



United Nations

Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific

Kuala Lumpur, 11-14 April 2000

**Economic and Social Council
Official Records, 2000**

Report of the Conference

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Official Records, 2000

Department of Economic and Social Affairs

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Cartographic Conference for Asia
and the Pacific**

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United Nations • New York, 2000

Note

Symbols of United Nations documents are composed of capital letters combined with figures.

The proceedings of the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific, held at Kuala Lumpur, Malaysia, from 11 to 14 April 2000, are being issued in one volume as the report of the Conference.

The proceedings of the previous United Nations regional cartographic conferences for Asia and the Far East were issued under the following symbols and sales codes: E/CONF.18/6 (Sales No. 55.I.29) and E/CONF.18/7 (Sales No. 56.I.23) for the First Conference; E/CONF.25/3 (Sales No. 59.I.9) and E/CONF.25/4 (Sales No. 61.I.8) for the Second Conference; E/CONF.36/2 (Sales No. 62.I.14) and E/CONF.36/3 (Sales No. 64.I.17) for the Third Conference; E/CONF.50/4 (Sales No. 65.I.16) and E/CONF.50/5 (Sales No. 66.I.3) for the Fourth Conference; E/CONF.52/4 (Sales No. E.68.I.2) and E/CONF.52/5 (Sales No. E.68.I.14) for the Fifth Conference; E/CONF.57/2 (Sales No. E.71.I.15) and E/CONF.57/3 (Sales No. E.72.I.20) for the Sixth Conference; E/CONF.62/3 (Sales No. E.74.I.7) and E/CONF.62/4 (Sales No. E.74.I.25) for the Seventh Conference; E/CONF.68/3 (Sales No. E.77.I.12) and E/CONF.68/3/Add.1 (Sales No. E.78.I.8) for the Eighth Conference; E/CONF.72/4 (Sales No. E.81.I.2) and E/CONF.72/4/Add.1 (Sales No. E/F.83.I.14) for the Ninth Conference; E/CONF.75/5 (Sales No. E.83.I.18) and E/CONF.75/5/Add.1 (Sales No. E/F.86.I.11) for the Tenth Conference; E/CONF.78/4 (Sales No. E.87.I.13) and E/CONF.78/4/Add.1 (Sales No. E/F.88.I.18) for the Eleventh Conference; E/CONF.83/3 (Sales No. E.91.I.42) and E/CONF.83/3/Add.1 (Sales No. E/F.94.I.11) for the Twelfth Conference; E/CONF.87/3 (Sales No. E.94.I.19) and E/CONF.87/3/Add.1 (to be issued) for the Thirteenth Conference; and E/CONF.89/5 (Sales No. E.97.I.12) for the Fourteenth Conference.

E/CONF.92/1

United Nations publication
Sales No. E.01.I.2

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Printed by the United Nations Reproduction Section, New York

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Chapter I

Organization of the Conference

A. Terms of reference

1. The Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific was held in Kuala Lumpur, Malaysia, from 11 to 14 April 2000. The Conference was held in accordance with Economic and Social Council decision 2000/209 of 4 February 2000. For the first time, the Conference incorporated the sixth meeting of the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP).

B. Welcoming ceremony

2. On 11 April 2000, Dato' Abdul Majid Mohamed of Malaysia, President of the Permanent Committee on GIS Infrastructure for Asia and the Pacific, addressed the Conference. Amor Laaribi, representative of the Statistics Division of the United Nations, read out a welcoming address on behalf of the Director of the Division. The Minister for Land and Cooperative Development of Malaysia, Tan Sri Datuk Kasitah Gaddam, made an opening statement.

C. Opening of the Conference

3. The Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific was opened in Kuala Lumpur on 11 April 2000 by the President of the Permanent Committee on GIS Infrastructure for Asia and the Pacific, Dato' Abdul Majid Mohamed.

D. Election of the President

4. At its 1st plenary meeting, on 11 April, upon the proposal of Amor Laaribi of the Statistics Division of the United Nations, the Conference elected Dato' Abdul Majid Mohamed President of the Conference by acclamation.

5. At the same meeting, the President made a statement.

E. Election of other officers

6. At its 1st plenary meeting, the Conference elected the following officers by acclamation:

Vice-President:

Yang Kai, China* (Vice-President of the Permanent Committee)

Rapporteur:

Drew Clarke, Australia (Secretary of the Permanent Committee)

* The post of one Vice-President remained vacant.

F. Objectives of the Conference

7. The primary objective of the Conference is to provide a regional forum where governmental officials, planners, scientists and experts from Asia and the Pacific and other regions can meet to exchange ideas and information and to address the common needs, problems and experiences in the field of cartography and geographical information, including educational and training aspects, scientific and technological requirements, implementation issues and benefits. Additional specific objectives are to report on the assessment of the status of the resolutions adopted at the Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific; to report on the developments and contributions of cartography and geographical information in support of the implementation of Agenda 21; and to report on the progress in the development and implementation of national spatial data infrastructures. The Conference will receive reports from the Permanent Committee on its activities since the Fourteenth Conference and will establish requirements for the activities of the Permanent Committee for the next three years.

G. Adoption of the rules of procedure

8. At its 1st plenary meeting, the Conference adopted the rules of procedure (E/CONF.92/INF/2).

H. Adoption of the agenda

9. At its 1st plenary meeting, the Conference approved the following provisional agenda:

1. Opening of the Conference.
2. Election of the President and other officers of the Conference.
3. Objectives of the Conference.
4. Organizational matters:
 - (a) Consideration and adoption of the rules of procedure;
 - (b) Adoption of the agenda;
 - (c) Establishment of committees and election of chairmen and rapporteurs;
 - (d) Organization of Conference work;
 - (e) Credentials of representatives to the Conference.
5. Report of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP).
6. Country reports.
7. Report on the implementation of resolution 3 of the Fourteenth Conference.

8. Reports on the status of implementation of resolutions of previous conferences from countries, the United Nations and non-governmental organizations.
9. Reports on achievements in surveying, mapping and charting in addressing national, subregional, regional and global issues, including:
 - (a) New National Spatial Data Infrastructure (NSDI) and Asia and the Pacific Spatial Data Infrastructure (APSDI);
 - (b) Environmental management, including oceans and disaster mitigation;
 - (c) Public access to and exchange of information;
 - (d) Land reform, land management, planning and development;
 - (e) Human settlements: demography and policy;
 - (f) Desertification and land degradation;
 - (g) Development of human resources;
 - (h) Safety of maritime and air navigation;
 - (i) Other applications of surveying and mapping in support of the implementation of Agenda 21;
 - (j) Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States and the Declaration of Barbados;
 - (k) Policy and management of national surveying and mapping activities;
 - (l) Funding of national surveying and mapping activities;
 - (m) Technical cooperation and transfer of technology.
10. Review of achievements of the Conference.
11. Provisional agenda of the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific.
12. Adoption of the report of the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific.

The provisional agenda for the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific is contained in annex I to the present report.

I. Establishment of committees and election of chairmen and rapporteurs

10. At its 1st plenary meeting, the Conference decided to establish the following five technical committees to consider issues for adoption by the Conference:

Committee I: Cadastral

Committee II: Geodesy

Committee III: Fundamental data

Committee IV: Development needs

Committee V: Geographical names

11. At the same meeting, the Conference elected the following conveners of the five technical committees:

Committee I (Cadastral): Ian Williamson (Australia), representing International Federation of Surveyors Commission 7

Committee II (Geodesy): Majid Kadir (Malaysia)

Committee III (Fundamental data): John Estes (United States of America)

Committee IV (Development needs): Wu Guoxiang (Economic and Social Commission for Asia and the Pacific)

Committee V (Geographical names): John Parker (Australia)

12. Also at the 1st plenary meeting, the Conference decided to authorize the technical committees to elect their rapporteurs.

