of recent EU Actions in the field of geospatial information and to map them and their deliverables against one, or several, of the Focus Points. Building upon this mapping it should then be easier to create

synergies between the EU Actions which are currently ongoing and the UN-GGIM Inventory of Issues. The meeting finally launched the discussion on the governance of a future UN-GGIM: Europe and how to organize the transition from its present provisional situation to an official UN Committee.

75. The third preparatory meeting was held on 4 June 2013 in Brussels. The meeting developed further the points raised at both the previous meetings, concentrating on the Focus Points for UN-GGIM: Europe and the Proposed Governance structure for the Regional Committee. A Working Group of the Preparatory Committee has reviewed the list of Focus Points and has put forward several key European actions in the field of geospatial information management which are likely to produce concrete results in the short and medium term.

76. On analysis of these actions three clusters of work have developed and have been proposed as a model to follow: one on data, one on infrastructures and one on organization. These clusters represent key activity areas of European geographical data policy. For each cluster identified, a scope has been provided based on the definition of the Focus Points and on the current scope of the Action and its agreed deliverable. Based on the clustering of the Focus Points it is proposed that working groups will be created and will be responsible for the exchange of information, consultancy with EU Actions and Member States, and defining further the scope of the Focus Points. Priority should be given to early achievements and tangible results which then would allow the official UN-GGIM: Europe to continue the work on these issues immediately after its establishment. The working groups will start their work in September 2013. It was decided it was essential to involve National Statistical Institutes in this work to make sure that statistics will form an integral part of geospatial information management.

77. Following the examples of other regional committees the Preparatory Committee has proposed the establishment of a Regional Committee of UN-GGIM for Europe. The process of setting up such a committee has been divided into three stages:

1. An inaugural phase of four meetings spanning from November 2012 until November 2013. For organisational reasons and given the high profile that several EU Institutions and Bodies, such as EuroGeographics, have in geospatial matters in Europe they are strongly represented and involved during the inaugural phase. For an effective functioning of the preparatory committee individual countries have been represented through EuroGeographics.
2. A transitional phase, partly overlapping with the inaugural phase, spanning from the Third UN-GGIM Committee of Experts meeting (July 2013) until the Fourth UN-GGIM Committee of Experts meeting (July/August 2014). This phase will be marked by stronger involvement of Member States and national public institutions in UN-GGIM: Europe. As a result Member States should become more involved and take on a more active part in the preparatory committee. The main goal of the transition phase is to ensure a smooth functioning of UN-GGIM: Europe from the moment it will be formally established.
3. An operational phase, following the planned official establishment of the UN-GGIM: Europe Committee at the Fourth UN-GGIM Committee of Experts meeting. In this Committee the Member States assume the full executive power and organisational ownership of UN-GGIM: Europe in line with the UN method, while the EU institutions and bodies play an observing and advisory part.

78. It is anticipated that the transitional phase will start after the Third UN-GGIM Committee of Experts meeting in July 2013, as most European Member States will be represented. In anticipation of this a side event for European Countries has been

organised on Thursday 25th June, with the aim of raising awareness of the Regional Committee and to invite Member States to take an active part on the preparatory committee during the transitional phase. As part of this process to establish UN-GGIM: Europe, the National Statistical Institutes (NSI) should be involved during the transitional phase, but also play a role later in the official UN-GGIM: Europe Committee. A profile of NSIs in UN-GGIM: Europe is thought to be vital for a successful integration of statistics and geospatial information under the umbrella of UN-GGIM.

ANNEX: EuroGeogrpahics Update on Geospatial Management in Europe

A. Introduction

79. This Annex provides an update of the EuroGeographics report to the 2nd Meeting of the Global Geographic Information Management Expert Committee, New York, August 2012. It contains an overview of the main activities, key players, important issues and future plans in geospatial information management in Europe on behalf of our members, the national geodetic, cadastre, land registry and mapping authorities (NMCAs) of Europe.

