

**DECISION No. 33/2008/QĐ-TTg OF  
FEBRUARY 27, 2008, APPROVING THE  
STRATEGY ON DEVELOPMENT OF  
VIETNAM'S SURVEY AND MAPPING  
BRANCH UP TO 2020**

**THE PRIME MINISTER**

*Pursuant to the December 25, 2001 Law on  
Organization of the Government;*

*Pursuant to the Government's Decree No. 12/  
2002/ND-CP of January 22, 2002, on survey and  
mapping activities;*

*At the proposal of the Minister of Natural  
Resources and Environment,*

**DECIDES:**

*Article 1.- To approve the strategy on  
development of Vietnam's survey and mapping  
branch up to 2020 with the following principal  
contents:*

**I. VIEWPOINTS**

1. Survey and mapping mean basic survey activities which must be conducted one step ahead in order to ensure geographical information infrastructure for socio-economic development, management of natural resources and the environment at home, and cooperation in solving global and regional problems arising from the earth science and the supervision of natural resources and the environment in the process of Vietnam's international economic integration.

2. To take investment in sciences and technologies in the survey and mapping branch as a major development solution. The development of survey and mapping sciences and technologies must suit domestic conditions and approach advanced levels in the world; to take

the initiative in meeting the needs for development and application of technologies of receiving and processing information, set up of a geographical database and a geographical information system, storage and supply of sufficient and accurate information in a timely manner and at low costs.

3. The survey and mapping information system must be up to uniform national standards and conform to international standards, capable of serving the state management of territory, socio-economic activities, planning on sustainable socio-economic development, maintenance of defense and security, natural disaster prevention and combat, supervision of the exploitation of natural resources, control of the environmental status, meeting the community's needs for information in service of management of production, service, education, training, scientific research and raising of the people's intellectual standards.

4. To bring into play internal strengths, especially the intellectual capacity of Vietnamese people, in order to develop and apply survey and mapping technologies, especially in software technology for processing geographical information, in parallel with enhancing and expanding international cooperation in survey and mapping.

5. To step by step socialize survey and mapping services, and commercialize survey and mapping information and documents.

## II. OBJECTIVES

### 1. General objectives

- To develop Vietnam's survey and mapping into a basic survey branch attaining a modern scientific and technological level equal to the region's advanced level and approaching the world's advanced level;

- To ensure the building and supply of adequate and accurate geographical information infrastructure to serve requirements of the state management of territory, land, natural resources, the environment and socio-economic activities; to maintain defense and security; to conduct scientific research into the Earth; to correctly perceive the actual situation and elaborate a planning on sustainable socio-economic development; to prevent and control natural disasters and protect the environment; to supply information to meet the community's needs for information in economic, educational, training, research and daily-life activities and raise the people's intellectual standards.

- To build a system of state management agencies in charge of survey and mapping which are capable and effectively operate to meet the whole branch's development requirements;

- To perfect soon legal provisions on the organization and operation of Vietnam's survey and mapping branch, ensuring the legal validity of maps of all kinds and survey figures on maps.

### 2. Specific objectives

#### a/ From now to 2010

- To complete the system of legal documents on survey and mapping; the system of standards, technical regulations and socio-economic norms on survey and mapping;

- To perfect the organization of the state management apparatus in charge of survey and mapping from the central to grassroots level;

- To further upgrade global positioning system (GPS) technology for the purposes of positioning and navigation, step up the application of remote sensing (RS) technology for the purpose of quick and accurate receipt of geographical information, and apply in a synchronous manner geographical information system technology for the purpose

of well organizing the national geographical information infrastructure;

- To complete the first phase of the project on building a reference system - coordinate system in service of defense and security;

- To regularly revise the system of topographic maps of a scale of 1/50,000 covering the whole country, build a geographical information system on a basic scale of 1/50,000; to start the development of a system of topographic maps of a scale of 1/10,000 covering the whole country and of scales of 1/2,000 and 1/5,000 covering all urban centers and key economic zones to serve the elaboration of detailed plans; to complete formal topographic maps and cadastral dossiers for around 20 provincial-level administrative units; to set a digital height model of the whole country; to compile and edit various types of topographic maps of small scales and other types of specialized, topical and special-use maps;

