

# Stakeholder Co-operation in Swedish Land Administration and Land Information

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## SUMMARY

The National Land Survey of Sweden has a broad programme for stakeholder co-operation and coordination, which aims to manage Geographic and Land Information in national databases. A brief account of the stakeholders of the National Land Survey's products and services and their characteristics will be presented followed by a description of various forms of co-operation. Examples of governing principles and agreements with some stakeholders will be given, focusing on agreements with the municipalities.

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## 1. INTRODUCTION

Lantmäteriet plays the leading part on the geographic and land information scene in Sweden. Information from the Cadastre, the Land Register and a number of Map Databases is made available by various means and has a widespread use in society. The Government has appointed Lantmäteriet to be the National Coordinator of Spatial Information. In this mission stakeholder co-operation is a key activity for Lantmäteriet – the National Land Survey of Sweden – to build up, maintain and supply Geographic and Land Information. The information should satisfy important needs in society and correspond with the users' needs and demands. Sweden has a well-functioning and effective land administration, based on the Integrated Land Information system, LIS.

Initially the main objective for the LIS was to improve the efficiency of public agencies in the field of registration of real property rights. But later on the objective became providing complex information about real estate for legal, economical and fiscal purposes. The Swedish Integrated Land Information System serves some very important processes in society.

Geographic information and property information are important for the efficient management of information in many activities within the public agencies, the municipalities and in private companies. It contributes to the development of society.

Since 1995 all real property units are registered in the Land Data Bank System, which is managed by Lantmäteriet. The system holds more than 4 million real property units and 3.1 million building units. The system also holds some 8.7 million electronically stored mortgage certificates. The Swedish Land Data Bank System serves all sectors of society. Users have direct access to the system for registration purposes and for information retrieval/dissemination via Internet. The Integrated Land Information System also contains Geographic Information such as co-ordinates and height data, aerial photography, land cover data and place names.

Lantmäteriet has received new instructions from the Swedish Government.

The management of geographic and cadastral information has changed during the last years to an SDI approach. Instead of being a "map factory" Lantmäteriet has developed into the national coordinator of SDI. The guiding principles for this development are, in fact, the same as the basic principles for INSPIRE. This means that standards and processes are developed to make it possible to collect and maintain data at the level where this can be done most effectively, to share data between different administrative levels and to combine data from different sources.

After many years of building systems, collecting data and building databases Lantmäteriet is now focusing on information management and quality issues as well as how to develop the information and the technical systems in order to better satisfy the users. For that purpose we have a wide co-operation with public agencies and all municipalities in Sweden. The State (government) guarantees the status and existence of real properties, actual ownership and encumbrances, addresses and buildings in the registers. Through the use of unique identities and standardized information models, the information systems at central and local level, i.e. in municipalities, can cooperate in a fruitful way. The keys/identities also make it possible to cooperate with other information systems such as the Tax System and the Population Register and many other Governmental Authorities.

## **2. STAKEHOLDER CO-OPERATION AND COORDINATION**

### **2.1 Stakeholders within Land Administration and Land Information and their Particular Interests - Stakeholder Analysis**

Stakeholder co-operation has many different expressions among the activities of Lantmäteriet such as co-operation directly with the sources of the integrated Land Information System on the one hand and with the customers and resellers on the other hand. Stakeholder co-operation is also carried out through some advisory boards connected to Lantmäteriet. Co-operation also entails some of the very useful and important activities which are enabled thanks to the supply of geographic and land information, i.e. different kinds of civil defence and rescue-activities.

A brief account of the different kinds of stakeholders within Land Management and Land Information and their particular interests will be given, followed by a description of the various forms of cooperation we have.



Police  
Emergency Management Agencies  
GIS consultants  
Property Valuation companies  
Private individuals

The form of co-operation between Lantmäteriet and other stakeholders vary, depending on organisational responsibilities and type of information. The rules for certain stakeholder co-operation are decided by the Government and regulated by law, others are based on voluntary agreements.

A more detailed explanation will be given about the co-operation for Land Registration and for Plans and Land Use Regulations, as well as the co-operation with Municipalities, Business Partners and the National Defense under p.2.3.

## **2.2 Governing Principles:**

- Standardized information
- System independent interfaces
- Catch the information at its source!