B. Background

80. Each country in Europe has a national authority responsible for activities relating to: geodesy, cadastre, land registration and mapping (topographic). EuroGeographics is the membership association and voice of the national geodetic, cadastre, land registry and mapping authorities of Europe. The Association currently comprises 56 member authorities in more than 40 countries[2]. The Association therefore covers both political and geographical Europe. Three applications from organizations not currently members, and one application to upgrade to Full member status, will be presented for the approval of members on 12th June 2013.

C. Relevant European Union (EU) programmes and legislation

i. The Digital Agenda for Europe

81. The Digital Agenda for Europe is a 'flagship programme' of Europe 2020, itself an initiative to stimulate the European economy. The programme has 7 pillars, three are recognized as being directly relevant to geo-information - Pillar 1: Digital Single Market; Pillar 2: Interoperability, openness and standards; and Pillar 7: ICT for societal benefits. EuroGeographics and its members are active, directly or indirectly in these three pillars.

ii. INSPIRE Directive

82. Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community - INSPIRE - entered into force on the 15th May 2007 with a period of transposition into member state laws. It establishes an infrastructure for spatial information in Europe to support Community environmental policies, and policies or activities which may have an

[2] Non-member countries = Andorra, Azerbaijan, Belarus, Kazakhstan, Monaco, San Marino, The Vatican.

impact on the environment. INSPIRE builds on the infrastructures for spatial information established and operated by the Member States of the European Union. To ensure that the spatial data infrastructures of the Member States are compatible and usable in a Community and trans-boundary context, the Directive requires that common Implementing Rules (IR) are adopted in a number of specific areas (Metadata, Data Specifications, Network Services, Data and Service Sharing and Monitoring and Reporting). The Commission is assisted in the process of adopting such rules by a committee composed of representatives of the Member States and chaired by a representative of the Commission. The drive for the development of national spatial data infrastructures is implementing the INSPIRE Directive3, within the member states and beyond. As the representative body of the European national mapping, cadastre and land registration authorities4 EuroGeographics is, on their behalf, developing a technical infrastructure which delivers harmonized national reference data as the European Location Framework.

iii. Copernicus

83. Copernicus is the new name of the European Earth Observation Programme, GMES (Global Monitoring for Environment and Security). Copernicus, or rather its predecessor, was established as an EU programme by the GMES Regulation (EU) No 911/2010. Article 5.2 of the Regulation is particularly relevant: 'The provision of GMES services shall be decentralised, where appropriate, to integrate at European level existing space, in-situ and reference data5 inventories and capacities in Member States, thus avoiding duplication. Procurement of new data that duplicate existing sources shall be avoided unless the use of existing or upgradable data sets is not technically feasible or cost-effective.' On 29 May 2013 the European Commission published a Proposal for a Regulation of the European Parliament and of the Council establishing the Copernicus Programme and repealing Regulation (EU) No 911/2010. The Programme covers all the activities for ensuring an uninterrupted provision of accurate and reliable data and information on environmental issues and security matters to users in charge of policy making, implementation and monitoring, in the EU and its Member States. EuroGeographics members in the EU countries are actively contributing to the development of this Regulation. EuroGeographics believes that the aims of Copernicus will be better delivered by utilizing to the fullest extent possible, were practical and appropriate, the in-situ authoritative geo-information of the members states NMCAs and we continue our constructive participation in the programme on this basis.

iv. The Re-use of Public Sector Information

84. On 12 December 2011 the European Commission published a proposal for a Directive of the European Parliament and of the Council amending Directive 2003/98/EC on the re-use of public sector information. The EU member states and associated NMCAs are subject to the directive. The legislative procedure for the proposed Directive is nearing completion for what is expected to be a "first reading" agreement. A compromise text was agreed among the EU institutions in three-way meetings during the Spring of 2013. EuroGeographics believes that this provisional text will make for a modern, workable Directive, that is, a better regulation; it fully accommodates our members' situations at least as well as the current PSI Directive; and it sits comfortably with our strategy of "realizing a public sector information framework that maximizes benefits and accommodates all our member's contributions". We believe the Directive enables our members to continue to provide, and indeed increase, the re-use of their authoritative data for the benefit of European society, growth and jobs.