J. Organization of work

13. At its 1st plenary meeting, the Conference approved the proposed organization of work, as contained in the brochure "Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific: a milestone for sustainable development", as orally amended, on the understanding that minor modifications might be made as necessary.

K. Documentation

14. A list of the documents submitted to the Conference appears as annex II to the present report. The technical papers are to be compiled after review and editing.

L. Report on credentials

15. At the 5th meeting, on 14 April, the President of the Conference reported that the Credentials Committee had reviewed all credentials and found them to be in order.

M. Attendance

16. The Conference was attended by 200 representatives and observers of 34 countries and territories and 12 intergovernmental and international scientific organizations. A list of participants is given in annex III to the present report.

Chapter II

Plenary session

17. At the 2nd plenary meeting, on 11 April 2000, Dato' Abdul Majid Mohamed presented a report of the Executive Board of the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) (E/CONF.92/L.10) on the activities in geographical information infrastructure undertaken in accordance with the resolutions of the Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific, progress achieved by the Permanent Committee in the accomplishment of its work plans and its proposed future activities.

18. At the same meeting, Rudolph Matindas (Indonesia), Chairman of PCGIAP Working Group I, "Regional Geodetic Network", presented a report of the Group (E/CONF.92/L.11) on the achievements during the past three years in the implementation of a common geodetic network for the Asia and the Pacific region, as the basis for regional geographical information systems (GIS) applications.

19. Also at the 2nd plenary meeting, Peter Holland (Australia), Chairman of PCGIAP Working Group II, "Regional Fundamental Data", presented a report of the Group (E/CONF.92/L.12) on the activities relating to fundamental data through development of regional fundamental data sets and mechanisms for sharing these data. A pilot project dealing with administrative boundaries has been initiated. Future activities dealing with policy on data-sharing, assistance to national spatial data infrastructure and clarification of the clearing-house concept, data dictionaries and metadata are proposed.

20. At the same meeting, Drew Clarke, Secretary of the Permanent Committee, presented a report of the PCGIAP Development Needs Task Force (E/CONF.92/L.14) on the activities in geographical information infrastructure and institutional framework issues relating to the spatial data infrastructure strategy for the Asia and the Pacific region, determination of national spatial data infrastructure development needs and the elaboration of a glossary of terms. Essential spatial data infrastructure development needs priorities were identified, relating to national spatial data infrastructure policy and programmes, geodesy, GIS standards, coordination, cadastral systems and digital mapping.

21. Also at the 2nd plenary meeting, Mr. Mohamed informed the Conference regarding the status of implementation of the resolutions of the Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific and proposed a prototype for a monitoring system, which would constitute a good mechanism for assessing the implementation of the resolutions of the Conferences.

22. At the same meeting, Drew Clarke, Secretary of the Permanent Committee, made a statement on the status of submission of the country reports. National reports had been received from 14 of the countries attending the Conference: 13 reports from Asia and the Pacific countries: Australia, Brunei Darussalam, China, Fiji, India, Indonesia, Japan, Mongolia, New Zealand, the Republic of Korea, the Russian Federation, Singapore and Thailand; and 1 report from Germany (see annex II). According to the reports, major trends in the Asia/Pacific region include: (a) progress in the adoption and recognition of the concept of the spatial data infrastructure (SDI), the acceleration in implementation of national SDI programmes, and the involvement of many countries in the implementation of

regional and global SDI; (b) strengthening of communication and cooperation between countries in the region for the acquisition and sharing of spatial data, through the activities of the Permanent Committee on GIS Infrastructure for Asia and the Pacific.

23. At the 3rd plenary meeting, on 12 April, Derek Clarke, Chairman of the Global Spatial Data Infrastructure Steering Committee, presented a paper entitled "GSDI and emerging nations: challenges and opportunities for global cooperation" (E/CONF.92/BP.2). It highlighted the intimate linkage between national, regional and global geographical information issues. Many development issues extend beyond national and regional boundaries, and countries gain to benefit from cooperation with other countries. In addition, global initiatives and programmes will be effective only with the full participation by member countries at the national and regional levels. To best participate in the global spatial data infrastructure community, developing countries should first develop a national spatial data infrastructure (NSDI) which can then be merged with the regional and global models. Among the challenges facing developing countries, an emphasis was put on the institutional strengthening of national mapping agencies (NMAs), with donor funding support.

24. At the same meeting, John E. Estes, Chairman of the International Steering Committee for Global Mapping, presented a paper entitled "International Steering Committee for Global Mapping: current status and future plans and challenges" (E/CONF.92/BP.3). He reported on current and future plans and challenges of the Global Mapping project. The reasons that had led to adopting the 1:1,000,000 scale and 1 kilometre (km) resolution were explained. An emphasis was put on the double-sided challenge: to demonstrate that global data are locally important and vice versa. What makes the product of the Global Mapping project so unique is the increasing level of active participation by NMAs.

25. Also at the 3rd plenary meeting, Ian P. Williamson, Head of the Department of Geomatics at the University of Melbourne, presented a paper entitled "The United Nations/FIG Bathurst Declaration on Land Administration for Sustainable Development: the role in spatial data infrastructures" (E/CONF.92/BP.4). He reported that SDI is a key element of land administration infrastructure, but its development must be driven by business needs. He asserted that multi-purpose cadastre is the future and that sustainable development is only rhetoric without a land management system.

26. At the same meeting, Santiago Borrero-Mutis, President of the Permanent Committee on Spatial Data Infrastructure for the Americas, presented a paper entitled "Formation of the United Nations Permanent Committee on Spatial Data Infrastructure for the Americas" (E/CONF.92/BP.5). He reported on the three-year process that had led to its creation in February 2000, and the role and vision of this Committee. He also reported on a recent survey showing how different Latin America is from other regions in the world, and then on the challenges the Committee is facing in supporting the development of SDI in that region.

27. Also at the 3rd plenary meeting, John Parker, Immediate Past Chairman of the United Nations Group of Experts on Geographical Names, Asia South-East, Pacific South-West Division, presented a paper entitled "Geographical names and the Asia and the Pacific Spatial Data Infrastructure (APSDI)" (E/CONF.92/BP.6). He reported on the role and links of geographical names within the Asia and the Pacific

Spatial Data Infrastructure (APSDI), the benefits to be derived from consistent use of names and the opportunity for PCGIAP to provide a basis for geographical names across the region.

28. At the same meeting, Wu Guoxiang, Chief of the Space Technology Applications Section of the Economic and Social Commission for Asia and the Pacific (ESCAP), presented a paper entitled “The role of the Regional Space Applications Programme for Sustainable Development in the Asia and the Pacific Spatial Data Infrastructure” (E/CONF.92/BP.7). The representative of ESCAP reported on Regional Space Applications Programme for Sustainable Development (RESAP) activities related to remote sensing data acquisition and updating methods, integrated applications of GIS and remote sensing for sustainable natural resources and environmental management. He emphasized the role of space applications in establishing and supporting a regional SDI and the education and training support that was national capacity-building-oriented.

29. At the 4th plenary meeting, on 13 April, Robert Foster, President of the International Federation of Surveyors (FIG), presented a paper entitled “Surveying issues and challenges for the twenty-first century” (E/CONF.92/BP.8). He gave a comprehensive description of the role of surveying in globalization development in general, and in geographical information infrastructure in particular. For example, FIG could play the role of facilitator between United Nations organizations and other organizations related to the field of geographical information.