- To set up a system of maps of the sea, river estuaries and seaports in service of defense and sea management tasks of ministries, branches and localities.

b/ During 2011-2015

- To build a reference system; a national coordinate grid and a modern national height grid up to international standards;

- To complete a system for receipt of ground surface information by photographs taken from satellites or aircraft by means of optical, radar or laser beam devices;

- To complete a national geographical information system consisting of ground photos taken from satellites and aircraft; topographic maps covering the whole country and developed economic regions; topographic maps of seafloor covering all sea areas and regions where activities of marine economy are carried out; a system of

formal topographic maps attached with cadastral dossiers in the whole country; topical, specialized and special-use maps; and digital height models; and ensure that this system is regularly updated.

c/ During 2016-2020

- To complete a technological system that combines GPS technology with RS technology for receiving satellite images and geographical information system (GIS) technology (3S technology) for application under a technological process suitable to Vietnam's conditions and up to international standards;

- To complete the whole survey and mapping information infrastructure consisting of a system of coordinate, height and gravity grids in a uniform national reference system, connected in a dynamic state with the international reference system; a system for receipt of remote sensing photos of the ground taken from satellites and aircraft with devices suitable to ground surface information requirements. The geographical information system must be organized in the form of dynamic geographical databases within the system, consisting of numerous information layers for common use; topical, specialized and special-use maps.

### III. SPECIFIC TASKS IN EACH PERIOD

#### A. FROM NOW TO 2010

1. Completing the system of legal documents on survey and mapping

a/ To review the implementation of the Government's Decree No. 12/2002/ND-CP on survey and mapping activities, and draft and submit to the Government for submission to the National Assembly for promulgation a Law on Survey and Mapping;

b/ To promulgate branch standards on the

national reference system, the national system of original coordinate, height and gravity points; the national system of basic coordinate, height and gravity grids; the system of national borderline and administrative boundaries according to standard coordinates; the system of administrative and international geographical names, and names of geographical objects; the standard system of geographical data in different use forms;

c/ To complete a system of legal documents guiding technological processes applied in production; technical regulations applicable to each type of technological process; technical standards on each type of survey and mapping work or product; econo-technical norms for each type of work or product.

## 2. Applying and developing technologies

a/ To diversify methods of dynamic GPS-based positioning by real time so as to renew the structure of the national coordinate grid in the direction of minimizing the number of points where marker posts need to be put up in the field, using the national coordinate grid as both original coordinates for each locality and a coordinate frame for adapting satellite photos to local coordinates and a grid for observation of the Earth's crust movements in order to forecast geological cataclysms by survey methods, and develop the application of GPS technology for other purposes;

b/ To renew technological methods of height measurement towards creating high-resolution digital models for application of satellite positioning technology to height measurement; to redesign and complete the national height grid and national gravity grid along the line of minimizing basic height grids built by the method of geometrical height measurement and organizing gravity grids with an appropriate density, and making use of all height measurement

methods to accurately build digital ground height models. To arrange a sufficient gravity point system to serve the correction of the height grid, research into the Earth's gravity field and physio-geographical exploration and survey;

c/ To complete the system of aerial remote sensing technology for taking photos of the ground from satellites or aircraft by means of different types of waves or beams, including:

- To operate stations for receipt and stations for processing of national satellite photos under a Hanoi-based project funded by the French Government's official development assistance to receive panchromatic optical images, spectrograms and radar images of the Spot satellite for use for the survey and mapping and other purposes;

- To renew the aerial photography technology for taking photos of the ground from aircraft with digital devices in order to enhance details of information, increase information categories, improve the accuracy of information, and reduce costs;

- To furnish Lidar technology for laser scanning of ground surface to precisely measure the ground height, create new possibilities in forest survey and drawing of three-dimensional (3D) maps of urban centers and economic development zones.

d/ To improve the technology for using the electronic information network to serve land administration work and supply geographical information to meet the community's needs;

e/ To improve the technology for ocean measurement with multi-beam echosounders or eigensubspace depth measurement devices and the electronic sea mapping technology.