[3] http://inspire.jrc.ec.europa.eu/
[4] http://www.eurogeographics.org
[5] In-Situ and reference data coming predominantly from the European NMCAs

D. Relevant European Initiatives

i. **The European Location Framework** (a project part funded by the European Commission)

85. The European Location Framework (ELF) is an infrastructure which delivers authoritative, interoperable, cross-border geospatial reference data, particularly from Europe's National Geodetic, Cadastre, Land Registry and Mapping authorities, for analyzing and understanding of information connected to places and features. The consortium which will deliver the project, includes EuroGeographics, 15 NMCAs and is coordinated by Statens Kartverk, the national mapping authority of Norway. The ELF is seen as Europe's contribution to the UN-GM4SD and a major contribution to the Digital Agenda for Europe. The project will deliver:

- A technical infrastructure through which national geo-information data and services will be discoverable and licensed for use and re-use.
- Software tools for quality evaluation, edge-matching, generalisation, transformation national > European (INSPIRE) specification and maintenance of UIDs.
- An inventory of national data policies, a policy for sustaining the infrastructure, terms of service for the E.L.F. platform, a description of legal and administrative platform solutions, a sustainable framework agreement and pricing and licensing terms.
- It will advance the arguments for political ownership of geo-information at EU level and seek to achieve agreement on the need for a European Location Strategy.

ii. **The Copernicus emergency management service – mapping component** (led jointly by the European Environment Agency and EuroGeographics)

86. The Copernicus emergency management service provides all actors involved in the management of natural disasters, man-made emergency situations, and humanitarian crises with timely and accurate geo-spatial information derived from satellite and in situ sources. The NMCAs are supporting the disaster and emergency management service with access to their national reference data through an agreement signed in 2011 between EuroGeographics and the European Environment Agency. The service infrastructure is based upon the pre-existing agreements between the NMCAs and the National Civil Protection Authorities or under other government agreements. EuroGeographics contributed to the EEA organised 'Monitoring Matters' workshop. The EEA has published a report containing many case studies of the use of in-situ data. http://gisc.ew.eea.europa.eu/gisc-project/meetings/2013/april-2013/gisc-event/workshop-report/final-mm-report-23-05-2013.pdf.

E. UN-GGIM, the initiative on Global Geospatial Information Management

87. Following the examples of other regions, the Co-chair of the UN-GGIM Committee of Experts together with EuroGeographics and the European Commission has proposed the establishment of a regional committee of UN-GGIM for Europe. The process of setting up such a committee has been described in paragraph 77 of this report. The National Mapping & Cadastral Authorities of Europe are represented at these meetings by the President of EuroGeographics. EuroGeographics is proactive and constructive in its participation towards a regional UN-GGIM Europe framework which:

- Is proportionate to the European situation;

- Ensures activity utilizes existing frameworks, resources and activities thereby minimizing duplication and preventable cost;
- Aligns with other programmes which are designed to bring benefit to European policy, society and development;
- An inclusive approach that, where possible and appropriate, enables participation from all geographical Europe.

F. United Nations Economic and Social Council (ECOSOC)

88. Following a considered opinion from stakeholders associated with UN-GGIM, EuroGeographics applied for non-governmental organization consultative status with UN Economic and Social Council (UN ECOSOC). The Association was comfortable with the validity of its application, however, despite meeting the general criteria, it was decided that our application could not go forward since our members are in effect part of their respective states and we therefore do not qualify as a non-governmental organization. This decision was verified by a further exchange of letters. Nevertheless, EuroGeographics remains committed to work with ECOSOC in any appropriate capacity and will welcome the opportunity to do so.