Corner stones for successful use and exchange of land information are that:

- we (producers and users) have common concepts and definitions,
- we have identified common information needs for both base data and meta data,
- we have common definitions of the objects the information describes,
- we agree on how they will be identified,
- we have system independent models for information exchange and dissemination, models that also allow exchange of altered data only,
- we define a common technical interface, i.e. a standardized exchange format based on XML/GML.

## **2.3 Description of the Various Forms of Co-operation**

### **2.3.1 Co-operation with the sources**

*Ministry of Justice, Land Registration*

The co-operation with the Ministry of Justice is regulated by Law. Lantmäteriet maintains the system for registration of land rights, and the Land Registry's recordings are publicized by the Real Property Register. The State guarantees the correctness of the information and will compensate for any losses that occur to a landholder because of an error in the Register.

Lantmäteriet also supplies Land Registry information to society through business partners.

## *County Administration*

The co-operation with the County Administration is regulated by law.

The County Administration is responsible for some land use regulations, e.g. nature conservancy regulations and also register some others, e.g. wild life protection areas regulated in Environment Code.

The extremely important connection to affected real property units is guaranteed by registration in the Cadastral parts (Register of plans and land use regulations) of the Real Property Register. That way all concerned plans or regulations can be shown on each real property and on the cadastral map, and all real properties can be listed on each plan or regulation.

The co-operation is based on two different situations. Some of the regulations are still sent in analogue form to the Cadastral Authority for recording in the Real Property Register, while others are recorded directly into the Register by the County Administration. Nature reserves are recorded directly. The system is provided by Lantmäteriet.

## *District Administration*

The voluntary co-operation with the Municipalities is described in more detail in chapter 3.

### 2.3.2 Advisory Boards

There has been an parliamentary commission of inquiry working over the last years whose aim was to examine the role of Lantmäteriet in the future and the results of the latest organisational change. Statements and proposals have given Lantmäteriet a stronger co-ordination role which means that Lantmäteriet will have responsibility for co-ordinating the management of Geographical and Land Information in society. As a result, Government presented a bill to Parliament on priorities within information technology developments. This bill included proposals on how to organise and co-ordinate the future development of the Swedish SDI, including the foreseen handling of issues raised by INSPIRE. This bill has later been approved by Parliament. The decision includes a stronger co-ordination role for Lantmäteriet and the setting up of a National Advisory Board on Geographic information where all the concerned authorities and organisations will be members. This Advisory board will handle strategic issues on the national, European and international level and coordinate development of standards and specifications, metadata and metadata services, services for data access, policies for data use, etc. Lantmäteriet can "recommend" the other sector-authorities dealing with Geographic Information for example how their information should be standardized for easy data exchange and so on.

## *GI Advisory Board*

The GI Advisory Board is a forum for dialog about strategic issues for the development of real property and geographic information. Issues on the agenda are a national strategic plan

for the information maintenance and supply of geographic and land information within the geodata area, contents of the databases as well as specifications, quality and accessibility of the information.

The board also deals with issues pertaining to data collection methods, data maintenance and distribution, as well as matters concerning the cooperation between the various producers and users of core real property and geographic information.

Members are executives from the following organizations:

- Lantmäteriet
- The Swedish Maritime Administration
- The Geological Survey of Sweden
- The Swedish Meteorological and Hydrological Institute
- The National Environment Protection Board
- The county administrative board
- The National Defense Authority
- The Association of Local Authorities
- Swedish Development Council for Geographic Information

Membership in the Board is decided by the government.

#### *Credit Market Advisory Board*

The Board is a forum for dialog about issues of common interest for the members. The most commonly discussed issues are changes in laws and computer system developments concerning the Mortgage Deed System, the Land Registry, the Company Mortgage System and the Cadastre. The purpose is mainly to exchange information, but the group is also regarded as a reference group for greater changes/developments within their sphere of interest.

Boardmembers represent the following organizations:

- The Bankers' Association
- Four banks
- Three Credit Unions (financing housing)

Membership in the Board is voluntary, and members take part in order to receive information and to have an influence on future developments.