30. At the same meeting, Bengt Rystedt, President of the International Cartographic Association (ICA), presented a paper entitled “Leading-edge cartographic developments and challenges” (E/CONF.92/BP.9). He emphasized the crucial challenges cartography is facing and the course to be followed in order for it to play its role in supporting SDI. He asserted that the traditional cartographer should step into the professional world as a spatial information broker. He also presented the future events and plans of ICA.

31. Also at the 4th plenary meeting, John Manning, Chairman of the International Association of Geodesy (IAG) Subcommittee on South Asia and the Pacific, presented a paper entitled “The role of IAG in densification of global geodetic networks” (E/CONF.92/BP.10). A comprehensive description of IAG activities shows its strong commitment to assisting the geodetic-based work in the developing countries within their resources, and to building a homogeneous global geodetic infrastructure. For example, the International Global Positioning System (GPS) Base Stations network offers important services and products with direct relevance to the Asia-Pacific community, in particular for densification of compatible regional geodetic networks for use in SDIs. IAG also supports the work of the PCGIAP Working Group on Regional Networks for Asia and the Pacific.

32. At the same meeting, Richard Groot, of the International Institute for Aerospace Survey and Earth Sciences (ITC), presented a paper entitled “Corporatization of national mapping agencies: challenges and opportunities” (E/CONF.92/BP.11). This paper addressed a fundamental issue related to reconsideration of the mandate of NMAs, which are caught in the crossfire as a result of the new developments and shifts arising from new information and communication technologies and the emergence of the geo-information concept. NMAs are facing a changing natural monopoly with respect to privatization and value-added products, economic competition and efficiency issues. In order to

assure their continuing relevance, NMAs must participate in the non-monopoly component of the value-added market.

33. Also at the 4th plenary meeting, Frank Byamugisha, Principal of the Rural and Natural Resources Sector Unit, Development Research Group, World Bank, presented a paper entitled “World Bank support for land-related projects in developing countries: experiences and implications for international cooperation” (E/CONF.92/BP.12). This paper reviewed the rationale for World Bank support for land-related projects and policy reform in countries moving from centrally planned to market economies and other developing countries. The lessons that the Bank has learned from these experiences and their implications for international cooperation are also reported. There is a need for greater sharing of spatial data (including cadastral data) at national and international levels and best practices in the design and implementation of land administration projects.

34. At the same meeting, Shoichi Matsumura, of the Geographical Survey Institute, Japan, presented a paper entitled “The role of geographical information in JICA programmes across the Asia and the Pacific region” (E/CONF.92/BP.13). This paper gave a description of technical cooperation programmes of the Japan International Cooperation Agency (JICA) and noted the increasing demand for GIS development. JICA affirmed its commitment to continuing to assist developing countries across the Asia and the Pacific region through geographical information programmes.

35. Also at the 4th plenary meeting, Keu Mataroa, of the Ministry of Works Energy and Physical Planning, Cook Islands, presented a paper entitled “GIS development and challenges in Pacific island nations” (E/CONF.92/BP.14). The representative of Cook Islands, as a small Pacific island country, thanked the United Nations for the opportunity to attend and contribute to the Conference. He reported on the PCGIAP Pacific Workshop, hosted by Fiji, held in Suva from 22 to 25 March 1999, sponsored by Australia and attended by 15 countries (from the 19 Pacific island countries). He also reported on the formation of the PCGIAP Pacific Group, representing the 19 members. He emphasized Pacific Group development needs and priorities, including institutional strengthening, regional geodesy extension to include all Pacific members, and Pacific remote sensing data library requirements.

36. At its 5th plenary meeting, on 14 April, the Conference took note of the reports of the technical committees and decided that the summaries of the reports would be incorporated into the final report of the Conference.

37. At the same meeting, Ian Williamson, of Australia, Convener of Committee I (Cadastral), introduced a draft resolution (E/CONF.92/L.39) entitled “Bathurst Declaration on Land Administration for Sustainable Development”, submitted on the basis of informal consultations.

38. Also at its 5th plenary meeting, the Conference adopted draft resolution E/CONF.92/L.39, as orally amended (see chap. VIII, sect. B).

39. At the same meeting, Mr. Williamson introduced a draft resolution (E/CONF.92/L.40) entitled “Establishment of a working group on the cadastre”, submitted on the basis of informal consultations.

40. Also at its 5th plenary meeting, following statements by the representatives of China, Australia and the Philippines, the Conference adopted draft resolution E/CONF.92/L.40, as orally amended (see chap. VIII, sect. B).
41. At the same meeting, Mr. Williamson introduced a draft resolution (E/CONF.92/L.41) entitled “Economic aspects of modern surveying, mapping, geospatial data infrastructure and land administration programmes”, submitted on the basis of informal consultations.
42. Also at its 5th plenary meeting, following statements by the representatives of China, Australia, Brunei Darussalam, India and Germany, the Conference adopted draft resolution E/CONF.92/L.41, as orally amended (see chap. VIII, sect. B).
43. At the same meeting, Majid Kadir (Malaysia), Convener of Committee II (Geodesy), introduced a draft resolution (E/CONF.92/L.38) entitled “Regional geodetic infrastructure”.
44. Also at its 5th plenary meeting, following a statement by the representative of the Islamic Republic of Iran, the Conference adopted draft resolution E/CONF.92/L.38, as orally amended (see chap. VIII, sect. B).
45. At the same meeting, Saeid Noori-Bushehri (Islamic Republic of Iran), Rapporteur of Committee III (Fundamental data), introduced a draft resolution (E/CONF.92/L.36) entitled “Fundamental data”.
46. Also at its 5th plenary meeting, following a statement by the representative of Nepal, the Conference adopted draft resolution E/CONF.92/L.36, as orally amended (see chap. VIII, sect. B).
47. At the same meeting, Keu Mataroa (Cook Islands), Rapporteur of Committee IV (Development needs), introduced a draft resolution (E/CONF.92/L.37) entitled “Institutional strengthening”.
48. Also at its 5th plenary meeting, following statements by the representatives of the Russian Federation, Germany and Australia, the Conference adopted draft resolution E/CONF.92/L.37, as orally amended (see chap. VIII, sect. B).
49. At the same meeting, John Parker (Australia), Rapporteur of Committee V (Geographical names), introduced a draft resolution (E/CONF.92/L.42) entitled “Promotion of national and regional geographical names standardization programmes”.
50. Also at its 5th plenary meeting, the Conference adopted draft resolution E/CONF.92/L.42 (see chap. VIII, sect. B).
51. At the same meeting, Santiago Borrero-Mutis (Colombia) introduced a draft resolution (E/CONF.92/L.43) entitled “Cooperation with the United Nations Geographic Database initiative”.
52. Also at its 5th plenary meeting, the Conference adopted draft resolution E/CONF.92/L.43 (see chap. VIII, sect. B).
53. At the same meeting, Drew Clarke, Secretary of the Permanent Committee, introduced a draft resolution (E/CONF.92/L.44) entitled “Vote of thanks”.
54. Also at its 5th plenary meeting, the Conference adopted draft resolution E/CONF.92/L.44 (see chap. VIII, sect. B).

55. At the same meeting, Drew Clarke, Secretary of the Permanent Committee, introduced a draft resolution (E/CONF.92/L.35) entitled "Provisional agenda for the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific".

56. Also at its 5th plenary meeting, the Conference adopted draft resolution E/CONF.92/L.43 (see annex I).

57. At the same meeting, Drew Clarke, as Rapporteur of the Conference, introduced the draft report of the Conference on its fifteenth session (E/CONF.92/L.34).

58. Also at its 5th plenary meeting, the Conference adopted draft report E/CONF.92/L.34 and authorized the Rapporteur to finalize it in consultation with the President and Vice-President, by incorporating therein the proceedings of the meeting.