G. Summary

89. Awareness of geo-information's role as a vital inter-linkage for otherwise unconnected information has never been higher and is driving unprecedented levels of demand for data from the national mapping, cadastral and land registry authorities. To meet the increasingly diverse needs of users, EuroGeographics and its members are continually developing ways to increase access to and re-use of, not only national datasets, but also reliable, pan-European geospatial information. The commencement in March 2013 of the European Location Framework (E.L.F.) project, which will deliver interoperable, cross-border geo-information and play an important part in raising awareness of the importance of developing a European Location Strategy, means that the European NMCAs are well placed to play a major role in delivering their component of UN GM4SD and satisfying the needs of national and European policy makers. Arrangements for the routine use of the European NMCAs data in the Copernicus Emergency Management, Rush Mode mapping service has progressed well.

V. Progress Report on the Establishment of the United Nations Global Geospatial Information Management Regional Committee for Arab States

A. Summary

90. This report is an update of the activities carried out post the Seminar on Regional Cooperation in Geospatial Information Management held February 7, 2013 after the Second High Level Forum on GGIM, in Doha, Qatar. It contains an overview of the main activities, important issues and future plans for regional geospatial information management among the Arab States.

B. Background

91. The Seminar on Regional Cooperation held on February 7 2013, was a significant event in that it was the first time that 11 Arab States of the United Nations (Algeria, Bahrain, Egypt, Iraq, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and United Arab Emirates) met and discussed Global Geospatial Information Management (GGIM). The seminar was attended by 27 representatives from the 11 Member States,

five UN officials, four members from the regional groups of Europe and Asia and six observers. The aim of the regional seminar was to promote the increased use of geospatial information and to influence the development of the geospatial information field in the Economic and Social Commission for Western Asia (ESCWA) region. Specific objectives were to discuss the state of geospatial information management at a national level, provide an overview on international/regional cooperation and the United Nations Global Geospatial Information Management (UN-GGIM) initiative, and deliberate on the need to establish a regional UN-GGIM committee to coordinate geospatial information in the ESCWA region.

C. Report of the Regional Meeting in Doha

92. The regional meeting highlighted the considerable policy relevance of geospatial information, in particular in the context of the Rio+20 follow up. Furthermore, it demonstrated the interest of Arab States in geospatial information management, identified substantive priorities and recommended creating a Regional Committee on Geospatial Information Management. The meeting began with opening remarks followed by three sessions. Session one provided an overview of existing regional coordination efforts with presentations from UN-GGIM Asia-Pacific, UN-GGIM Europe, and an overview on UN-GGIM as a global intergovernmental mechanism including its mandate, objectives and future plans. The Second Administrative Level Boundary (SALB) Project was introduced, as an example of a product (work in progress) of international cooperation on GGIM. The Member States attending were invited to participate in the SALB project.

93. Session two provided Member States the opportunity to share and discuss the status of national GGIM/SDI initiatives in the region. Egypt, Qatar and Tunisia shared their work and achievements in the management of geospatial information. Based on the discussions, presentations and a pre-seminar survey on GGIM in the region, it was found that the Member States are undertaking considerable geospatial information activities. However, the level of adoption, implementation and maturity are variable. Member States have applied geospatial information in a variety of areas ranging from census, health, water, emergency management to land use management, and all were supporting decision making activities and generating societal benefits.

94. The third session was chaired by ESCWA. It was emphasized during the opening remarks that the UN-GGIM Secretariat, with the support of ESCWA, would facilitate the start of a regional partnership on GGIM for the region and provide Secretariat support to develop effective strategies to build geospatial capacities, improve policy, institutional arrangements and frameworks to address global issues and contribute to collective knowledge. At the conclusion of the discussions, Member States present agreed and endorsed the need to establish a regional committee and implement an organized structure, with support from the ESCWA Secretariat, to discuss and progress the regional interests of GGIM. UNSD, UN-GGIM and ESCWA were tasked to prepare the documentation required to begin the process of having the regional group on UN-GGIM created.