#### *Land and Real Estate Advisory Board*

The Board deals with issues concerning development of legislation and processes for an efficient handling of land administration, mainly issues around real property law and costs for services (e.g. cadastral surveys) provided by Lantmäteriet. In addition, questions around competence developments and education within the area of real estate administration are discussed.

Currently the Board has members from the private sector and authorities at central and local levels. They represent several large companies, stakeholder associations and authorities that use Lantmäteriet's real estate products and services, as well as the two universities with Land Surveyor education. Representatives are from:

- The National Board of Housing and Planning
- The Courts Administration
- The National Fortifications Administration
- The Royal Institute of Technology
- The Lund Institute of Technology
- The Farmers' Association
- The Association of Forestry Industries
- The National Rail Administration
- The Association of Real-Estate Companies
- The Association of Home Owners
- The National Road Administration
- The Association of Local Authorities
- The Association of Power Suppliers

Membership in the Board is voluntary, the members take part in order to receive information and to have an influence on pricing and quality of services.

#### *The Place-Names Advisory Board*

In its role as the national place-names authority, Lantmäteriet is responsible for handling place name issues in the government. The Advisory Board shall ensure an appropriate and careful management of place-name issues.

The Board provides guidance to authorities and other name-giving organizations. The focus is on principles, not on discussion of individual place-names. The Board has published guidelines for the care and preservation of place-names. It is hoped that the publication will be widely used by both central and local government bodies and by other public bodies that are engaged in the creation and allocation of names, thereby contributing to the implementation of good place-names code of practice throughout Swedish society.

Board members are stakeholders with interest in language and history, and organizations that make decisions on or are affected by new place-names. The following organizations are represented in the Board:

- The National Heritage Board
- The Institute for Dialectology, Onomastics and Folklore Research
- The universities
- The Swedish Language Council
- The Swedish Association of Local Authorities
- Sweden Post

- The National Road Administration
- The Swedish Local Heritage Federation
- The Saami Parliament
- The Church of Sweden.

The Place-Names Advisory Board was established in 1985, in accordance with 12 § of the ordinance (1995:1418), which contains instructions for the tasks and responsibilities of the Land Survey. Lantmäteriet is then by law required to set up the board, while the invited members take part on a voluntary basis.

### 2.3.3 Reseller co-operation

#### *Business partners*

Information is nowadays provided to the end user by our business partners and not by Lantmäteriet. A number of agreements regulate the co-operation between Lantmäteriet and business partners to enable a wide development and distribution of products to different kind of users. In general the business partners are independent with the right to:

- distribute products (online and withdrawal products, geographic information and Land Register Information)
- produce value added products
- enter into agreements and grant sublicenses on certain terms decided by Lantmäteriet (copyright and trademark)
- decide prices.
- Payment to Lantmäteriet is based on sublicenses granted and products sold.

The number of business partners are today about 20.

### 2.3.4 Stakeholder co-operation within National Defense and the Swedish crisis handling system

Lantmäteriet is responsible on behalf of The Swedish Armed Forces for co-ordinating and improving the efficiency of the use of digital geographic information. The need for geographic data has successively increased to keep abreast of the development of geographic information techniques in military systems. Data has been collected from several different sources: it has been supplied by both public sector authorities and private sector companies. The task of co-ordinating the supply of geographic information is the responsibility of a special unit within Lantmäteriet called Geo Information Establishment (Geo SE).

Co-operation in activities related to the development of support for handling crisis situations is another task for Lantmäteriet. It means that Lantmäteriet, together with the co-operation parties (the National Maritime Administration, the Geological Survey of Sweden, the Swedish Meteorological and Hydrological Institute the Geotechnical Institute and the National Road Administration) is responsible for co-ordinating the supply of geographic information and for

developing forms for creating and making available up-to-date data necessary for handling crisis situations. The Swedish crisis handling system comprises local and regional bodies (local authorities and county administrative boards) and sector organisations.

The co-ordination of geographic information also contributes to co-operation in fields related to total defence, risk and vulnerability analyses, the provision and dissemination of information, training and exercising, a monitoring of developments in the world around us and international activities.

