

# THE PREVALENT POLICY ISSUES EXISTING AROUND SPATIAL DATA INFRASTRUCTURE DEVELOPMENT

**Pham Viet Hoa**

Institute of Geography, Vietnamese Academy of Science and Technology (VAST)

18 Hoang Quoc Viet, Cau Giay, Hanoi, Vietnam

Email:

## **ABSTRACT**

*This paper is mainly based on the most prevalent policy issue, which purely involves the utilization of Geoinformatics for spatial infrastructure development in earth and allied sciences.*

*The main aim of the paper is to focus government attention across the various national, provincial and local government spheres with the goal of ensuring that investments are fast-tracked, allied sciences are maximized and there should be synergies between the various types of investments.*

*So, that Remote sensing, GIS Agencies, other organizations and Stakeholders working on spatial data infrastructures development (SDID) merge together to rule the entire world and come out to facilitate the availability of information's in such a way that the needs of the agencies, organizations, citizens, commerce and society in general are almost solved which is necessary for spatial infrastructure development (SID) of earth and other allied sciences.*

*This paper covers some of the most prevalent policy issues existing around spatial data infrastructure development.*

*The whole process goes through two different stages.*

### **Firstly**

*It highlights ongoing projects and is mainly focused on "creation of a regional spatial data infrastructure" (RSDI).*

### **Secondly**

*Insights are provided that how "two different legal and economic spatial data infrastructures (SDI) settings can still allow for and serve very similar infrastructure functions".*

*The combination of the first and the second stage will provide the understanding of a sampling policy and the legal frameworks for spatial infrastructure development in earth and allied sciences.*

## 1. INTRODUCTION

The discipline that deals with all aspects of spatial data handling is called Geoinformatics. Geoinformatics has also been described as “the science and technology dealing with the structure and character of spatial information, its capture, its classification and quantification, its storage, processing, portrayal and dissemination, including the infrastructure necessary to secure optimal use of this information”(Groot, 1989). Ehlers and Amer (1991) define it as “the art, science or technology dealing with the acquisition, storage, processing, production and dissemination of geoinformatics”

A related term that is sometimes used synonymously with geoinformatics is geomatics. It was originally introduced in Canada, and became very popular in French speaking countries. Laurini and Thompson (1992) describe it as “fusion of ideas from Geo-Science and Informatics.” the term Geomatics, however was never fully accepted in United States where the term Geographical Information Science is preferred. Goodchild (1992) defines GIS research as

“Research on generic issue that surrounds the use of GIS technology, impede its successful implementation, or emerge from an understanding of its potential capabilities”.

### **Ongoing live projects, which are mainly focused on the “creation of a regional spatial data infrastructure” (RSDI)**

Ongoing policy development programmes in the world have an overview of different initiatives at different SDI levels which are aimed to focus on the legal, economic and organizational setting in which spatial data infrastructures are developed.

It's a most prevalent policy issue, which address a variety of spatial data structure projects aiming at the creation of regional spatial data infrastructure (SDI) and how insights are provided in the ongoing world situation which serves very similar infrastructure functions.

GIS facilitates good management of structure development, sustainable economic planning, emergency response, environment conservation, public health programmes and variety of other challenges facing the society in 21 century. This technology implemented (GSDI) together with the web-based portal is known as a geographical network and it realizes the vision of implementing an open and collaborative global library of digital information of (GSDI) projects. Many multinational companies and governmental organizations feel strongly that a geographic of spatial infrastructure is vital to sustainable economic development and is pleased to launch thus Global MAP/GSDI programme.

It is proven as an important technology for managing and using spatial information at the local, national, regional and global level as it is helping many societies to manage natural and manmade resources in collaborative environment. This programme provides an important framework of standard policies, procedures and technology to support the efficient coordination and dissemination of geographical information.

Present papers focus a lot on the network of regional, international organizations individuals around the world. Both public and private have discussed a vision of constructing a global spatial infrastructure for assisting the countries of the world in implanting spatial data infrastructure at national level

It has the quality which consist specifications, which are open to national mapping organizations and have had a key role in initiating such projects. The technology is socially designed to support an internet based network.

Such ongoing projects run by governmental or other big and small organizations support the building of national and global spatial data infrastructure and promote the sharing of

geographical data through the global map and GSDI programme that could involve the development and the open sharing of global and local data through a network of clearing houses.