D. Findings from the Regional Questionnaire

95. A questionnaire was sent to 14 Member States in the ESCWA region, with the objective of gaining an overview of the status of geospatial information management and particularly the status of coordination at national and regional levels. The following is a list of challenges compiled from the discussions at the regional meeting in Doha and from responses to the pre-seminar questionnaire. Responses were received from five

countries, Algeria, Bahrain, Egypt, Tunisia and Qatar; a response rate of 36%. Bahrain, Tunisia and Qatar have ongoing geospatial information management activities. Institutional arrangements for geospatial information management varied in the responding countries, from national geospatial entities, to a collaborative association of agencies with separate geospatial responsibilities. It was noted that Bahrain has provided support and assistance to various countries in the region that were starting to build their spatial data infrastructures. Bahrain has a Memorandum of Understanding with the GIS Centers of the United Arab Emirates and Saudi Arabia.

96. The following geospatial information management challenges were identified:

i. Lack of coordination and cooperation between geospatial data producers and users.
ii. The need to create a national geospatial information infrastructure with a common reference frame for all users, to facilitate the exchange of information between the partners and contribute to economic development.
iii. No high level body (government authority) to ensure that all parties are committed and follow the agreed policies.
iv. Lack of geospatial standards (structure, geographical names etc).
v. Data inconsistency and coordinate system mismatch of the data from various stakeholders.
vi. Spatial data is often missing or incomplete, or the same data was collected by different organizations.
vii. Cultural, institutional, financial and legal barriers prevent or delay the sharing of spatial data.
viii. Data privacy and security need to be ensured for an individual's legal and physical wellbeing.
ix. An increasing array of, and changes in, technologies creates the need to quickly determine requirements and keep apace of the changes.
x. The need to develop human resources to support GIS environments, in addition to being able to retain qualified persons.

E. Activities post Doha

97. A number of activities have taken place to advance the establishment of UN-GGIM for the Arab States and the preparation of a plan of action post the Doha regional meeting. In April 2013, UNESCWA appointed the Director of Statistics as their focal point, with the support of the Director of Information and Communication Technologies, to provide Secretariat services to the UN regional committee on geospatial information management for the Arab States. The UN Statistics Division, UN-GGIM Secretariat will provide assistance and support to ESCWA.

F. Plan of Action

98. The UNESCWA and UN-GGIM Secretariat's have met and prepared a preliminary draft plan of action. The activities are as follows:

i. The proposed name for the regional entity is UN-GGIM for Arab States.
ii. UN-GGIM for Arab States is to be placed on the UNESCWA Commission's agenda/mandate.
iii. A soft launch of UN-GGIM ESCWA is to be facilitated at a time to be determined.
iv. Communication with and among Arab States in geospatial information management is to be formalized and strengthened.

v. A resolution on UN-GGIM for Arab States is to be tendered for adoption by the Committee of Experts at its third session, in July 2013.

vi. A meeting for the Arab States should be convened in the second half of 2013 to address modalities of operation and an initial programme of work. It is expected that a number of activities for inclusion will emanate from the third session of the Committee of Experts.

VI. Report of the Joint Board of Geospatial Information Societies

A. Overview

99. This document provides a Report from the Joint Board GIS (JB GIS) to the Third Session of the UN Committee of Experts on Global Geospatial Information Management 24-26 July 2013, Cambridge, UK.

B. Joint Board GIS

100. The JB GIS is a coalition of leading international geospatial societies that speaks on behalf of the geospatial profession at the international level, especially to the United Nations and other global stakeholders. It coordinates activities within the geospatial society and organizations, internationally. Membership of JB GIS:

- Global Spatial Data Infrastructure (GSDI) Association
- IEEE Geoscience and Remote Sensing Society (IEEE--GRSS)
- International Association of Geodesy (IAG)
- International Cartographic Association (ICA)
- International Federation of Surveyors (FIG)
- International Geographical Union (IGU)
- International Hydrographic Organization (IHO)
- International Map Industry Association (IMIA)
- International Society of Photogrammetry and Remote Sensing (ISPRS)
- International Steering Committee for Global Mapping (ISCGM)

101. The JB GIS meets formally once each year and informally when schedules permit. The JBGIS chair rotates between member societies. The next annual meeting of JB GIS will take place in Potsdam on 31 August 2013. This will be hosted by the International Association of Geodesy immediately before its conference in Potsdam.

