

Tracing GIS evolution

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During the end of the 80s, GIS technology was imported in Vietnam via the projects sponsored by international agencies or developing countries. GIS and remote sensing technology was researched in universities and research institutes in the north. Many scientists and researchers approached GIS, they created solutions for spatial analysis of forest management. In the frame of these international GIS projects, a lot of Vietnamese researchers were trained in GIS by means of study tours to the country funding the project. Some GIS workshops were organized in Hanoi. Since 2000 GIS has been developed strongly. The trend is towards applying GIS and remote sensing for public administration.



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LOCATED IN THE south-east of Asia, Vietnam has a total land area of 331,000 sq. km and a population of over 80 million residents. It consists of 61 units, called province or city. They include Hanoi city (the capital of Vietnam), Haiphong, Danang, Hochiminh city (the biggest city in south Vietnam). It consists of 22 districts and 303 wards with over 6 million residents and about 2 million immigrants coming from northern, central and southern provinces.

Hochiminh has the biggest port and is the biggest center of civilization, trade, service, communication, science and technology in Vietnam. It is a key member of the focused industry zone of southern Vietnam and its GDP increases at the rate of over 12% a year. It contributes to the national budget about at the rate of 33% a year. This is a dynamic city with over 20 universities and number of public and private organisations.

The development of the GIS applications in Vietnam can be divided into 3 periods:

BEFORE 1995

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solutions for spatial analysis of forest management. In the frame of these international GIS projects, a lot of Vietnamese researchers were trained in the GIS by the means of study tours to the country funding the project. Some GIS workshops were also organized in Hanoi.

DURING 1995-1999

The project of the GIS for managing natural resources and monitoring environment (funded by the Ministry of Science Technology and Environment) developed a lot of sub-projects in several provinces. Its objective was to computerize paper maps and make thematic maps for provinces. It trained officials for digital mapping in those provinces and organized to make digital thematic maps for each province. In the frame of the project: Strengthening of the Environment Management Authority of Vietnam 'SEMA', funded by the Sweden International Developing Agency (SIDA), Vietnam National Environmental Agency built the standard of data structure for environmental database, which has been used the whole Vietnam.

- VIE93/014 - This was a GIS project sponsored by the United Nations Development Program (UNDP) for Hochiminh City Department of Construction. It aimed at creating the spatial database of the underground facility in Hochiminh City. Under the assistance of an international consultant, the spatial database of infrastructure of an area of 1 square kilometer in District 3 of Hochiminh City was built as a pilot project. The project trained many officials of city agencies through courses at the CGIS in Doha, Qatar and DITAGIS in Vietnam. VIE93/014 is the

beginning of projects of GIS for public administration.

- VIE95/051 - This is a project supporting the administrative reconstruction in Hochiminh City. In this, an issue of GIS was suggested for urban planning and land management.
- The two GIS and RS workshops sponsored by the GDTA Group, France, were held in Hanoi and Hochiminh City in 1996. They contributed to the expansion of the knowledge of GIS and RS for many officials from several provincial agencies.
- Since 1995 - the Annual GIS Conference - which has been held by DITAGIS, have attracted the attention of many people from research and governmental agencies of several provinces and cities in the whole country, with more and more participants. This year, the 9th GIS Conference will be held on November 5th in the campus of Hochiminh City University. Tentatively, there will be over 300 participants. These GIS Conferences have promoted well the use, research, business of GIS in users, researchers, students, officials and businessman.
- The Vietnamese company Dolsoft has developed the GIS software named DolGIS. This is a software which has many module with several functions as vectorization, path finder and so on.
- A software, named Popmap, created by Hanoi Institute of Information Technology has been used to implement the population maps for some countries under the fund of the United Nations.

SINCE 2000

GIS and remote sensing has been developed strongly. The trend is towards applying GIS and remote sensing for public administration. This has been initiated by the DITAGIS and has been approved by some provincial governmental agencies. After the master plan of the GIS 'SAGOGIS' for Hochiminh City was reported by Prof. Tran Vinh Phuoc to Hochiminh City People's Committee, the chairman of City People's Committee decided to open the project.

The project SAGOGIS has not only attracted the interest of Vietnamese information technology companies, but also foreign companies and several organizations as well.

- While the SAGOGIS has not developed formally, the city of Hanoi and some provinces as Dongnai, Binhduong, Nhatrang have made the feasibility studies of the provincial GIS in the frame of the information technology programs for public administration.
- After classifying the GIS data into 2 groups - GIS basic data and GIS thematic data, promoted by the DITAGIS - Hochiminh City, Dongnai province, Binhduong province have build their basic GIS database by means of digitizing the paper maps or air photographs.
- With a sea line 3,260 km long, the Vietnam government has approved a big project to do research on it. In this project GIS is being considered as an important tool for research.
- The database of low-roofed house area in Hochiminh City, which was established by DITAGIS has been used in the project -

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'Upgrading the slums in Hochiminh City' funded by Asian Development Bank (ADB).

- The subject of GIS is being taught in some fields of universities as environment, geology, geodesy, geography, forest, agriculture to undergraduate and master students.

DEVELOPING GIS IN VIETNAM

- The Vietnam government has reconstructed the administrative apparatus and GIS is being considered as a good tool for public administration - specially in land, housing, infrastructure management.
- In case of Hochiminh City, which is a dynamic city with high speed of increasing economy and rapid urbanization, the GIS is being applied for supporting the city government agencies in facilitating management of land and housing. Hochiminh City will be the first unit to develop GIS for public administration.
- Satisfying the urgent need in urban management of governmental agencies, the SAGOGIS project will be developed at two level - the city and district - at the same time as quite independent systems. So, the SAGOGIS framework is requested to link these systems. The documents of the framework has been edited at the general level by Vietnamese company 'FPT'. At the city level, the planning maps of Department of Planning and Architecture is digitized by the Vietnamese company Diaviet. The geo-database of water supply network will be built by DITAGIS.
- Some districts have implemented the GIS for urban administration, the GIS of district 5 and district Govap have been developed by DITAGIS. In addition, Hanoi and other cities, provinces will promote the provincial GIS for administration in the near future.
- For satisfying the need of manpower in GIS and RS field, Hochiminh City University of Technology will establish the GIS program at the Bachelor, Doctor levels and promote the current Master program. The GIS programs at the Bachelor and Doctor level are slated to start by 2004. ■