59. At the same meeting, the President made a closing statement.

Chapter III

Work of Committee I (Cadastral)

60. At the 5th plenary meeting, on 14 April 2000, Ian Williamson (Australia), Convener of Committee I (Cadastral), presented the oral report of the Committee. The Cadastral Workshop discussed the following main issues:

(a) Importance of raising the awareness of cadastral and land administration issues in government and the wider society;

(b) Need to consider the economic options in cadastral reform and land administration systems;

(c) Importance of involving local communities in cadastral reform;

(d) Importance of quantifying the linkage between cadastral systems and sustainable development;

(e) Need to quantify the performance of cadastral and land administration systems;

(f) Need to recognize the difficulties in integrating cadastral and topographic data at a national level;

(g) Need for care when developing International Organization for Standardization (ISO) standards so that they are not overly influenced by local issues.

61. The objective of the Workshop was to establish a working group on the cadastre within the PCGIAP to ensure an ongoing cadastral or land administration focus and support for related activities, and to develop a work plan for 2000-2003. In order to justify the establishment of a working group on cadastre, the Workshop:

(a) Overviewed recent cadastral and land administration activities of the United Nations Regional Cartographic Conferences for Asia and the Pacific and PCGIAP to date:

- Thirteenth Regional Cartographic Conference for Asia and the Pacific, Beijing;
- Fourteenth Regional Cartographic Conference for Asia and the Pacific, Bangkok;
- United Nations/FIG Bogor Declaration on Cadastral Reform;
- United Nations/FIG Bathurst Declaration on Land Administration for Sustainable Development;

(b) Overviewed the activities of the Meeting of Officials on Land Administrators (MOLA) established under the Economic Commission for Europe (ECE);

(c) Overviewed the activities of Commission 7 (Cadastre and Land Management), FIG:

- Statement on Cadastre;
- Cadastre 2014;

- Work plan 1994-1998;

- Work plan 1998-2002;

(d) Discussed the cadastral and land administration activities of member States in the Asia-Pacific region:

- Land titling or land administration projects;
- Integration of cadastral and topographic data sets as part of State or national SDI;
- Automation of cadastral systems;
- Development of national cadastral layers within NSDIs (including properties and addresses) and particularly the activities of the Public Sector Mapping Agencies of Australia;

(e) Discussed the justification and needs of member States for a cadastral and land administration focus in the United Nations Regional Cartographic Conference for Asia and the Pacific and PCGIAP including:

- Need to share experiences on cadastral reform;
- Need to justify cadastral and land administration infrastructures and reform in support of sustainable development;
- A focus to implement the recommendations of the United Nations/FIG Bathurst Declaration on Land Administration for Sustainable Development.

62. The outcomes of the Workshop were as follows:

(a) The Workshop agreed to propose the establishment of a working group on cadastre to PCGIAP;

(b) Eight persons, from Malaysia, Australia, India, Fiji and New Zealand, agreed to be involved in the operation of the working group;

(c) The Workshop agreed to propose a resolution to PCGIAP and the United Nations Regional Cartographic Conference for Asia and the Pacific endorsing the United Nations/FIG Bathurst Declaration.

Chapter IV

Work of Committee II (Geodesy)

63. At the 5th plenary meeting, on 14 April 2000, Majid Kadir (Malaysia) Convener of Committee II (Geodesy), presented the oral report of the Committee. In its work, Committee II discussed the following matters:

- (a) Consideration of work for the previous period;
- (b) Regional geodetic campaign items;
- (c) New projects 2000-2003;
- (d) Development of the 2000-2003 work plan.

A. Work for the previous period

1. Regional precise geodetic network

64. The aims of this project are:

- Establishment of positional values, within a global reference frame, for a fundamental network of permanent geodetic stations across the Asia and the Pacific region;
- Development of strategies for incorporating additional permanent stations;
- Contribution of data to the International Earth Rotation Service (IERS), the International Geodynamics Service (IGS) and the International Laser Ranging Service (ILRS) as a regional contribution to the global reference frame.

65. The meeting was briefed by John Manning regarding the excellent progress made by working group I of PCGIAP in establishing the regional precise geodetic network for GIS infrastructure for Asia-Pacific. The network was realized through two GPS campaigns, namely, Asia Pacific Regional Geodetic Project 1997 (APRGP97) and APRG98. In both observation campaigns, a number of techniques such as GPS, Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS), satellite laser ranging (SLR) and Very Long Baseline Interferometry (VLBI) were employed. The GPS data were processed by Australia, Japan, China, Indonesia and Malaysia. Both campaigns produced significant results and also achieved a degree of technology transfer for participating members. APRGP99 campaign has been successfully carried out and the data will be processed and presented at the workshop in Mongolia in August 2000.

2. Local to regional datum linkages

66. The aims of this project are:

- Linkage of national geodetic datums together, so that all spatial information from individual countries can be readily assembled into a unified regional SDI for GIS purposes. Field GPS campaigns will assist in linking individual networks to the regional datum;
- Facilitation of the development of appropriate transformation parameters for conversion of spatial data from individual country databases to a regional SDI.

67. Working group I of PCGIAP completed the following:

- Observation campaign implemented with GPS, VLBI, SLR and DORIS;
- Observation campaign with good participation of 15 countries;
- Processing of GPS data and results delivered to IERS for inclusion in the International Terrestrial Reference Frame (ITRF) 2000;
- Presentation of papers on transformation prepared by the Islamic Republic of Iran and Australia and published in the proceedings of the second workshops.

3. Regional Vertical Datum

68. The objective of this project is:

- Development of a strategy for the most appropriate regional vertical datum, to be applied to the Asia and the Pacific region.

This will involve investigating the most appropriate approach to an optimal seamless geoid and the concept of adopting a reference ellipsoid to link individual datums to a regional datum.

69. Working group I completed the following:

- Presentation at the second workshop of a paper prepared by the Islamic Republic of Iran, highlighting the need for inclusion of GPS observations at a number of sea level tide gauges for inclusion in year 2000 regional campaign;
- Ongoing communication item.

B. Regional geodetic campaign items

70. Regional geodetic campaign items include:

(a) Status of APRGP99: the meeting was informed that the campaign GPS data would be distributed to member countries shortly. This was due to the delay in the inclusion of data from 10 stations of the Islamic Republic of Iran. The solutions for APRGP99 will be discussed at the third regional workshop in Mongolia;

(b) Third regional workshop in Mongolia: the Mongolian delegates briefed the meeting regarding the preparations made, including the place for workshop, travel information, planned activities;

(c) Geocentric datums: Mr. Matsumura of Geographical Survey Institute (GSI), Japan, briefed the meeting regarding the study on the geocentric datum of Japan.

C. New projects 2000-2003

71. The meeting agreed to undertake various projects as follows:

- Establishment of a regional geodetic vertical datum: Indonesia agreed to take the lead in this project;
- Enhancement of a regional geodetic infrastructure through the annual cooperative campaign.

72. The meeting agreed to undertake the APRGP2000 campaign in October/November 2000, for 2001 and 2002, including:

(a) Improvement of the regional geoid: to study the terrestrial (relative) gravity data weaknesses and develop a work plan for further observational requirements leading to an improved regional geoid: Malaysia agreed to take the lead in this project;

(b) Implementation of the absolute gravity reference system: to develop a proposal for the regional absolute gravity observation campaign to connect relative gravity networks to gravity reference frames: Japan agreed to take the lead in this project.