### **3 CO-OPERATION WITH THE MUNICIPALITIES**

#### **3.1 Why does Lantmäteriet co-operate with the Municipalities?**

The needs of Market and Society change over time. Nowadays, in the digital world seamless and scaleless information is natural. In Sweden, Lantmäteriet and the Municipalities have for some time had the practical assignment of producing maps; Lantmäteriet produces smallscale maps for National purposes and the Municipalities produce largescalemaps for their needs. To meet the demands from the market we therefore have to co-operate more frequently and in more depth. Lantmäteriet and the municipalities in Sweden have a common responsibility in society to produce Land and Geographical Information; Lantmäteriet has responsibility on the national level and the municipalities on a local level for its citizens.

There are many actors dealing with and producing Land and Geographical Information. No party will manage itself. The exchange of information is rather complex today. Co-operation is therefore needed in many areas, for example concerning standardisation, common exchange formats and so on.

The concept and initiative taken in the EU to describe a spatial data infrastructure means that different datasets with Land and Geographical information will be built up from the local to the regional level to the national and to the European level. A Swedish SDI is a new phase where Lantmäteriet and the municipalities have to develop, broaden and coordinate their co-operation.

The co-operation between Lantmäteriet and the municipalities has its own history and there are four discerned stages.

First stage: During the 1970-ties there is almost no developed co-operation with the exception of some co-operation concerning technical matters such as data capture methods for Geographical Information.

Second stage 1970-90: GIS technique is coming and co-operation is more important, so there is an initial interest to co-operate in different ways. Land Information Systems are built up both on the national and on the local level in the municipalities.

Third stage 1990-2002: Co-operation is more and more important due to economic reasons. Some information such as addresses, building data etc. produced by the municipalities are voluntarily registered in the Property Register. This co-operation is based on agreements between Lantmäteriet and the municipalities.

Fourth stage 2003-: Now there is a close and deeper co-operation between Lantmäteriet and the municipalities with a Framework Agreement, economic compensation and close common development projects.

### **3.2 Framework Agreement**

Some local authorities have a cadastral authority similar to the state cadastral authorities. At date, they number 38. They perform cadastral surveys and record the outcome in the same way the state offices do. Generally, it's the larger cities that have their own cadastral authorities. The cooperation for the exchange of information about addresses, buildings and topographic data is based on voluntary agreements. The municipalities with cadastral authorities of course have to follow all laws and regulation that govern these cadastral authorities.

It has taken many years of negotiations with the Swedish Association of Local Authorities to come to an agreement on how to share common information and how payments for information should flow between the parties.

The agreements vary for local authorities with or without cadastral authority. The local authorities use the Real Property Register (including the cadastral map) for all land related business, e.g. as landowner for buying and selling land, as physical planners for negotiating zoning with private landowners, for collection of utility fees, and for planning of services such as schools, buses and garbage collection.

The municipalities create some information and are the source of some data, such as street names and addresses. They report some additional topographic issues, such as for example buildings and roads, to the national databases of Lantmäteriet. The local authorities also have the opportunity to add some information of their own to the official registry, information that may be for public use or for internal use.

In 2003 Lantmäteriet signed a general agreement with the Association of Local Authorities, which is the guiding document for final agreements with individual Local Authorities.

The normal content of an agreement is:

1. The Local Authority up-dates addresses, buildings and some topographical details (e.g. roads, streets, placenames etc ..)
2. Local authorities without a cadastral authority subscribe to the digital cadastral map
3. Co-operation in cadastral surveying involving some field work and other preparation for the state Cadastral Authority.

4. Stipulates the excess of co-operation in building, up-dating and distributing commonly owned geographic databases.

In the agreements with the municipalities, it is stipulated that Lantmäteriet pays a certain amount of money every year for the providing of information. The approximate size of how much the State/Lantmäteriet shall pay depends on a fixed co-operation level decided for each individual municipality. There are three levels of co-operation today. Each level is decided as a percentage point that varies between 7-21 %. This means that the economic compensation to the municipalities is 7-21 % of the total revenue from the selling of all data that Lantmäteriet makes.

For 2005, 3.7 million Euro has been paid to the municipalities.

## **BIOGRAPHICAL NOTES**

Academic experience: Dipl.Ing. Land Surveyor MSc. Royal Institute of Technology, Stockholm

Current position: Head of Co-operation, advisory services and support, Land and Geographic Information Services, National Land Survey. Member of the Board of Directors in Swedish Development Council for Land Information

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