3. Types of survey and mapping works and products to be done

In this period, it is necessary to complete or start doing survey and mapping works or products, including:

a/ Based on the national coordinate reference system VN-2000 already closely aligned with the World Geodetic System (WGS)-84, to further upgrade this system under a dynamic viewpoint so as to obtain a new one closely aligned with the International Terrestrial Reference Frame; and to complete the first phase of the reference system and the coordinate system in service of defense and security;

b/ To set up a new national coordinate grid with a minimum number of points where marker posts need to be put up in field. Lower-level grids will be temporarily set up with the GPS technology and sufficient for work construction and require no marker posts for long-term protection;

c/ To complete the basic grid of the differential GPS (DGPS) technology and prepare for the system alignment; to expand the scope of service of DGPS technology for the purposes of survey and mapping, positioning and navigation for transport and traffic and other purposes; and to align this grid with the International GPS Service (IGS);

d/ To complete the national height grid and the national gravity grid towards minimizing fixed points where marker posts need to be put up for long-term protection; to use satellite and aviation gravity data in calculations in order to reduce the workload of measuring the ground gravity; to expand the possibility of applying satellite positioning technology to height measurement;

e/ To deploy the system of topographic maps along the line of:

- Correcting on a regular basis the system of topographic maps of a scale of 1/50,000 covering the whole country, building a national geographical information system of a basic scale

of 1/50,000 for the whole country for the purpose of macro state management, management of activities of branches throughout the country; elaborating a master plan on sustainable economic development and environmental protection; maintaining defense and security;

- Setting up a system of topographic maps of a scale of 1/10,000 covering the whole country and scales of 1/2,000 and 1/5,000 covering urban cities and key economic areas to serve the elaboration of detailed plans; expanding the national geographical information system of an overall basic scale of 1/10,000 with the setting up of a digital height model with an accuracy of 1 m and a mean surface "0" digital model (Geoid) with an accuracy of 2.5 cm; and completing the system of topographic maps of a scale of 1/25,000 covering the whole country in service of defense and security;

- Ensuring timely supply of survey and mapping documents in service of the management of the national border and administrative boundaries of all levels; setting up a geographical information subsystem in service of frontier work and another one in service of management of administrative boundaries;

- Completing the project on setting up a system of maps of the sea, river estuaries and seaports in service of defense and sea management tasks of ministries, branches and localities (under the Prime Minister's Decision No. 47/2007/QĐ-TTg of March 1, 2006, approving the overall scheme on basic survey and management of marine natural resources and environment up to 2010, with a vision toward 2020);

- Setting up a national geographical information system consisting of ground photos taken from satellites and aircraft; topographical maps covering the whole country and developed economic areas; topographic maps of the seafloor covering all sea areas and regions where activities

of marine economy are carried out; a digital height model;

- Taking initial steps in organizing the supply of geographical information infrastructure in the form of photos of the ground, topographic maps and base maps on the electronic information network.

f/ To complete formal cadastral maps and cadastral dossiers, and grant land use rights certificates to around 20 provincial-level administrative units (under a project funded with the World Bank's ODA in combination with local budgets); to complete a land information system in these provinces in service of land administration.

#### 4. Renewing the system of organizing survey and mapping activities

To complete the equitization of state enterprises providing services or supplying information on survey and mapping, and develop non-state enterprises providing survey and mapping services.

### B. DURING 2011-2015

#### 1. Applying and development technologies

a/ To complete a system for receiving ground surface information in the form of photos taken from satellite or aircraft with optical, radar or laser beam devices, including the following tasks:

- Upgrading, and raising the capacity of, stations receiving and processing photos taken from national satellites with newer technologies.

- Furnishing the technology of laser scanning from aircraft for coastal areas in order to gather information on water depth (laser technology exclusively used for coastal areas) for the purpose of setting up a geographical information subsystem for integrated management of coastal zone).

b/ To continue investing in upgrading the technology for survey and drawing of topographic

maps of the seafloor and topical, specialized and special-use maps for management and development of marine economy and maintenance of defense and security on the sea;

c/ To study initial steps of domestic manufacture of some survey and mapping equipment.

