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Report of the Permanent Committee on Geographical Information
System Infrastructure for Asia and the Pacific

**REPORT OF THE PERMANENT COMMITTEE ON GEOGRAPHICAL
INFORMATION SYSTEM INFRASTRUCTURE FOR ASIA AND THE PACIFIC**

**Submitted by the Permanent Committee on Geographical Information System
Infrastructure for Asia and the Pacific (PCGIAP) ****

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**Report of PCGIAP to the
17th United Nations Regional Cartographic Conference
for Asia and the Pacific (UNRCC-AP)
and the
12th meeting of the Permanent Committee on GIS infrastructure for Asia and the
Pacific (PCGIAP)**

UN Conference Centre Bangkok(ESCAP), Thailand, 18- 22 September, 2006
Mr. Peter Holland, PCGIAP President

1. Introduction

This report covers the three years since the 16th United Nations Regional Cartographic Conference for Asia and the Pacific and the 9th meeting of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP) held on 14-18 July 2003 in Okinawa, Japan

Documented in this report are activities of the Executive Board including the Committee's background and future directions.

2. Background

National surveying and mapping agencies around Asia and the Pacific region regularly met under the auspices of the United Nations Regional Cartographic Conference for Asia and the Pacific(UNRCC-AP), where diverse aspects of cartographic activities were discussed and experiences were shared across regional boundaries. Amid rapid socio-economic changes and huge technological progress the members increasingly recognized changing needs in geographical information among people and governments.

In response to those growing needs of the times a resolution was adopted to the effect of establishing a permanent committee dedicated to development of regional GIS framework at the 13th UNRCC-AP held in Beijing, China, in May 1994, in the following words;

Resolution: #16 Permanent regional GIS infrastructure committee

The Conference,

Recommends that within a year from now, with the initial administrative support of the United Nations Secretariat, directorates of national survey and mapping organizations in the region form a permanent committee to discuss and agree on, inter alia, geographical information

system standards, geographical information system infrastructure and institutional development, and linkage of the prospective committee with related bodies in the world.”

The Resolution became a reality in Kuala Lumpur, Malaysia, on 12-14 July 1995, which marked the inauguration of the **"Permanent Committee on GIS Infrastructure for Asia and the Pacific"** as it was formally named. An Executive Board as a coordinating body was set up and its initial membership of ten countries included Malaysia, as President, China, Vice President, and Australia, Secretary, and as members Indonesia, Iran, Japan, the Republic of Korea, New Zealand, the Philippines, and Thailand.

3. Aims

The aims of the PCGIAP are to maximise the economic, social and environmental benefits of geographic information in accordance with Agenda 21 by providing a forum for nations from Asia and the Pacific to:

- Cooperate in the development of a regional geographic information infrastructure;
- Contribute to the development of the global geographic information infrastructure;
- Share experiences and consult on matters of common interest; and
- Participate in any other form of activity such as education, training, and technology transfer.

4. Objectives

The objectives of the PCGIAP are to:

- Define the nature of a regional geographic information infrastructure that each country in the region can contribute to in order to meet regional and global mapping and GIS requirements;
- Determine the nature of legislative and administrative procedures and orders appropriate to the acquisition and sharing of spatial data;
- Develop a regional geodetic framework, regional topographic datasets, national cadastral datasets and regional geographical names datasets as the basis for regional GIS activity;
- Document the status of key geographic datasets and key agencies in each member nation, and develop a framework for the exchange of such information;
- Prepare guidelines and strategies to assist member nations for the implementation of cadastral development to meet individual member nation needs;
- Determine the need for research, training and technology and policy exchange in relation to the beneficial impact of geographic information on the social, economic and environmental objectives of member nations of Asia and the Pacific region;
- Explore opportunities for aid funding to support development needs of member nations and for the development of a regional spatial data infrastructure.

5. Membership

The membership of the PCGIAP consists of the directorates of national survey and mapping organizations or equivalent national agencies of currently 56 nations from Asia and the Pacific, with Timor-Leste, the youngest country in the world, joining in 2005 as the newest member. The member countries are the same as the UN ESCAP members. Each nation nominates a single representative to the PCGIAP.

6. Meetings

The PCGIAP meetings are held in conjunction with the triennial UNRCC-AP meetings and also annually between them. Other international organizations in the SDI field organized meetings back to back with the PCGIAP meetings to maximize the occasion, successfully creating synergetic effects, including ISCGM and GSDI. Details of PCGIAP meetings are shown in Table 1.

