

Digitalization Crucial for Team Based Work and Production Distribution at the National Land Survey of Sweden

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SUMMARY

The pile of application documents for cadastral procedures is too big. Even the government of Sweden has given attention to the long processing times at the cadastral authority. This, combined with difficulties recruiting enough land surveyors has put the Cadastral Authority in a precarious situation. To overcome the problem the National Land Survey of Sweden, Lantmäteriet, has introduced team based work and production distribution. These are both two new methods of working.

The production distribution, which started in 2015, aims provide the applicant an equal service regardless of where in Sweden the application for the cadastral procedure is filed. In the past almost all applications were carried through at the local cadastral office. The production distribution intends to distribute applications to the office where a surveyor is available. Hence, the production distribution has meant that cadastral surveyors might be conducting surveys around the country. To make this work each surveyor is reliant on colleagues at other offices to fulfill various tasks, such as the field work.

Since there are not enough cadastral surveyors graduating in Sweden every year and the competition for these graduates is tough Lantmäteriet has a strategy to employ people with expertise in various domains. To enhance the productivity and to minimize the time to conduct each application Lantmäteriet is dependent on employees with a variety of skill sets. The plan is to mix these people into production teams. How the teams are assembled and the skills of each team may vary. This could depend on both each individuals interests as well as what kind of surveys the team is conducting. The main purpose is to use everyone's area of expertise to make each team as efficient as possible and at the same time adhere the applicable laws and regulations.

Thanks to some legislative changes regarding electronic applications and cadastral procedure meetings the cadastral procedure is made more digital. This fact simplifies for the new methods of working. Overall, digitalization has been, and still is, crucial in order to implement production distribution and team based work. Digitalization enables, improves and simplifies flexibility and utilization of the capacity within the cadastral authority. The improved flexibility leads to uniformity managing the surveys which adheres to the Administrative Procedure Act (SFS 1986:223).

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1. BACKGROUND

Many people in Sweden are waiting to get their application for a cadastral procedure adjudicated. The number of current cadastral procedures is relatively constant from year to year but the character of the applications has become more complex. This combined with difficulties to recruit enough cadastral surveyors has put Lantmäteriet, the National Land Survey of Sweden, in a precarious situation.

For the moment an applicant, applying for a re-allotment or subdivision, for example, would have to wait for about nine months before a cadastral surveyor is able to start to deal with the application. For more contested procedures, such as utility easement procedures, the time to wait is up to two years. This is proof that something has to change at Lantmäteriet to live up to the requirements set by the government. Another major problem has been the differences in waiting time depending on where in Sweden the procedure is sought, which is unfortunate in the quest for an equal management of all applications. At some cadastral offices the delivery time for a cadastral procedure was 2 months whilst in other locations the delivery time could be as long as 5 years. Basically the problem starts with a lack of enough competent personnel. Not only has it been hard to recruit new employees but Lantmäteriet also had a hard time keeping existing resources.

The prevailing situation has forced Lantmäteriet to find new ways of working to fulfill the mission set out by the government to survey the country.

This paper will introduce how Lantmäteriet aims to work with the challenges the Authority faces. Two new methods of working will be introduced: production distribution and team based work. The methods will be explained along with an explanation of what is needed to succeed with these two new methods.

2. THE CADASTRE

2.1 Cadastral organization

Lantmäteriet, the Swedish Cadastral Authority, has three divisions responsible for different business areas; the Cadastral Services Division, the Land Registration Division and the Geodata Division. The Geodata Division collects, stores and updates information about Sweden's geography and properties. The Land Registration Division examines, makes decisions on and registers title transaction, mortgages, site leasehold rights and other rights. This information is then recorded in the Real Property Register. The division also makes decision on and handles stamp duty and charges. The Cadastral Services Division is responsible for property division.

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The Cadastral Services Division within Lantmäteriet, which is the State's Cadastral Authority, are conducting the cadastral procedures in Sweden together with 39 Cadastral Authorities within Municipalities. All cadastral work is in other words an exercise of public authority where no private actors are permitted.

2.2 Cadastral procedure

Cadastral procedures are usually initiated by an application from one or several property owners and are often carried out according to a deed or some other type of agreement. A cadastral procedure can, for example, be a re-allotment to mutate existing properties to better fit the land use or subdivision where you form a new property in order to, for instance, build a house. Other procedures can be, among others, partitioning and amalgamation.

The cadastral authority also handle questions concerning private roads, local utilities, etc. For these matters easements and usufructs are useful.

Furthermore, the cadastral surveyors establish joint facilities. Joint facilities would, for example, be a corporate road which is built, used and maintained by properties within a certain area that would have use for the facility. In the cadastral procedure all properties involved are given participatory shares showing the distribution of costs for the construction and operation for the facility. For the management of a joint facility the cadastral surveyor normally form a joint property association.