**The approaches and future possibilities related that how “two different legal and economic spatial data infrastructures (SDI) settings still can allow for and serve very similar infrastructure functions”**

There is a need for an origination nucleus to encourage the creation and the development of a linkage of local national and global geospatial data infrastructure, and to make informal inter-organizational efforts, to be chaired for overall development.

To reach there is a need to explore the extends to which local, nation and regional data sets can be translated into international ones and how data definition can be harmonized without losing their primary relevance or compromising the political and legal diversely amongst nation. This is the most important to “continue the identification of polarization of regional and global core data sets needed by different sectors of GIS community for different funds for there development from governments, IGO,S and the private sector” as such the meeting delegates agreed with the need to

## **2. APPROACHES**

- Continue the identification and prioritization of regional and global scale core data sets needed by the different sectors of the GIS community for different applications and to seek funds for their development from governments, IGOs, and the private sector;
- Examine the costs and value of converting the large amount of legacy data that is available in analogue form; and
- Encourage the multiple use of 'fit for purpose' data to spread the cost and benefits of collecting and updating geospatial data;
- Foster the development of geospatial data collection and sharing partnerships, tools, and research;
- Encourage data providers to increase access to data either directly or through joint ventures with others;
- Establish a network of Geospatial data clearinghouses;
- Encourage developed nations to support capacity building and data collection in emerging nations where lack of resources inhibit their participation in the objectives of GSDI;
- Encourage provision of services based on data combinations and other value-added services.

It is essential to have a family of standards, as the foundation for technical implementation of GSDI all standards created or utilized for GSDI should be international standards. The tools for developing specific standards is through the liason mechanism and the liaison mechanism of ISO. Moreover, the GSDI should include more than just ISO/TC211 and embrace underlying standards, such as information technology standards, which tie the development of GSDI to global information infrastructure.

### 3. RECOMMENDATIONS

There is a need to foster education and research activities that go beyond treatment of Geospatial Data in only a technical fashion. It is important that such activities include the creation of suitable tools in universities, government and the private sector to foster the use, demonstration, spread of good practice, and thoughtful application of results of this research.

Moreover, as the Asian countries in this region get enough finance they must make spatial data more accessible at the international level so that one get considerable benefit, contribution and good will between participating countries in this sector.

### 4. CONCLUSION

The Global Spatial Data Infrastructure -- which encompasses policies, organizational remits, data, technologies, standards, delivery mechanisms, and financial and human resources -- is critical to the attainment of substantial and sustainable development in both the developed and developing countries of the world. Numerous international activities are seeking to forward aspects of the GSDI e.g., the International Steering Committee for Global Mapping oversees an effort to develop global spatial databases. It is important that all international groups working toward the development of the GSDI participate in future processes of its evolution and that they communicate, coordinate, and collaborate to the extent possible. These groups include (but are not limited to) Federation International Geometers, International Cartographic Association, and International Hydrographic Organization, International Society for Photogrammetry and Remote Sensing, International Standards Organization, International Steering Committee for Global Mapping, Open GIS Consortium, and NATO's Digital Geographic Information Working Group.

### 5. REFERENCES

- Buckingham, Nelsa M., Edward G. Schreiner, Thomas N. Kaye, Janis E. Burger, and Edward L. Tisch. 1995. Flora of the Olympic Peninsula. Northwest Interpretive Association, Seattle. 199 pages.
- Brand M.J.D .1998 Global Data infrastructure: current development' The Australian surveyor. Vol. 43. 3 .Pp 174-177
- Tomlinson Associates Ltd., 1993 GIS strategy report state govt. of Victoria Strategic Framework for GIS development. Office of Geographic Data Co-ordination.
- Clarke A. (1994) "Developing a National and Regional Geographic Data Infrastructure", paper Presented at the 13 Th United Nations Regional Cartographic Conference for Asia and the Pacific, Beijing, 10-18 May 1994
- GSDI 1998 "Conference Resolutions, Recommendations and Findings", 3rd GSDI Conference, Canberra, Australia, 17-19 November 1998, available at <http://www.eurogi.org/gsd/canberra/gsd3res.html>
- Nairn A. and Irwin R. (1997) "The Australian Spatial Data Infrastructure: Its current status and Future directions", Cartography, June