Table 1: Details of PCGIAP meetings

Meeting	Location	Date
13 th UNRCC-AP	Beijing, China	May 1994
1 st PCGIAP Meeting	Kuala Lumpur	July 12-14, 1995
2 nd PCGIAP Meeting	Sydney, Australia	Sept. 29-Oct. 4, 1996
14 th UNRCC-AP/3 ^d PCGIAP Meeting	Bangkok, Thailand	Feb. 1-7, 1997
4 th PCGIAP Meeting	Tehran, Iran	Feb.28-March 4, 1998
5 th PCGIAP Meeting	Beijing, China	April 19-22, 1999
15 th UNRCC-AP/6 th PCGIAP Meeting	Kuala Lumpur, Malaysia	April 11 -14, 2000
7 th PCGIAP Meeting	Tsukuba, Japan	April 24-27, 2001
8 th PCGIAP Meeting	Negara Brunei Darussalam	April 16-19, 2002
16 th UNRCC-AP/9 th PCGIAP Meeting	Okinawa, Japan	July 14-18, 2003
10 th PCGIAP Meeting	Bangalore, India	30-31 Jan. 2004
11 th PCGIAP Meeting	Bali, Indonesia	18-21 May, 2005
17th UNRCC-AP/12th PCGIAP Meeting	Bangkok, Thailand	18-22 Sep. 2006

Provisional plans for future meetings as of September 2006:

13 th PCGIAP Meeting	Korea	June 2007
14 th PCGIAP Meeting	Fiji	Feb. 2008

Possibilities of concurrence with conferences of other international organizations are being explored for the future meetings.

7. Executive Board

The PCGIAP is managed through an Executive Board. The functions of the Executive Board are to:

- Plan and coordinate the Committee work program between plenary sessions of the Committee;
- In consultation with the United Nations, plan and manage the activities that the Committee undertakes for the UNRCC-AP;
- Manage the continuing administrative affairs of the Committee;
- Define, monitor and assess the regional spatial data infrastructure;
- Make recommendations on objectives, and on activities and work programs to the Committee;
- Arrange and manage publications including directories, internet sites and promotional material, and to distribute appropriate documents to Members, individuals and organizations concerned;
- Prepare and submit reports on activities of the Committee to the UNRCC-AP;
- Represent the Committee and present a paper at other regional and international conferences such as PC-IDEA, ISO/TC211, ISCGM, ICA and GSDI, etc.
- Promote appropriate collaborative efforts with other leading SDI partners from academia, Mysore University, India, Inha University, Korea and University of Melbourne, Australia, and private sector including GISTDA, GIS development, ESRI, etc, through seminars or publications

Executive Board consists of 12 national representatives, that is, three leadership members and nine members. Membership for the current term (2003-2006) is as below:

Australia	Mr. Peter Holland	President
China	Dr. Wang Chunfeng	Vice President
Japan	Mr. Akira Yaguchi	Secretary
Brunei Darussalam	Pg.Hj. Matusin Matasan	
Cook Islands	Mr. Keu Mataroa	
India	Maj. Gen. Gopal Rao Mocherla	
Indonesia	Mr. Bebas Purnawan	
Iran	Mr. Gholam Reza Fallahi	
Republic of Korea	Mr. Sohn Bong-Gyun	
Malaysia	Dato Hamid Ali	
Philippines	Mr. Diony A. Ventura	
Russian Federation	Mr. Alexander Prusakov	

8. Working Groups

Working Groups are established, where required, to undertake projects in pursuit of the PCGIAP

aims and objectives. The present Working Groups and their operational areas for 2003-2006 are shown below:

- **WG1: Regional Geodesy (Chaired by China)**
 1. Establishment of a regional geodetic vertical datum
 2. Enhancement of a regional geodetic infrastructure through annual cooperative campaigns , continued as Asia Pacific Regional Geodetic Project(APRGP)
 3. Regional geoid improvement
 4. Implementation of an absolute gravity reference system
 5. Development of transformation parameters for spatial data
 6. Geodetic technology transfer to Pacific island nations

- **WG2: Fundamental Data (Chaired by Iran)**
 1. Development of Pan Asia Pacific framework datasets
 2. Select an area and conduct a pilot study for the dataset development
 3. APSDI Clearinghouse development
 4. Studies on GIS applications

- **WG3: Cadastre (Chaired by Australia)**
 1. Study of land administration issues and development of cadastre template
 2. Discussion on and research into the marine cadastre
 3. Organization of an international workshop on administration of marine environment
 4. Researches on framework development for integration of built and natural environmental datasets within a national SDI
 5. Development of a common template for data integration

- **WG4: Institutional Strengthening (Chaired by India)**
 1. Development of plans and strategies of capacity building, education and training in the field of geodesy, surveying , mapping and creation of fundamental datasets and GIS programs
 2. Identification of technical needs among the members for GIS development
 3. Efforts for funding options to improve participation rate in the Committee activities
 4. Practical support through annual workshops on SDI at Survey Training Center in Hyderabad, India

- **CIS Group (Chaired by Russian Federation)**

Commonwealth of Independent States (CIS) form a special group. The group members are those on the Interstate Council of Geodesy, Cartography, Cadastre and Remote Sensing,

which consists of directorates of national mapping organizations from 12 states, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Uzbekistan and Ukraine. Activities of the group are regularly reported to the Committee, though their participation in the Committee activities are limited due to geographical distance.

- **Special Taskforce**

As a response to the unprecedented Tsunami disaster of December 2004 and other large scale natural disasters that hit the region, WG2 organized a workshop in May 2006 in Brunei Darussalam, in order to discuss how PCGIAP can contribute to the region and how SDI as a tool can be used in the regional efforts of disaster preparedness and management. The members agreed on development of seamless datasets for the tsunami affected area based on existing data including Global Map and Digital Chart of the World.

