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**Permanent Committee on GIS Infrastructure for Asia and the Pacific**

**Working Group 2**

**Regional Fundamental Data**

**Draft Policy for  
Sharing Fundamental Data**

**September 1999**

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## **Working Group 2 – Regional Fundamental Data**

### **Project 1 Draft Policy on Sharing Fundamental Spatial Data**

#### **PURPOSE**

The Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP) has vision for an Asia-Pacific Spatial Data Infrastructure (APSDI) that is a network of databases, located throughout the region, that together, provide the fundamental data needed by the region in achieving its objectives: economic, social, human resources development and environmental.

The Committee believes that:

- the availability of fundamental data from member countries is essential to the:
  - development of the Asia-Pacific Spatial Data Infrastructure;
  - realisation of the economic, social and environmental benefits; and
  - and the implementation of the United Nations Conference on Environment and Development (UNCED) Agenda 21;

and that:

- data sharing avoids wasteful duplication of resources and facilitates data integration; and
- better data for decision making and expanded market potential will be provided.

This Policy establishes a set of principles for the responsible management of this critical regional resource and commits all countries in the region to cooperate in the implementation of the APSDI that will give effect to those Principles.

#### **BACKGROUND**

A spatial data infrastructure is a powerful tool for economic and social development, and environmental management, enabling the full potential of GIS technology to be realised in supporting decision making processes at the local, national, regional and global level. In that regard the APSDI will help confront regional and global issues such as environmentally sustainable development, a prime element for the implementation of Agenda 21.

Additionally, the PCGIAP is playing an important role in helping countries develop national spatial data infrastructures (NSDI) and to incorporate them into the APSDI. Some nations in the region are well advanced in their efforts to implement a NSDI while others are just beginning to take steps in this direction. In time the NSDIs can be combined through the regional model into the Global Spatial Data Infrastructure (GSDI). In this way the PCGIAP's activities demonstrate the *"think globally, act locally"* approach, a major principle of Agenda 21. Development of the APSDI by the PCGIAP is in keeping with the goals of Agenda 21.

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Spatial data is the key to planning, sustainable management and development of our natural resources at national, regional and global levels. It is also fundamental to the development of the economic and social infrastructure, provision of community services, effective government administration and resolution of community conflicts.

As the key role of spatial data has become increasingly recognised, regional governments have initiated a variety of cooperative arrangements to ensure that such information is consistent and available. However, there is no regional framework within which all existing arrangements can operate and which can provide the basis for future cooperation at the national, regional and global levels.

This policy has been developed by the PCGIAP in order to provide such a framework and is based on a similar policy developed by the Australia New Zealand Land Information Council (ANZLIC). Similar policies within the European Commission, the Canadian Government, the Baltic Sea region and the USA have also been investigated to compliment and harmonise this policy.

### **SCOPE**

Recognising that the management and use of intra-government spatial data is the responsibility of the relevant country, this Policy applies to:

- Specified fundamental spatial data (see definitions)
- the collection, management and use of fundamental spatial data in the regional interest, whether application is at national, regional or international levels
- the use of fundamental spatial data by governments, industry and the community.

accordingly, all member countries agree to strive to adopt the following principles.

### **PRINCIPLES**

PCGIAP believes that the adoption of the following Principles will ensure that management practices for fundamental spatial data are regionally consistent to achieve the benefits of the Asia-Pacific Spatial Data Infrastructure.

- 1 Responsibility** Each member country accepts responsibility for the creation and maintenance of that component of the APSDI covering the region over which it holds sovereignty
- 2 Access** Member countries shall ensure that the APSDI component for which they are responsible is made available to other member governments under Access Conditions determined by the PCGIAP.
- 3 Access Conditions** The PCGIAP shall determine Access Conditions that facilitate the use of the APSDI to address regional economic, social and environmental issues.

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All sectors of the community should have easy, efficient and equitable access to fundamental spatial data where technology, data formats, institutional principles, location, costs and conditions do not inhibit its use.

### **4 Compliance**

Each component of the APSDI shall be in the form of a database of geographic information that satisfies a Compliance Specification determined by the PCGIAP from time to time.