73. Other projects:

- Development of transformation parameters for spatial data: to look at various available strategies of transformation and propose suitable strategies for implementation: China agreed to take the lead in this project;
- Geodetic technology transfer to Pacific Islands nations: Fiji agreed to take the lead in this project.

D. Development of the 2000-2003 work plan

74. The work plan will be drafted.

Chapter V

Work of Committee III (Fundamental data)

75. At the 5th plenary meeting, on 14 April 2000, Saeid Noori-Bushehri (Islamic Republic of Iran), presented the oral report of Committee III (Fundamental data).

Work of Committee III covered the following:

- (a) Development of the 2000-2003 work plan;
- (b) Review of terms of reference;
- (c) Composition of fundamental data group.

76. The work plan for the next three years includes:

- (a) Policy;
- (b) Fundamental data;
- (c) Data nodes;
- (d) GIS applications.

A. Policy

77. Policy:

- Policy for sharing fundamental data;
- Guidelines for custodianship.

78. Under the policy, PCGIAP member countries agreed to share fundamental spatial data in an easy, efficient and equitable manner in order to address regional economic, social and environmental issues. The types of data subject to the policy are being defined by PCGIAP and are generally at a map scale of 1:1 million. Member countries agree to operate under a set of management principles that describe custodianship responsibilities; access conditions; data content and compliance requirements; linkages to SDIs at national, regional and global levels; and confidentiality, privacy, security and intellectual property considerations.

79. Peter Holland outlined the history and critical parts of the policy and stressed that this was more of a general policy but that specific issues might be added at a later stage. It was very important for members to know that some sort of policy (which could be built on) had been endorsed at this conference. The fundamental data sets are at a 1:1 million scale; there was a deliberate decision to select this scale for a number of reasons: to reduce political sensitivity in making small-scale data available to other users; and to make the sharing of these data at the global and regional levels consistent with initiatives such as the Global Map and the Global Spatial Data Infrastructure (GSDI). It was noted that fundamental data, particularly in the Pacific region, should be provided at a much larger scale in order to actually cover some of these islands — provided that permission to make these larger-scale data available was given by the member countries. Coastline data should be made available for use in a pilot project to test the policy against the reality. Policy — as presented at the meeting — was endorsed; the Russian Federation endorsed the

policy and would also like to exchange administrative boundary data with countries that it shares borders with, and supported the working group activities.

B. Fundamental data

1. Project being undertaken by the University of Melbourne

80. The technical questionnaire needs further country answers. The project is still in progress and is useful for gaining a greater understanding of the position of member countries with respect to their holdings of fundamental data and access to these data. The meeting recommended that this project should continue and that results of the analysis, when completed, should be published.

2. Report on the Pathfinder towards a European Topographical Information Template (PETIT) prototype data set: useful lessons to be learned from the European experience

(presented by Glenn Johnstone)

81. Julian Williams mentioned that it might be useful to look at the activities associated with Vmap development for the lessons learned in that process. Mr. Williams also mentioned it would be worthwhile to investigate the edge-matching working group that the Multipurpose European Ground-Related Information Network (MEGRIN) had set up to deal with problems on this issue for the Pathfinder towards a European Topographical Information Template (PETIT) project. The Russian Federation said that there were a number of other regional projects nearing completion that it might also be useful to examine in more detail, given that they had experienced similar problems to those of PETIT, for example, the Barents Sea and Baltic Sea projects. It also mentioned that there were some countries that had participated in both initiatives that had provided different data on the same theme to each project. The meeting endorsed the work already done and recommended that the project be continued and expanded to include analysis of those projects mentioned above and any others of a regional nature.

3. Report on the Administrative Boundaries Pilot Project

(presented by Glenn Johnstone)

82. A status report was given. Data are still required from more countries before any analysis can be done. This is an important project and will both provide important feedback on the specifications for fundamental data sets and test the policy on sharing fundamental data. Project status was endorsed and the meeting recommended that the pilot continue, gather the required data, perform the analysis and report on progress at the next PCGIAP meeting.

C. Data nodes

Paper produced by Task Coordinator

(Jun Chen, China)

83. Mr. Chen provided a brief summary of this activity and referred to the report attached to the working group status report. He particularly wanted to note the four recommendations of the status report:

(a) Obtainment of feedback from the three collaborating nations about the design and improvement of the draft design and the prototype node demonstration as developed by China;

(b) Establishment of candidate data nodes in four countries;

(c) Testing of the first established data node;

(d) Provision of technical services for other developing countries, if necessary.

84. These four recommendations were endorsed by the meeting. There was a presentation by Minoru Akiyama of GSI about metadata and clearing-house activities in Japan. It was noted that it would be good to have a multilingual node in place.

D. GIS applications

85. The head of delegation of the Russian Federation, Mr. Aleksandrov, made a presentation on the work that the Russian Federation had undertaken in the last few years. He spoke of two laws in the Russian Federation, one governing geography and geodesy; and the other governing the naming of geographical features. Mr Aleksandrov mentioned that the Russian Federation had been involved in a number of international projects and gave one example of a project within the Russian Federation (the Baikal region) that had been carried out in conjunction with the United States Geological Survey (USGS). The delta region of Baikal was examined (along with two other areas). All the work done was carried out using satellite imagery, with imagery going back to 1974 with a resolution of 5 to 7 metres. The participants were able to use the project to predict what would happen in various geographical areas if particular weather events took place. They were about 80 per cent correct and colleagues in Baikal expressed amazement that all this work had been done without visiting the region. Recommendations from the project indicated that they were able to monitor illegal activities taking place in the region, monitor the changes in vegetation cover, produce other examples of digital maps for the whole of the Russian Federation at 1:1 million, and collect information from other organizations across the Russian Federation. The meeting endorsed the publication of the Russian Federation's activities, as a PCGIAP publication, and noted that the Russian Federation would undertake research into similar projects, to be reported at the next meeting.

86. Concerning the review of terms of reference, Peter Holland mentioned that, since the policy on sharing fundamental data had been adopted, the next step was to monitor it for any changes in light of other organizations' experiences in this regard.

87. The composition of the working group for the period 2000-2003 was endorsed by the meeting. China agreed to continue as Task Coordinator for the APSDI data nodes task, the Islamic Republic of Iran also agreed to continue as Task Coordinator for fundamental data and the Russian Federation agreed to head GIS Regional Application. Policy is to be monitored by the Chair, Vice-Chair and Task Coordinators of the working group.

Chapter VI

Work of Committee IV (Development needs)

88. At the 5th plenary meeting, on 14 April 2000, Keu Matarora (Cook Islands), Rapporteur of Committee IV (Development needs), presented the oral report of the Committee. The main issues discussed were:

(a) Assessment of the work of the former PCGIAP Development Needs Taskforce that comprised Malaysia, the Islamic Republic of Iran, Japan and Australia, in particular:

- (i) Publication of a document defining the regional infrastructure;
- (ii) Seeking of information on national survey and mapping programmes and areas of GIS-related development needs assistance through the circulation of a questionnaire, the conduct of a Pacific workshop, and direct visits to countries;
- (iii) Drafting of a glossary (or dictionary) of SDI terms;

(b) The PCGIAP Pacific workshop held in Suva, Fiji, in March 1999 to help complete the questionnaires for the Pacific countries which saw the formation of the PCGIAP Pacific Group to cover the unique and special interests of Pacific island nations in GIS and related development;

(c) Preparatory work including translation of PCGIAP material by the Islamic Republic of Iran for a proposed West Asia workshop for Russian-speaking countries;

(d) Important areas of education and training especially regarding consistency of and access to education and training programmes;

(e) Need for information on education and training programmes including noting the extensive work already done by the Russian Federation in this area;

(f) Need for a working group to carry on and broaden the work of the former Task Force.