#### 2. Types of survey and mapping works and products to be done

a/ To complete the national reference system under a dynamic viewpoint for alignment with the ITRF reference system, the reference system-coordinate system in service of defense and security; to complete the national coordinate grid, the national height grid and the national gravity grid regularly updated with measurement data according to their designs, ensuring their modernity and conformity with international standards; to complete the operation of the DGPS grid for use nationwide, both in the mainland and sea areas;

b/ To complete the national geographical information system consisting of photos of the ground taken from satellites and aircraft; the system of topographic maps of scales of between 1/10,000 1/1,000,000 covering the whole country, of scales of between 1/2,000 and 1/5,000 covering developed economic areas; topographic maps of the seafloor of a scale of 1/200,000 covering all sea areas, and of scales of between 1/10,000 and 1,000,000 covering regions where activities of marine economy are conducted; an accurate digital height model and an accurate digital mean surface "0" model (Geoid); maps of various scales in service of management of the national border and administrative boundaries of all levels; the system of administrative geographical names and names of geographical objects; topical, specialized and special-use maps in service of socio-economic management and development, defense and security maintenance. To ensure that these systems are regularly updated and supplied with various

types of geographical information in different forms on the electronic information network;

c/ To complete a system of formal cadastral maps of scales of between 1/200 and 1/10,000, depending on land categories, combined with establishing modern systems of cadastral dossiers for all provinces and centrally run cities; to interconnect them nationwide to form a land information network in service of management and registration of land transactions and supply of land information to meet the community's needs;

d/ To diversify forms of geographical information for paper map dump in the form of map sheets, volumes or general or special-subject atlases for different use needs for the purposes of education, training, scientific research and raising of the people's intellectual standards.

3. Renewing the system for organizing survey and mapping activities

To basically socialize survey and mapping services and the production of survey and mapping information.

### C. DURING 2016-2020

1. Applying and developing technologies

To complete the integration of GPS technology, remote sensing (RS) technology (for both ground and seafloor) and GIS technology into a uniform technology system (3S technology system), which will be applied in suitability with Vietnam's conditions to the production of survey and mapping information and to areas where survey and mapping information is used for special purposes.

2. Types of survey and mapping works and products to be done

a/ To complete the whole system of survey and mapping information infrastructure consisting of the national reference system; the reference system-coordinate system in service of defense

and security; the system of national coordinate, height and gravity grids aligned in the dynamic status with the international reference system; the system for receipt of information in the form of remote sensing photos of the ground taken from satellites and aircraft with photographic devices meeting the needs for ground surface information; the geographical information system which will be organized as a geographical database with topographic maps of all kinds and seven information classes: national border and administrative boundary class, height and depth class, hydrological system class, traffic route class, botanical coverage class, land use class, and population class of different scales;

b/ To put the survey and mapping information infrastructure on the electronic information network to directly serve the state management, socio-economic development and defense and security maintenance; earth science research, perception of the actual situation and development planning; natural disaster prevention and combat and environmental protection; supply of information for the community's needs, raising of the people's intellectual standards and international cooperation for the purpose of solving regional and global problems.

3. Renewing the system of organizing survey and mapping activities

To completely socialize all activities of providing survey and mapping services and producing survey and mapping information.

## IV. MAJOR SOLUTIONS AND KEY SCHEMES AND PROJECTS

### A. MAJOR SOLUTIONS

1. Perfecting mechanisms and policies for activities of Vietnam's survey and mapping branch:

a/ To formulate a system of mechanisms and policies on development of Vietnam's survey and mapping branch; to clarify and combine tasks of making various survey and mapping products; to prevent investment overlapping; to encourage the use of survey and mapping information in the management, development planning and decision-making assistance; to create conditions for socializing survey and mapping activities;

b/ To consolidate and strengthen state management agencies within Vietnam's survey and mapping branch to meet the branch's development requirements in each period;

c/ To renew the operation mechanism of central and local non-business units in the direction of transforming them into enterprises; to equitize state enterprises in order to raise the effectiveness and quality of services provided, and reduce their costs;

d/ To socialize survey and mapping activities, encourage survey and mapping activities conducted by enterprises of non-state economic sectors under the mechanism of bidding for the performance of works or making of products.