C. Report content

102. This report provides an update to the UN Committee of Experts on GGIM Working Group on the activities of JB GIS. It reflects the input from JB GIS member organisations and the JB GIS collectively.

1. Background

103. In 2011 the JB GIS recognized that there existed the need for international coordination on global geospatial information management. In so doing it also recognized that a number of issues needed to be recognized, viz:

- Data sharing enabled by policy agreements and technology;

- Adoption of the highly stable International Terrestrial Reference Frame (ITRF) as the datum for all geospatial information;
- Integration of location data in solutions for environmental, security, economic and social issues;
- Utilization of location GIS analysis in evidence-based decision making;
- Use of visualization and cartographic representation to clearly communicate issues and solutions; and
- Access to data and answers via web and mobile applications (Apps).

104. In terms of spatially enabling a society, the JB GIS further recognized that there are further issues that need to be considered, namely:

- the educational framework;
- the technical and institutional development of spatial data management;
- the development of awareness at all levels of society (citizens institutions and decision-makers); and
- the development and applicability of land management tools in order to make best use of spatial data.

105. The following sections of this report focus on: 1. Two recent JB GIS activities undertaken to address some of these points; and 2. Activities conducted by JB GIS member organizations to support the development of GGIM initiatives.

2. JB GIS activities

VALID Project

106. The ISPRS is leading the development of a booklet – The Value of Geo-Information for Disaster and Risk Management (VALID) – Benefit Analysis and Stakeholder Assessment. This project follows on from a previous project, and associated publication: Geoinformation for Disaster and Risk Management – Examples and Best Practices (2010). This was a joint JBGIS/UNOOSA publication. This publication provided knowledge to decision-makers about on what can be done with appropriate geospatial information, applied via best practice applications. The ISPRS also lead the development of this booklet. The booklet is available online at: http://www.un-spider.org/about/portfolio/publications/jbgis-unoosa-booklet. In a briefing document provided by ISPRS to the JB GIS, how the VALID project would complement the Geoinformation for Disaster and Risk Management – Examples and Best Practices (2010) publication was descried as follows: "With the "Best Practices Booklet", knowledge has been provided on what can be done with appropriate geoinformation to support disaster management: methods, systems, applications, experiences. As a next logical step it would be useful to provide information on what it is worth: an evaluation of benefits". Professor Orhan Altan, First Vice-President of ISPRS, is leading the editorial group. Contributions are being provided through JB GIS member organizations, in conjunction with UNOOSA. It is planned to complete the publication this year. The publication will be formally launched in Vienna on 3 September 2013.

Exchange Forum: *Future Proofing the Provision of Geoinformation: Emerging Technologies*. With the international geospatial industry, Doha, Qatar, 3 February 2013

107. An Exchange Forum with the Geospatial Industry was developed and facilitated as a collaborative effort, developed and moderated by members of the organizations that comprise JBGIS and facilitated by the UN Cartographic Section, Strategic Support Service, Department of Field Support, with support from the UN Statistics Division.

Colleagues from the international industry, government, research and education geospatial community also generously supported the Exchange. It was held at the Qatar National Convention Centre, Doha, Qatar on the day immediately before the Second High Level Forum on GGIM, on Sunday February 3, 2013. The Exchange was entitled: *Future Proofing the Provision of Geoinformation: Emerging Technologies*. This pre-conference exchange facilitated the continued involvement of the geospatial industry at the most senior levels in the discussions surrounding UN-GGIM. It serves as a means for the industry to 'tie' into the GGIM agenda, while demonstrating some of the trends and directions in which the industry is heading.