89. The Committee also discussed the title of the proposed working group. It was agreed that the title would be the PCGIAP Institutional Strengthening Working Group. The Working Group would cover the areas of:

- PCGIAP member involvement such as participation in annual meetings and working group workshops;
- Education and training and the need for information on and access to consistent education and training programmes;
- Asia and the Pacific subregional programmes where appropriate recognizing the diverse nature of the Asia-Pacific region. Under the former Task Force, the four subregions had been nominally West Asia, North Asia, South-East Asia, and Oceania and the Pacific.

Chapter VII

Work of Committee V (Geographical names)

90. At the 5th plenary meeting, John Parker (Australia), Convener of Committee V (Geographical names), presented the oral report of the Committee. Matters discussed included:

(a) Background to the formation of the United Nations Group of Experts on Geographical Names (UNGEGN) and the United Nations Conference on the Standardization of Geographical Names and some aspects of its work;

(b) Principles of standardization and consistency;

(c) Importance of toponymic guidelines;

(d) Examples of what might be included in toponymic guidelines;

(e) Identification of countries in the various UNGEGN divisions in the Asia-Pacific region.

91. A number of documents of the United Nations and from countries were passed around, including examples of how to achieve a standardized approach to naming, toponymic guidelines and material on the field collection of names.

Chapter VIII

Resolutions adopted by the Conference

A. List of resolutions

1. Fundamental data
2. Institutional strengthening, education and training
3. Regional geodetic infrastructure
4. Bathurst Declaration on Land Administration for Sustainable Development
5. Establishment of a Working Group on the Cadastre
6. Economic aspects of modern surveying, mapping, geospatial data infrastructure and land administration programmes
7. Promotion of national and regional geographical names standardization programmes
8. Cooperation with the United Nations Geographic Database initiative
9. Vote of thanks

B. Texts of resolutions

1. Fundamental data

The Conference,

Recognizing the progress made by the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) Working Group on Regional Fundamental Data in its spatial data infrastructure (SDI) (or geographical information infrastructure) projects in the past three years,

1. *Endorses* the policy for sharing fundamental data as tabled at the meeting;

2. *Also endorses* the continuation of the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) Working Group on Regional Fundamental Data;

3. *Recommends* that the Working Group develop and implement a work plan that takes account of the following objectives:

(a) To develop a monitoring system for the policy on sharing fundamental data that takes into account new developments in policies arising from both member countries and regional initiatives;

(b) To complete the analysis of responses to the technical questionnaire on fundamental data and publish the results;

(c) To complete the pilot project on an administrative boundary data set;

(d) To complete the analysis of regional fundamental data sets that are being developed in other regions, particularly the Barents Sea and Baltic Sea regions in Europe;

(e) To develop specifications and an implementation plan for regional fundamental data sets;

(f) To complete the Asia and the Pacific Spatial Data Infrastructure (APSDI) Data Nodes pilot project;

(g) To develop a specification and implementation plan for a data nodes network for the region, with priority given to metadata, a data dictionary and clearing-house issues;

(h) To publicize the geographical information systems (GIS) application demonstration developed by the Russian Federation and further develop geographical information systems (GIS) application demonstrations to support those in the region that are involved in the development of spatial data infrastructure (SDI);

(i) To establish links with organizations involved in standardization such as the International Organization for Standardization Technical Committee (ISO/TC) 211 and the Open GIS Consortium and develop a programme of technical seminars to involve scientists and other stakeholders in Working Group matters.

2. Institutional strengthening, education and training

The Conference,

Noting the significant progress made by the Development Needs Taskforce of the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) since its establishment in 1998, and the need to undertake the remaining tasks derived from the Taskforce work plan,

Noting also the diverse nature of the Asia and the Pacific region,

Noting further that minimum levels of capability-building, education and training are critical success factors for sustainable results of all geodesy, mapping, cadastre, remote sensing, geographical information systems (GIS) and land administration and land management projects,

Bearing in mind that the resources for capability-building, education and training in the world are inadequate both qualitatively and quantitatively to meet this growing demand, and are particularly lacking in the areas of land administration and land management,

Recognizing that many geodesy, mapping, land titling, cadastral and land administration and land management projects are being undertaken by member nations,

Recognizing also that education and training programmes and facilities across the region may not be consistent or accessible to all member nations,

Recommends the formation of a Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) Working Group on Institutional Strengthening that would develop a comprehensive

work plan for circulation to Executive Board members at least one month prior to the Board meeting in Japan in November 2000 and address the following items:

- (a) Member involvement:
 - (i) Articulation of member development needs;
 - (ii) Participation in PCGIAP meetings and Working Group activities;
 - (iii) Participation in regional workshops;
- (b) Education and training:
 - (i) Survey of education and training facilities (including but not limited to programmes, frequency, costs, student numbers);
 - (ii) Development, publication and maintenance of an education and training information data library for the region;
 - (iii) Study of student movements following graduation;
 - (iv) Glossary of spatial data infrastructure (SDI) terms;
- (c) Subregional programmes:
 - (i) Pacific Group (institutional strengthening, regional geodesy, remote sensing data library);
 - (ii) West Asia workshop;
 - (iii) Association of Southeast Asian Nations (ASEAN) activities.

3. Regional geodetic infrastructure

The Conference,

Recognizing the great progress made in establishing a geodetic framework for spatial data infrastructure in the past three years,

Realizing the continuing need for the establishment of basic geodetic infrastructure for geographical information systems (GIS) in Asia and the Pacific and the desire to effect various applications in the field of geodesy and GIS, to promote technology transfer and information exchange between countries in the Asia and the Pacific region,

Noting the importance of providing a homogeneous geodetic infrastructure as the basis for integration of spatial data for sustainable development decision-making,

Bearing in mind the limited financial resources and the limited availability of equipment and expertise for the observation and processing of acquired Global Positioning Systems (GPS) data,

1. *Recommends* that the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) Working Group on the Regional Geodetic Network be continued for the next three years with project priorities as follows:

- (a) Establishment of a regional vertical geodetic datum;
- (b) Enhancement of a regional geodetic infrastructure through annual cooperative campaigns;
- (c) Improvement of the regional geoid;
- (d) Implementation of an absolute gravity reference system;
- (e) Development of transformation parameters for spatial data;
- (f) Geodetic technology transfer to Pacific islands nations;

2. *Also recommends* that external funding be sought to facilitate these projects and encourage cooperative geodetic projects between Asia-Pacific countries.

4. Bathurst Declaration on Land Administration for Sustainable Development

The Conference,

Mindful of the growing population pressures on the land, especially in urban areas, and that the poor are becoming increasingly concentrated in slums and squatter settlements in ever-expanding cities, that gender inequities in access to economic and social opportunities are becoming more evident and that fresh-water availability is now approaching a crisis point, so that the challenge is not only to meet world population needs for food, shelter and quality of life, but also to ensure that generations yet unborn can also have their needs met,

Noting that, without the achievement of effective access to property, it is difficult to address these issues, economies are unable to progress and the goal of sustainable development cannot be realized,

Recognizing that insecure property rights use and investment in rural and urban land hinder good governance and the emergence of an engaged civil society,

Recognizing also the essential role that land administration and spatial data infrastructures play in supporting sustainable development,

1. *Endorses* the conclusions and recommendations of the United Nations/International Federation of Surveyors Bathurst Declaration on Land Administration for Sustainable Development;

2. *Also endorses* the call for a commitment from the international community to provide effective legal security of tenure and access to property for all men and women, including indigenous peoples and those living in poverty and other disadvantaged groups;

3. *Endorses more particularly* the recommendation that calls for a commitment on the part of the international community and Governments to halve by the year 2010 the number of people around the world who do not have effective access to secure property rights in land.