## 2. Mobilizing and effectively using survey and mapping investment capital

a/ To increase investment from the central budget for basic and specialized survey and mapping technologies and products; investment from local budgets for survey and mapping technologies and products for special use for localities' management purposes;

b/ To use investment capital sources outside the state budget for such specialized survey and mapping technologies and products as survey and mapping of works; survey and mapping in service of production management or economic service provision; supply of survey and mapping information to meet the community's needs.

## 3. Training technical human resources for

survey and mapping

a/ To raise the quality of college, university and postgraduate training in survey and mapping in the direction of diversifying forms of training combined with renovating training programs, curricula and methods to keep up with the development of modern technologies; to increase the number of cadres trained in countries with highly developed survey and mapping sciences and technologies;

b/ To renovate contents of training in the use and exploitation of survey and mapping information in relevant branches, such as agriculture, construction, transport, etc., focusing on the application of information technology to survey and mapping activities;

c/ To develop a contingent of highly qualified technicians through international cooperation in order to contribute to solving global and regional problems.

## 4. Stepping up scientific research, technological development and application

a/ To formulate, and organize the implementation of, a program on survey and mapping science research and technology development and application with an appropriate roadmap, prioritizing practical programs and schemes to meet requirements of socio-economic development and natural resources and environment management;

b/ To select and receive the world's scientific and technological advances which are suitable to domestic conditions, and increase scientific and technological potential to meet the survey and mapping development needs;

c/ To adopt policies on preferential treatment of scientific and technological personnel engaged in survey and mapping who are highly qualified and have made active contributions to survey and mapping activities;

d/ The State will set requirements on hi-tech

contents in survey and mapping works and products done under its orders.

5. Expanding and intensifying international cooperation

a/ To intensify international cooperation in survey and mapping with developed countries with high technological levels through international projects on earth science research and joint programs on solution of regional and global problems;

b/ To step up cooperation with neighboring countries in survey and mapping so as to obtain common information on the whole region;

c/ To establish relations of cooperation in survey and mapping services with the Southeast Asian, Asia-Pacific and other countries;

d/ To proactively take part in survey and mapping activities in professional associations and non-governmental organizations around the world.

## B. KEY SCHEMES AND PROJECTS

1. Schemes and projects on elaboration of legal documents

a/ Project on drafting a Survey and Mapping Law

- Implementing unit: the Ministry of Natural Resources and Environment;

- Principal contents: to review the implementation of Decree No. 12/2002/ND-CP and draft the Survey and Mapping Law;

- Duration of implementation: 2008-2009.

b/ Project on building of a standard system of national geographical information

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to build a standard system of national geographical information in order to

unify the use of standard data in conformity with international standards;

- Duration of implementation: This project started in 2006 and is expected to complete in 2008.

c/ Scheme on building a system of Vietnamese and international geographical names in service of mapping activities

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to build a system of standard geographical names of geographical objects of Vietnam and other countries in order to unify the use thereof on maps of all kinds;

- Duration of implementation: this project started in 2005 and is expected to complete in 2009.

2. Scheme on consolidation and improvement of the organization of Vietnam's survey and mapping branch

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to consolidate and strengthen state management agencies in charge of survey and mapping from the central to grassroots level, the system of non-business units and the system of socialized survey and mapping service organizations;

- Duration of implementation: in 2009.

3. Schemes and projects to develop the national reference system and the system of coordinate, height and gravity grids

a/ Project on completion of the national reference system

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to upgrade the national

reference system VN-2000 under a static viewpoint and compatible with the old international reference system WGS-84 into a new one under a dynamic viewpoint and compatible with the new international reference system ITRF;

- Duration of implementation: in 2011.

b/ Project on building a fixed GPS network in the Vietnamese territory

This project is formulated under the Strategy for application and development of information technology in the natural resources and environment branch, which was approved by the Prime Minister in Decision No. 179/2004/QĐ-TTg of October 6, 2004.