108. Four focus issues were addressed during the Exchange: Determining place, Monitoring place, Connecting place and Delivering [geoinformation about] place. Below are summaries of the focus of each session and the outcomes.

Determining place

109. The session addressed the methods and technologies used to determine place. Advances in geodetic reference frames and techniques, surveying methods and technologies and the overarching concepts of geographic information collection and classification were the themes of this focus session. The session covered how new technologies can be used to facilitate the efficient location of geographic information – from global to local applications.

110. **Summary of the outcomes of this session:** IAG has developed an accurate International Terrestrial Reference System (ITRS) on which all GNSS positioning services are based. The sustainability of ITRS implementation and associated infrastructures require intergovernmental support and commitment through a UN mandate.

Monitoring place

111. Advances in remote sensing and imaging, and related technologies continue to make data collection, monitoring and surveillance more efficient. This is happening from local to global applications. This session provided discourse on technologies; strategies and methodologies that facilitate essential information capture to support global geospatial initiatives.

112. **Summary of the outcomes of this session:** Noting the advances in number, types and capacities of platform and sensors, imageries is the main source of data and the basis for monitoring place. There remain the needs for open standards and strategies to demonstrate the underlying economic benefit of geospatial information as well as consideration to address privacy issues that are context driven. These are important considerations for the future technological development.

Connecting place

113. Facilitating the accessibility and usefulness of geolocated data and collected information relies upon having systems and agreements in place that enable the efficient use of these resources. At a global level, just having information available is not enough – efficient and usable methods for management, access and dissemination are needed. This session covered the advances in research and development and current initiatives being applied to ensure that decision-makers are able to better access and use geospatial data and information.

114. **Summary of the outcomes of this session:** Collaborating and communicating across disciplines using the value of place to facilitate informed decision making to improve societies. This could be achieved by integrating authoritative and crowd-sourced information and place-based analysis using the Cloud platform.

Delivering [geoinformation about] place

115. Once geospatial data and information is collected, analyzed and represented there exists the need to have systems and standards in place to ensure efficient delivery of that data and information. Rapid advances are being made in this area, as electronic production and publishing methods are combined with contemporary communications systems for output and delivery. This session provided information regarding current and developing technologies for production and delivery of authoritative data and information for decision-makers.

116. **Summary of the outcomes of this session:** Contemporary GIS offers flexible platforms for managing and integrating data under the context of location. Electronic production and publishing methods are combined with contemporary communications systems for output and delivery. There remain the needs for effective communication of geospatial information through context-dependent contemporary cartographic presentation techniques to ensure efficient dissemination of geospatial information to decision makers as well as the public.

117. The JB GIS wishes to acknowledge the contributions of Ms. Ayako Kagawa, Chief Geospatial Support Unit, Cartographic Section, Strategic Support Service/Logistics Support Division (LSD), Department of Field Support, United Nations, who undertook the task of facilitating the arrangements for the Exchange. Also, the JB GIS acknowledges the support of the Government of Qatar and the United Nations Statistics Division.

D. Other JB GIS member organization activities supporting the advancement of GGIM

1. Global geodetic reference frame

118. The International Association of Geodesy are collaborating with the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific on the global geodetic reference frame.

2. Critical issues relating to the integration of land and marine geospatial information

119. The International Hydrographic Organization (IHO) and the International Federation of Surveyors (FIG) are collaborating to provide support on critical issues relating to the integration of land and marine geospatial information.

3. Status of mapping of the world

120. The International Society for Photogrammetry and Remote Sensing (ISPRS) is collaborating to provide a report on the status of mapping in the world.

E. Commitment

121. The JB GIS reiterates that, through its member associations, it offers to contribute actively to the work of the UN-GGIM and to take action as necessary as a result of the Committee's deliberations.