5. Establishment of a Working Group on the Cadastre

The Conference,

Noting the outcomes of Agenda 21¹ which promoted the importance of efficient and accessible land markets based on cadastral systems and the establishment of appropriate tenure systems, as key factors in support of sustainable development and environmental management,

Recognizing the interest of member nations in sharing experiences on cadastral and land administration issues, and particularly the role that cadastral data play in developing spatial data infrastructures,

Recognizing also the many land titling, cadastral and land administration projects being undertaken by member nations,

Mindful of the difficulties that member nations and donor agencies experience in determining the efficiency, effectiveness and performance, and appreciating the global situation, of cadastral, land tenure and land administration systems,

Bearing in mind the conclusions of the United Nations/International Federation of Surveyors Bathurst Declaration on Land Administration for Sustainable Development which shows the importance of cadastral and land administration infrastructures in supporting sustainable development,

Recognizing the acknowledged difficulties in establishing the necessary infrastructure to manage the complex arrangement of rights, restrictions and responsibilities within the marine cadastre,

1. *Recommends* that the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific establish a Working Group on the Cadastre;

2. *Also recommends* that the Working Group on the Cadastre under the Permanent Committee on GIS Infrastructure for Asia and the Pacific, with the assistance of the United Nations within available resources and the expert assistance of relevant organizations such as the International Federation of Surveyors and the International Hydrographic Organization, undertake a work plan for the period 2000-2003 pursuant to which it would:

(a) Facilitate discussion on marine cadastres, focusing on the issues involved in the establishment of appropriate administrative infrastructures to manage marine resources in the context of the United Nations Convention on the Law of the Sea;²

(b) Undertake a study of land administration issues such as the range of tenure and institutional issues, water, indigenous mining and petroleum rights, gender, urban agglomeration, and land disputes, problems and indicators, with the objective of producing a global atlas and related documentation, utilizing the vast amount of land administration and land tenure data existing in United Nations agencies;

¹ *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

² *Official Records of the Third United Nations Conference on the Law of the Sea, vol. XVII* (United Nations publication, Sales No. E.84.V.3), document A/CONF.62/122.

(c) Facilitate a workshop to develop an appropriate generic template for country profile analyses describing the status of cadastre and land administration, and the need for improvements, which will facilitate benchmarking and the development of performance indicators.

6. Economic aspects of modern surveying, mapping, geospatial data infrastructure and land administration programmes

The Conference,

Noting that all modern surveying and mapping, geospatial data infrastructure and land administration projects must compete for scarce economic resources with other valuable projects,

Recognizing that many Governments seek to reduce the cost to the taxpayer for fundamental and infrastructural geospatial data services by various forms of privatization, cost recovery, outsourcing or revenue generating initiatives,

Considering that these initiatives have a significant technical, organizational and institutional impact on national surveying and mapping,

Bearing in mind that the expanding array of options for professionals in the mapping field imposes choices in which economics plays a decisive role both in government and in the private sector,

1. *Recommends* that the United Nations Secretariat within available resources, and in cooperation with other appropriate organizations and educational institutions, initiate an international workshop on economic aspects of modern surveying, mapping geospatial data infrastructure and land administration;

2. *Welcomes* the invitation of the Government of India to host the proposed workshop.

7. Promotion of national and regional geographical names standardization programmes

The Conference,

Noting that the consistent use of accurate place names is an essential element of effective communication worldwide, and supports socio-economic development, sustainable development and national infrastructure,

Considering the importance of geographical names as a fundamental data set of the Asia and the Pacific Spatial Data Infrastructure,

Recognizing the role of the United Nations Group of Experts on Geographical Names and the United Nations Conference on the Standardization of Geographical Names,

1. *Recommends* that the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific support the work of the United Nations by encouraging nations in the region to develop and/or maintain a standardized and consistent approach to geographical naming;

2. *Also recommends* that countries be encouraged to attend meetings of the United Nations Group of Experts on Geographical Names and the United Nations Conference on the Standardization of Geographical Names.

8. Cooperation with the United Nations Geographic Database initiative

The Conference,

Taking into consideration the relevance of global spatial data initiatives involving mapping agencies, non-governmental organizations, international agencies, industry and academia,

Acknowledging the progress made by the Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific in building a regional spatial data infrastructure and the resulting understanding of the technical, scientific, institutional and related resource challenges associated with this development,

Recognizing the efforts of the United Nations Geographic Information Working Group towards creating a United Nations system-wide multi-scaled United Nations Geographic Database,

Noting the establishment of the United Nations Geographic Database initiative by the Global Spatial Data Infrastructure (GSDI) Steering Committee, the International Steering Committee for Global Mapping (ISCGM), the International Federation of Surveyors (FIG), the International Cartographic Association (ICA), the International Society for Photogrammetry and Remote Sensing (ISPRS), the regional Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific and the Permanent Committee on Spatial Data Infrastructure for the Americas,

Welcomes the synergistic support of the United Nations Geographic Information Working Group for coordinating its efforts with relevant initiatives of the United Nations Regional Cartographic Conference for Asia and the Pacific for mutual and complementary benefit.

9. Vote of thanks

The Conference

Expresses its heartfelt gratitude to the Government of Malaysia, the Department of Survey and Mapping, and its Director-General, Mr. Dato' Abdul Majid Mohamed, for the kind hospitality extended to all participants in the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific, through the gracious support provided.

Annex I

Provisional agenda for the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific

1. Opening of the Conference.
2. Election of the President and other officers of the Conference.
3. Objectives of the Conference.
4. Organizational matters:
 - (a) Consideration and adoption of the rules of procedure;
 - (b) Adoption of the agenda;
 - (c) Establishment of technical committees and election of chairmen and rapporteurs;
 - (d) Organization of Conference work;
 - (e) Credentials of representatives to the Conference;
 - (f) Election procedures for the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP).
5. Report of the PCGIAP.
6. United Nations Regional Cartographic Conference for Asia and the Pacific reports:
 - (a) Implementation of resolutions of the United Nations Regional Cartographic Conferences for Asia and the Pacific;
 - (b) Tabling of country reports.
7. Invited papers.
8. Conference technical committees.
9. Reports and resolutions:
 - (a) Reports of the Conference technical committees;
 - (b) Adoption of reports and action plans;
 - (c) Adoption of resolutions.
10. Review of achievements of the Conference.
11. Provisional agenda of the Seventeenth United Nations Regional Cartographic Conference for Asia and the Pacific.
12. PCGIAP organizational matters:
 - (a) Election of the Executive Board;
 - (b) Statutes;
 - (c) Working groups;
 - (d) Next meeting.
13. Adoption of the report of the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific.