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to build a fixed GPS network, covering the completion of a system of four fixed GPS stations in Dien Bien, Hai Phong, Quang Nam and Ba Ria - Vung Tau; to furnish the central control station in Hanoi, and build some new fixed GPS stations which will play the role of both a basic coordinate grid and a grid for observation of the Earth's crust movements in service of forecast of geological catastrophes; to set up a network among these stations and provide positioning services using DGPS technology for survey and mapping activities, positioning and navigation for land, air and sea transport, research and discovery of modern tectonics and the Earth's crust movements, and unification of mathematical bases for geographical data;

- Duration of implementation: 2008-2009.

c/ Project on building a reference system - coordinate system in service of defense and security (under the Prime Minister's Decision No. 47/CP-KG of July 18, 2000)

- Implementing unit: the Mapping Department

of the General Command Post;

- Principal contents: to build a confidential reference system - coordinate system for exclusive use for defense and security purposes;

- Duration of implementation: from 2007.

d/ Project on completion of the national height grid

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to chart original height points for Central Vietnam in Da Nang and for the South in Ba Ria - Vung Tau and Ha Tien, and complete the national basic height grid;

- Duration of implementation: this project started in 2004 and is expected to complete in 2008.

e/ Project on completion of the national gravity grid

- Implementing unit: the Scientific Institute for Survey and Mapping of the Ministry of Natural Resources and Environment;

- Principal contents: to build a system of national gravity basic grids of all grades and levels, measure specific gravity points, calculate and correct the height grid, and develop a national gravity database;

- Duration of implementation: This project started in 2005 and is expected to complete in 2009.

4. Schemes and projects to receive survey and mapping data and develop a survey and mapping database

a/ Project on building stations for receiving and processing satellite photos

- Implementing unit: the Remote Sensing Center of the Ministry of Natural Resources and Environment;

- Principal contents: to build a station for receiving photos from the Spot satellite (France),

Modis satellite (the US) and EnviSat satellite (EU), a station for processing satellite photos to supply photos of the ground taken with optical or radar devices with the best resolution of 2.5 m for different purposes, including the survey and mapping purpose;

- Duration of implementation: This project started in 2005 and is funded with ODA loans of the French Government and expected to complete in 2009.

b/ Project on developing a geographical information database of a scale of 1/10,000 associated with the digital height model covering the whole country

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to furnish Lidar technology for topographically scanning the ground with laser devices in service of high-resolution ground height measurement; to align topographic maps and basic cadastral maps of a scale of 1/10,000 which are newly drawn with updated photos and additionally measure and draw uncharted areas in order to set up a system of topographic maps of a scale of 1/10,000 covering the whole country; to build a high-resolution digital height model (including also a mean surface "0" digital model Geoid); and to build a geographical information database of a basic scale of 1/10,000;

- Duration of implementation: This project has been submitted to the Prime Minister and is expected to start in 2008.

c/ Project on building a geographical information database of scales of 1/2,000 and 1/5,000 for urban centers, industrial zones and key economic regions

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources

and Environment;

- Principal contents: to renew the technology for taking photos of the ground from aircraft with digital photographic chambers, which are capable of taking photos on panchromatic light, visible spectra or infrared spectrum; to align topographic maps of scales of 1/2,000 and 1/5,000, which are newly drawn with updated photos, and additionally measure and draw uncharted areas in order to set up a system of topographic maps of scales of 1/2,000 and 1/5,000 covering all urban centers, industrial zones and key economic regions; and to build a geographical information database of basic scales of scales of 1/2,000 and 1/5,000 in urban centers;

- Duration of implementation: This project has been submitted to the Prime Minister and is expected to start in 2008.

d/ Project on modernization of Vietnam's land administration system

- Implementing units: provincial/municipal Natural Resources and Environment Services;

- Principal contents: to measure and draw formal cadastral maps, compile modern cadastral dossiers, and set up a land information system of the whole country;

- Duration of implementation: The investment in this project was decided by the Prime Minister with ODA loans of the World Bank. This project is expected to start in 2008.

e/ Project on setting up and completion of a system of topographic maps of a scale of 1/25,000 covering the whole country for defense and security purposes

- Implementing unit: the Mapping Department of the General Command Post, the Ministry of Defense;

- Principal contents: to complete existing topographic maps of a scale of 1/25,000; to draw

topographic maps of a scale of 1/25,000 for areas where no topographic maps are available and collect them into a system covering the whole country for defense and security purposes;

- Duration of implementation: 2009-2011.

f/ Project on setting up a system of maps of the sea, river estuaries and seaports in service of defense and performance of sea management tasks by ministries, branches and localities

This project is within the general scheme on basic survey and management of marine natural resources and environment up to 2010, with a vision toward 2020, which was approved by the Prime Minister under Decision No. 47/QĐ-TTg of March 1, 2006.