For the project a special taskforce was organized with support from the United Nations Second Administrative Level Boundaries project(UNSALB), Global Mapping as well as member nations concerned, with Indonesia acting as coordinator. The work is underway and details are to be reported later during this conference.

9. Links with Other Organizations

In addition to reporting to the UNRCC the Permanent Committee seeks to establish links with other relevant United Nations programs and international agencies such as the:

- International Association of Geodesy (IAG)
- International Cartographic Association(ICA)
- International Federation of Surveyors (FIG)
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- International Steering Committee for Global Mapping (ISCGM)
- International Steering Committee for Global Spatial Data Infrastructure (GSDI)
- United Nations Regional Cartographic Conference for the Americas(UNRCC-Am)
- Permanent Committee on SDI for the Americas (PCIDEA)
- EuroGeographics;
- International Standards Organization technical committee on international GIS standards (ISO/TC211)

Experiences and information are shared and exchanged through representation, paper presentation at one another's meetings, and through joint workshops as the Geodesy Workshop with IAG last year in Cairns, Australia, and the PCGIAP-ICA-ISCGM Workshop on Wed.20 Sep. incorporated in the 17th UNRCC-AP in Bangkok.

The Committee activities have been recently acknowledged out side of the region as well, by such institutions as Atlantic Institute, USA, and Dubai municipality, UAE.

10. Strategic issues

- Relation with the United Nations

As a committee created in 1995 by a UN resolution, reporting to the UN, it needs to continue to be relevant to the UN and proper alignment with its expectations has to be ensured. This has been and will always be a high priority for the PCGIAP. Efforts for further strengthening of the relation are to be encouraged. Recognition by UN is vital to the ongoing success of the PCGIAP and its ability to operate effectively. The recognition means ready contributions and higher participation in the PCGIAP activities, thus successful implementation of projects and achievement of goals, to the benefit of each member nation as well as the whole region. PCGIAP, now into second year of the second decade since establishment in 1995 will make its value and role worthy of the recognition even more clear.

- Relation with other global and regional organizations

The network built upon linkages with other agencies and liaison activities has proved effective and productive. It facilitated and promoted information and data sharing, and implementation of collaborative projects across national and regional boundaries. In SDI interoperability is a growing trend and a key for further successful development and application of geospatial data. The whole SDI community has to work together to remove barriers not only through standardization efforts but also through institutional and legal systems so that it can meet challenges presented by ever changing and evolving needs of the times and the people.

Recognizing the need and importance for coordinated efforts for SDI objectives beyond a regional boundary, PCGIAP has maintained a formal cooperative relation with the Permanent Committee on SDI for the Americas(PC-IDEA), another regional committee formed by a UN resolution. The next UNRCC– AP will be in 2009, while the next UNRCC-for the Americas that PCIDEA reports to, held every four years, is to take place also in 2009. The occasion, once in 12 years, should be maximized to leverage resource and support in achieving the goals of UNRCC and its Permanent Committees.

- Review of aims and objectives

The aims and objectives were defined in 1995 at the inception of the PCGIAP. The past decade has seen tremendous changes at every level, most impressively in socio-economic and technological aspects. GIS and SDI have played an increasingly important and diverse

role, while their potential has been continuously explored. It is now a common understanding that spatial information and services are an indispensable tool to support disaster management and natural hazard researches.

In this context the aims and objectives should be subject to continuous review, which are to be followed by actions, if necessary. Discussions should be made on how the PCGIAP can contribute to the region, to the sustainable development and now to the Millennium Development Goals as the theme of this conference exhorts, while the ultimate goal of APSDI development be pursued

12. Major Achievements

Important works of the PCGIAP are :

- Regional geodetic observation campaigns to develop a regional geodetic framework using VLBI, DORIS, SLR and GPS
- “PCGIAP Publication No.1: A Spatial Data Infrastructure for the Asia and the Pacific Region” sets out the vision of the PCGIAP for a regional spatial data infrastructure that comprises fundamental data, standards, institutional arrangements and access mechanisms.
- Draft Policy on Sharing Fundamental Data & Draft Guidelines on Custodianship
- Surveys and analysis on SDI development needs and fundamental datasets
- Pilot project on administrative boundary data
- Development of a prototype APSDI Data Node network
- Development of cadastral template
- Pilot project of Tsunami datasets

Further details of the PCGIAP and its works are available at the PCGIAP web site :

<http://www.pcgiap.org>

13. Conclusion

The PCGIAP has made steady progress and established itself as one of the important partners in the global SDI community representing Asia and the Pacific, the largest and most populous region with possibly highest economic development potential. Also as the regional forum of national mapping organizations (NMO) the PCGIAP supports the development of national SDI of each member nation.

To continue the path of progress nothing is more essential than the UN support and involvement and contributions from the 56 members. The PCGIAP is determined to go forward and meet the requirements of the region and challenges ahead through cooperation at all levels, from among the PCGIAP members to regional to global.