Custodians of fundamental spatial data should ensure that these data sets conform to the APSDI Compliance Specification to achieve a consistent level of quality that can meet the needs of the various users in the region and/or globe. The Compliance Specification may include specifications for data themes, content, scale or resolution, accuracy, currency, compatibility, documentation, quality assurance and accessibility, or any other aspect that the PCGIAP may, from time to time, determine.

### **5 Data Content**

The PCGIAP shall determine and periodically review what fundamental spatial datasets are needed to support regional and global economic, social and environmental development and well being of member countries.

**6 Relationship to NSDI** At the discretion of each member country, the APSDI component for which they have responsibility may be a component of their national spatial data infrastructure (NSDI), an extract from it or a stand-alone product.

Whichever approach is adopted by the member nation, every endeavour shall be taken to ensure that the APSDI component reflects the most appropriate available information for regional applications.

**7 Relationship to GSDI** Member countries agree that the APSDI shall represent the region's contribution to the Global Spatial Data Infrastructure (GSDI) and that the PCGIAP shall represent the region's views on access, content and standards for the GSDI. This does not limit member countries from expressing their own views on the GSDI in other fora.

### **8 Sensitivity**

Management of fundamental spatial data will include arrangements to preserve confidentiality, privacy, security and intellectual property rights which will protect the rights of data custodians and all sectors of the community.

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### **ADVANTAGE OF SHARING SPATIAL DATA**

People need to share spatial data to avoid duplication of expenses associated with generation and maintenance of data and their integration with other data. Moreover, GIS benefits are increased by data sharing among organisations and nations. Often, the spatial data produced for one application can be applied in others, thus saving money by sharing data. For many nations, building and using a GIS for especial applications at the regional level requires enormous amounts of current and accurate digital data. Significant time, money, and effort can be saved when the burden of data collection and maintenance is shared among nations. This is important, not only to the nations looking for the data, but also for the nations with the data. The more partners there are, the more the savings and the greater the efficiency.

Furthermore, sharing data can also improve data quality by increasing the number of individuals who find and correct errors. Savings realised on the production of common data can be used for other vital areas, such as application development. In addition, resources that would be used to collect repetitive data can be diverted into quality control, data management, and collection of other needed data.

Working together in a geographic area can also provide data coverage in a common form over a wider area. This aids cross-jurisdictional or cross-national analysis, decision making, and some types of operations. For example, adjoining jurisdictions may have a common interest in an environmental issue. A transit operator may serve a region, rather than stopping at country boundaries. Moreover, sharing common interest geographic data that any countries have been created also enable them to defray some of the costs of producing and maintaining those data.

Mechanisms to facilitate the use and exchange of spatial data are a major justification for developing and expanding any type of spatial data infrastructures.

### **IMPLEMENTATION**

The Permanent Committee on GIS Infrastructure for Asia and the Pacific is charged with implementing this Policy by:

- Supporting and promoting the implementation of the Principles expressed in this Policy;
- Continuing to provide an effective regional coordination and consultative mechanism for governments;
- Establishing effective regional consultative arrangements between governments;
- Providing leadership, consultation and coordination for the development of the APSDI with the following characteristics:

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- a network of countries databases which, collectively, satisfy the region's need for consistent fundamental datasets;
- a suite of technical standards, endorsed by PCGIAP and, where appropriate, submitted to ISO for consideration as a global standard, which facilitates the sharing of data between countries and which provides the necessary consistency and compatibility to enable the fundamental datasets to be combined to develop value-added products;
- principles to facilitate the equitable sharing of data between countries in the region;
- administrative principles and policies that facilitate access to fundamental data under conditions that promote better decision making based on good quality fundamental spatial data;
- an Asia-Pacific Spatial Data Directory (APSDD), implemented as a distributed network of country based directories, complying with standards endorsed by PCGIAP.