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment, and the Navy Command;

- Principal contents: to draw maps of various scales for all sea areas of Vietnam;

- Duration of implementation: 2008-2011.

g/ Project on building a cartographical database in service of management of defense land use

This project was permitted by the Prime Minister for execution under Official Letter No. 486/TTg-NN of April 19, 2007.

- Implementing unit: the Mapping Department of the General Command Post, the Ministry of Defense;

- Principal contents: to draw cadastral maps and dossiers for defense land areas, and build a cartographical database and a system of management and use of defense land database;

- Duration of implementation: 2008-2011.

5. Schemes and projects to build national geographical information infrastructure

a/ Project on online publication of Vietnam's

map system

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: To complete the system of land and sea maps for publication on the website of the Survey and Mapping Department;

- Duration of implementation: 2007-2009. This project has been assigned by the Prime Minister to the Ministry of Natural Resources and Environment for implementation coordination with the Ministry of Defense.

b/ Project on building a system of management of the basic geographical information database and the survey and mapping database.

This project is part of the building of a national geographical information system set forth in the strategy on application and development of information technology in the natural resources and environment branch, which was approved by the Prime Minister in Decision No. 179/2009/QĐ-TTg of October 6, 2004.

- Implementing unit: the Survey and Mapping Department of the Ministry of Natural Resources and Environment;

- Principal contents: to gather all information on the national reference system, the system of national coordinate, height and gravity grids, the system of ground photos taken from satellites and aircraft with different photographic devices, the system of geographical databases of various scales covering the whole country, the system of geographical databases of scales of 1/2,000 and 1/5,000 covering all urban centers, the system of maps in service of management of border and administrative boundaries of all levels; to develop an electronic information network for data transmission; to equip software for information dump according to users' needs; to build and

publicize a cartographical database on natural conditions, natural resources, the environment, socio-economic conditions and population distribution on the Internet in service of search and study by interested organizations and individuals;

- Duration of implementation: 2008-2011.

**Article 2.-** Organization of implementation

1. The Ministry of Natural Resources and Environment shall:

- Organize and direct the implementation of the strategy; guide ministries, branches and localities to base themselves in their respective functions and assigned tasks to formulate, and organize the implementation of, programs, plans, schemes and projects in line with the objectives, contents and solutions set forth by this strategy.

- Direct the review, making of statistics and appraisal, and direct and coordinate with concerned ministries, branches and localities in *implementing lists of schemes and projects* eligible for priority investment, thereby elaborating specific programs and identifying priority contents, and assigning tasks to these ministries, branches and localities;

- Assume the prime responsibility for, and coordinate with concerned ministries, branches, localities and functional agencies in, inspecting and examining the implementation of this strategy; make annual and five-year preliminary reviews and overall review, assessment and draw *experience from the implementation of the strategy*; and propose to the Prime Minister for *decision adjusted objectives and contents of the strategy* when necessary.

2. The Ministry of Planning and Investment and the Ministry of Finance shall assume the prime responsibility for, and coordinate with the Ministry of Natural Resources and Environment and concerned ministries and branches in,

*balancing and allocating annual investment capital* under the State Budget Law for the effective implementation of the strategy.

3. Ministries, branches and localities shall, within the ambit of their respective functions and assigned tasks, organize the implementation of priority schemes and projects of the strategy and the contents, objectives and solutions of the strategy related to them.

**Article 3.-** This Decision takes effect 15 days after its publication in “*CONG BAO*.”

**Article 4.-** Ministers, heads of ministerial-level agencies and government-attached agencies and presidents of provincial/municipal People’s Committees shall implement this Decision.

**Prime Minister.**  
NGUYEN TAN DUNG