Annex II

List of documents

<i>No.</i>	<i>Title/country</i>	<i>Agenda item</i>
E/CONF.92/INF/1	Provisional agenda	4 (b)
E/CONF.92/INF/2	Provisional rules of procedure	4 (a)
E/CONF.92/INF/3 (Rev.1)	List of documents	
E/CONF.92/INF/4 (Rev.1)	List of participants	
E/CONF.92/L.1	GIS activities, 1997-1999 (submitted by Singapore)	6
E/CONF.92/L.2	Development of surveying and mapping in China during 1997-2000 (submitted by China)	6
E/CONF.92/L.3	Construction of national spatial data (NSD) infrastructure in China (submitted by China)	6
E/CONF.92/L.4	Application of geospatial data in China (submitted by China)	6
E/CONF.92/L.5	National fundamental geographical information production base of Sichuan (submitted by China)	6
E/CONF.92/L.6	Progress of GPS positioning in China (submitted by China)	6
E/CONF.92/L.7	Technical cooperation in surveying, mapping, and charting (submitted by China)	6
E/CONF.92/L.8	Cartographic work in Japan 1997-1999 (submitted by Japan)	6
E/CONF.92/L.9	Promotion of the Global Mapping Project (submitted by Japan)	6
E/CONF.92/L.10	PCGIAP Executive Board report (submitted by PCGIAP)	5
E/CONF.92/L.11 E/CONF.92/L.11a	Working Group I report: regional geodetic Network status report (submitted by PCGIAP)	5
E/CONF.92/L.12	Working Group II report: regional fundamental data status report for the sixth PCGIAP meeting, Kuala Lumpur (submitted by PCGIAP)	5
E/CONF.92/L.13	Working Group II report: regional fundamental data summary report on analysis of regional fundamental data sets questionnaire (submitted by PCGIAP)	5

<i>No.</i>	<i>Title/country</i>	<i>Agenda item</i>
E/CONF.92/L.14	Development Needs Taskforce status report (submitted by PCGIAP)	5
E/CONF.92/L.15	Statutes of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (submitted by PCGIAP)	5
E/CONF.92/L.16	Report on resolutions of the Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific (submitted by PCGIAP)	7 and 8
E/CONF.92/L.17	Country report for Australia (submitted by Australia)	6
E/CONF.92/L.18	Country report on cartographic activities in New Zealand (submitted by Australia)	6
E/CONF.92/L.19	Country report on the current status of surveying, mapping and cartographic activities: India (submitted by India)	6
E/CONF.92/L.20	Greetings from International Organization for Standardization/Technical Committee (ISO/TC) 211 to the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific (submitted by International Organization for Standardization (ISO))	6
E/CONF.92/L.21	Country report on the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific (submitted by Brunei Darussalam)	6
E/CONF.92/L.22	Country report on the implementation of the resolutions of the Fourteenth United Nations Regional Cartographic Conference for Asia and the Pacific (submitted by Indonesia)	6
E/CONF.92/L.23	Country reports, April 2000 (submitted by the Republic of Korea)	6
E/CONF.92/L.24	Brief information of the Mongolian Spatial Data Infrastructure (submitted by Mongolia)	6
E/CONF.92/L.25	Country report on the current status of surveying, mapping and cartographic activities, 1996-1999 (submitted by Thailand)	6
E/CONF.92/L.26	Status of cartographic activities: Fiji's experiences (submitted by Fiji)	6
E/CONF.92/L.27	Spatial data infrastructure and geo- information engineering: Germany's approach and experiences (submitted by Germany)	6

<i>No.</i>	<i>Title/country</i>	<i>Agenda item</i>
E/CONF.92/L.28	Geodata and information systems A German Perspective (submitted by Germany)	6
E/CONF.92/L.29	A new geodetic datum and related changes for Japanese nautical charts (submitted by Japan)	9 (h)
E/CONF.92/L.30	Present status of electronic navigational charts and paper charts produced in Japan (submitted by Japan)	9 (h)
E/CONF.92/L.31	Country report of the Russian Federation (submitted by the Russian Federation)	6
E/CONF.92/L.32	Surveying and mapping in the Philippines (submitted by the Philippines)	6
E/CONF.92/L.33	Present status of survey development of Nepal (submitted by Nepal)	6
E/CONF.92/L.34	Draft report of the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific	12
E/CONF.92/L.35	Provisional agenda for the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific	11
E/CONF.92/L.36	Fundamental data: draft resolution submitted by Technical Committee III	9
E/CONF.92/L.37	Institutional strengthening: draft resolution submitted by Technical Committee IV	9
E/CONF.92/L.38	Regional geodetic infrastructure: draft resolution submitted by Technical Committee I	9
E/CONF.92/L.39	Bathurst Declaration on Land Administration for Sustainable Development: draft resolution submitted by Technical Committee I	9
E/CONF.92/L.40	Establishment of a working group on the cadastre: draft resolution submitted by Technical Committee I	9
E/CONF.92/L.41	Economic aspects of modern surveying, mapping, geospatial data infrastructure and land administration programmes: draft resolution submitted by Technical Committee I	9
E/CONF.92/L.42	Promotion of national and regional geographical names standardization programmes: draft resolution submitted by Technical Committee V	9
E/CONF.92/L.43	Cooperation with the United Nations Geographic Database initiative: draft resolution submitted by the President of the Conference	9

<i>No.</i>	<i>Title/country</i>	<i>Agenda item</i>
E/CONF.92/L.44	Vote of thanks: draft resolution submitted by the Secretary of PCGIAP	9

Background papers

E/CONF.92/BP.1	Sustainable development as a global trend (submitted by Division for Sustainable Development, Department of Economic and Social Affairs of the United Nations Secretariat)	9 (i)
E/CONF.92/BP.2	The global spatial data infrastructure and emerging nations: challenges and opportunities for global cooperation (submitted by Global Spatial Data Infrastructure (GSDI))	9 (i)
E/CONF.92/BP.3	International Steering Committee for Global Mapping: current status and future plans and challenges (submitted by the International Steering Committee for Global Mapping (ISCGM))	9 (i)
E/CONF.92/BP.4	The United Nations International Federation of Surveyors Bathurst Declaration on Land Administration for Sustainable Development (submitted by the International Federation of Surveyors)	9 (d)
E/CONF.92/BP.4a	Powerpoint presentation (submitted by the International Federation of Surveyors)	9 (d)
E/CONF.92/BP.5	Formation of the Permanent Committee on Spatial Data Infrastructure for the Americas (submitted by Colombia)	9 (i)
E/CONF.92/PB.6	Geographical names and the Asia and the Pacific Spatial Data Infrastructure (APSDI) (submitted by the United Nations Group of Experts on Geographical Names (UNGEGN))	9 (a)
E/CONF.92/PB.7	The role of the Regional Space Applications Programme for Sustainable Development (RESAP) in the Asia and the Pacific Spatial Data Infrastructure (APSDI) (submitted by Environment and Natural Resources Development Division, Economic and Social Commission for Asia and the Pacific (ESCAP))	9 (k)
E/CONF.92/BP.8	Surveying issues and challenges for the twenty-first century (submitted by the International Federation of Surveyors)	9 (k)

<i>No.</i>	<i>Title/country</i>	<i>Agenda item</i>
E/CONF.92/BP.9	Leading-edge cartographic developments and challenges (submitted by the International Cartographic Association)	9 (k)
E/CONF.92/BP.10	The role of the International Association of Geodesy (IAG) in densification of global geodetic networks (submitted by the International Association of Geodesy)	9 (m)
E/CONF.92/BP.10a	Powerpoint presentation	9 (m)
E/CONF.92/PB.11	Corporatization of national mapping agencies: challenges and opportunities (submitted by the International Institute for Aerospace Survey and Earth Sciences (ITC))	9 (k)
E/CONF.92/BP.12	World Bank support for land-related projects in developing countries: experiences and implications for international cooperation (submitted by the World Bank)	9 (l)
E/CONF.92/BP.13	The role of geographical information in JICA programmes across the Asia and the Pacific region	9 (m)
E/CONF.92/BP.14	GIS development and challenges in Pacific island nations	9
E/CONF.92/BP.15	Cadastral workshop and Powerpoint presentation	9
E/CONF.92/BP.15a		
E/CONF.92/BP.16	Background document for the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific	9

Annex III

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Mr. John Manning, Chairman IAG
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International Cartographic
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Mr. Bengt Rystedt, President

International Institute for Aerospace
Survey and Earth Sciences (ITC)

Mr. Richard Groot

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Mr. John Richard Parker, Immediate
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