All jurisdictions will contribute to the implementation of this Policy by striving to:

- Adopt and promote the implementation of the Principles expressed in this Policy;
- Actively participate in, support and promote the work program of PCGIAP and its associated coordination arrangements;
- Establish and support effective jurisdiction coordination principles to give effect to PCGIAP initiatives;
- Implement country based spatial data infrastructures that conform to and contribute to the implementation of the APSDI;
- Make metadata available by establishing nodes as conforming components of the APSDD;
- Adopt and encourage the implementation of technical standards that facilitate the implementation of the APSDI;
- Use their best endeavours to adopt and implement administrative principles and policies that give full effect to the APSDI, facilitate industry and community access to fundamental data, and encourage sharing of data between agencies and jurisdictions.

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**DEFINITIONS**

PCGIAP	The Permanent Committee on GIS Infrastructure for Asia and the Pacific. The regional committee for coordination of spatial data management in Asia and the Pacific
APSDD	The Asia-Pacific Spatial Data Directory. A key component of the APSDI that will provide to the community information about the availability, characteristics and quality of spatial data held by governments and the private sector and how that information may be obtained.
APSDI	The Asia-Pacific Spatial Data Infrastructure. A network of fundamental spatial databases maintained by custodians and linked through the adoption of consistent standards, policies and administrative principles.
custodian	A recognised body having the responsibility to ensure that a fundamental dataset is collected and maintained according to specifications and priorities determined by consultation with the user community.
fundamental spatial data	Spatial data for which there is a justified need for national consistency by multiple users in order for those users to meet their objectives. Fundamental spatial data include data about main roads, railways, hydrography, administrative boundaries, populated areas, geographic names, hypsography and vegetation at the national level. A fundamental dataset may comprise a number of compatible databases maintained by custodians in several countries.
Metadata	Data about the content, quality, condition and other characteristics of data.
spatial data	Spatial data, often called geographic information is the location and name of features that are associated with a position on, above or beneath the surface of the earth. It includes data about road, railways, hydrography, airports, harbours, public utilities, property boundaries, climate, atmosphere, community features and facilities, tenure, valuation, landform, geology, marine, demography, soil type, vegetation, human and economic geography, elevation and administrative boundaries.
spatial data infrastructure	A term that describes the fundamental spatial datasets, the standards that enable them to be integrated, the distribution network to provide access to them and the policies and administrative principles that ensure compatibility between jurisdictions and agencies.

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user community

Means all PCGIAP members and users within nations who deal with applications on a national or regional level. Users may range from individual citizens to national government organisations.

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### **CUSTODIANSHIP**

A key feature of the infrastructure model is the emphasis on custodianship. The Permanent Committee actively supports the concept of custodianship and has developed the following definition;

*A **custodian** of a fundamental dataset, or a component of that dataset, is a body that would be recognised by the PCGIAP and identified as having the responsibility to ensure that a fundamental dataset is collected and maintained according to specifications and priorities determined by consultation with the user community. The custodian would be encouraged to make these data available and accessible to the community under conditions and in a format that would conform with standards and policies established for the Asia-Pacific Spatial Data Infrastructure.*

Typically, the responsibilities of custodian bodies would include some or all aspects of data acquisition, storage, maintenance, quality assurance, security, access, documentation and distribution. Custodians would be encouraged to consult with the user community in the administration of their functions and the PCGIAP would work with the user community and custodians to assist in the development of custodianship responsibilities.

In return for these responsibilities, custodians may retain certain clearly defined rights. These rights would be developed with assistance from the PCGIAP.

Criteria which may be considered in the allocation of data set custodianship include operational and business needs, technical capability and availability of resources. Where many organisations have an interest, capability and capacity, the organisation that requires the highest standards of quality may be the most appropriate custodian. This does not preclude development of partnerships or joint custodianships between organisations that effectively harness resources to achieve the required outcomes.

A separate paper on Custodianship has been developed and is attached to this draft policy.

### **ONGOING POLICY DEVELOPMENT**

The policy for sharing fundamental data will evolve over time as the APSDI is implemented. The vision of the APSDI, as described in Publication No. 1 "A Spatial Data Infrastructure for the Asia and the Pacific Region", contains a number of issues that will impact on the development of the policy. These include such issues as data pricing, licencing, conditions for access and use, sponsorship, custodians rights, compliance specifications and copyright.

These matters will be the focus of PCGIAP activities in the future.