

The status of spatial data infrastructure in vietnam

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Geo-information is the powerful source in providing instance entrance to huge amount of data and scopes to abuse, to misguide, and to enter the privacy of each sector in a greater scale than ever before. Therefore the access to geo-information is an issue on development of a National Spatial Data Infrastructure (NSDI). It has become an important issue on the overview of legal aspects of geo-information, spatially those which are related to public access and ownership of geo-information and intellectual property in geo-information.

The resourcefulness of NSDI in each country has come along with various names but most of them are considered as the highest powerful part of its national information systems which provides accessibility of data for users. Lack of policies and Planning of Framework is a common barrier to the implementation of NSDI in many countries (Mass 2007). In every country, mostly in the public sector, state agencies creates their own dataset data. Lack of coordination and data sharing lead to documenting the same, data provisioning and incomplete databases and poor data quality or non-standard database.

In Vietnam, however, the NSDI implementation has began recently and is still under construction.

Evaluation also shows that despite the general view of NSDI Leverage, the approach of implementation is not the Sync between organizations. The factors are Technical limitation and legal limitation. The technical limitations include inclusion of discriminatory information models and its handling of the technical feasibility of the local information system, while the legal

limitations include the law of value And the appointment of the coordinating authority between central and decentralized administration. Both types of limitations are important targets to accurately align the land administration function with NSDI.

The status of Spatial data infrastructure in Vietnam:

Since 2000, various implementations have been implemented in most ministries, sectors and local areas Projects and programs for special actions, through which there was a huge and valuable database created by the geographic infrastructure systems and databases. These can be listed as follows.

For basis measurements

- + Coordinate grid level 0 and 71- point marine geodetic network;
- + Coordinate grid class I, II, III in the National Reference System and Coordinate System VN- 2000 covering the whole country with the total of over 14, 308 points.
- + Level network including 18 points of original network; 1, 176 points of class I; 1, 114 points of class II; and 2, 334 points of class III in the National Elevation System at Hòn Dấu - Hải Phòng.
- + Basic gravity grid with 5, 200 points

For base geographical databases and national topographic maps:

- + Base geographical database scale 1: 2, 000 and 1: 5, 000 on urban areas and focal economic zones, established from 2008 - 2012, in digital form.

+ Base geographical database scale 1: 10, 000 associated with a digital elevation model covering the whole country, implemented from 2008 – 2012, in digital form.

+ National topographic maps scale 1: 50, 000; 1: 100, 000; 1: 250, 000; 1: 500, 000 and 1: 1, 000, 000, established from 1998 – 2013, in both print and digital form.

+ Seabed topographic maps scale 1: 10, 000 and 1: 50, 000 for some coastal areas of Vietnam, in both print and digital form.

+ Administrative boundary maps for administrative units at commune, district and provincial levels nationally.

+ Marine chart of Vietnam marine areas, scale 1: 250, 000 Maps of Vietnam continental shelf scale 1: 1, 000, 000; 1: 17, 000 and 1: 3, 000, 000.

+ System of aerial and remote sensing.

For specialized geographic databases:

Some sectors have developed other geographic information systems serving the specialized management of each field, such as:

+ The system of land records and cadastral maps: about 80% of the parcels of land nationally, 70% of which are in digital form.

+ Maps of current land use and land use planning of administrative units at commune, district and provincial levels in 2000, 2005 and 2010.

+ Geological maps, scale 1: 1, 000, 000, 1: 500, 000 and 1: 250, 000 covering the whole territory; scale 1: 50, 000 1: 25, 000 and 1: 10, 000 of some areas.

+ National forest distribution map.

+ Agricultural database of administrative units at provincial level.

+ Transport database: roads and transportation works.

+ Geographic Database on fire-fighting, rescue and salvage in the industrial zone, hotels, markets, supermarkets, trade centers in 5 cities: Ha Noi, Ho Chi Minh, Hai Phong, Da Nang, Can Tho.

+ Project “ Strengthening early warning flood in Vietnam”, which built the Geographic

Database support management Agencies. The information on developments storms, floods.[Do Thi Thu Thuy, 2015], will be provided by this system.

+ The program “ Smart urban development” is proposed by Ministry of construction. This program applied research to build a database for a GIS about urban planning, planning defense of Hanoi, urban development strategy for the city of Ha Long, Can Tho.

+ Some provinces and cities established geographic information systems, such as: Vinh, Phuc, Hue...