Utility easement is another procedure handled at the cadastral authority. Private or State companies can apply to get the right to implement their infrastructure projects. The procedure, carried out using the Utility Easements Act, could either be based on agreement between the property owners and the proprietor-to-be or be done coercive. Similarly, other large infrastructure project and other exploitations for public needs could by an application from the state or a municipality be adjudicated against the special cadastral laws that substitute the traditional Expropriation Act. In such matters the cadastral surveyor do not only deal with the legal and technical aspects of the matter but also make decision on economic compensation for land acquired or utilized.

Other cadastral procedures commonly applied for is property definition and special boundary demarcation. Both procedures are ways of solving boundary issues.

As described above a heavy responsibility falls on the cadastral authority. For the process of developing the country the authority plays an important role.

3. PROBLEMS

Urban planning processes suffers from long processing times. Particularly Lantmäteriet's processing time has been perceived as too long. The Swedish government recognized the processing time to influent the urban planning process negatively, especially when it comes to construction of housing, which is an important issue in Sweden today. The construction projects are often in need of the property formation for financial security.

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At Lantmäteriet problem has also been recognized about the uneven length of waiting times to get a cadastral procedure conducted. It is not necessarily the proceeding times that is the problem but especially the waiting time before a cadastral surveyor is actively working with each application. Before the production distribution was implemented some cadastral surveyors could hold on to over 100 applications. Consequently, many of the application were on hold until the surveyor had time. Depending on where in the country the application was conducted it could differ from 2 months up to 5 years to get an application carried through (Widborg Ahlstrand 2017). This is obviously unfortunate and does not go hand in hand with the principle of equal treatment of all citizen regulated in Swedish law.

What is stated above combined with difficulties to recruit enough land surveyors has put Lantmäteriet in a difficult situation.

For a long time Lantmäteriet employed cadastral surveyors who conducted all parts of the procedure, including the judicial adjudication, field work, drawing maps, etc. This was a good way for the responsible surveyor to have full control over his or her process. Many surveyors were intrigued by the faceted tasks the job offered. However, when not enough surveyors are graduating from school every year it was obvious that it would be necessary to find new ways to carry out the assignment Lantmäteriet has to survey Sweden.

Today's situation, with a lot of experienced personnel missing, could possibly also be at least partly explained by the irregular demography at Lantmäteriet. This derives from the 1990s when Lantmäteriet did not employ any cadastral surveyor due to lack of work.

4. NEW METHODS OF WORKING

With the difficulties described above, all derived from Lantmäteriet's inability to recruit cadastral surveyors, a new approach of the way the procedure is conducted was needed.

To reduce the size of the piles of applications and overcome the differences in waiting times the first step was to introduce production distribution over the country. This started 1 January 2015. Production distribution aims to give the applicant an equal service regardless where in Sweden the application for the cadastral procedure is sought. Thus, if the applicant lives in a specific part of Sweden where Lantmäteriet struggle to employ enough surveyors the applicant should not be suffering from a longer delivery time than an applicant living in another area where it is easier to employ surveyors. The basic idea is that the applications should be conducted in the order they were submitted. The production distribution has for the cadastral surveyors meant that you might be conduction surveys more or less all over the country. To make this work each surveyor is reliant on colleagues at other offices, for instance to conduct field work or holding a cadastral meeting.

Besides the benefits of reducing the application piles and equalize waiting times the production distribution enables Lantmäteriet to employ surveyors in places where it is easier to find fitting personnel.

Furthermore, the production distribution gives the authority uniformity when all offices within the authority have to work alike which is pursuant to the Instrument of Government. The Instrument of Government is one of four fundamental laws of the Swedish Constitution. Chapter 1 article 9 states: *“Court of law, administrative authorities and others performing public administration function shall pay regard in their work to the equality of all before the law and shall observe objectivity and impartiality.”* (SFS 2010:1408)

In contradistinction to previous ways of working when only one surveyor was involved in a survey Lantmäteriet today has a strategy to employ people with expertise in various domains. To enhance the productivity and to minimize the time to conduct each application the authority is dependent of employees with different experiences. With the catch-phrase “right person doing the right thing” Lantmäteriet wants every employee, working with a cadastral procedure, focusing on what he or she is good at. Essentially, Lantmäteriet is trying to free up time for the cadastral surveyors by hiring other personnel doing administrative, field and mapping work. The plan is to mix people with different knowledge into production teams. How the teams are assembled and the skills of each team may vary. This could depend on both each individuals interests as well as what kind of surveys the team is conducting. The main purpose is to use everyone’s area of expertise to make each team as efficient as possible and at the same time adhere the applicable laws and regulations (Silfwerbrand 2017).

5. IMPORTANCE OF DIGITALIZATION

10 years ago almost no paper were scanned at Lantmäteriet. Every office stored large quantities of papers since every file was analogous conserved. Almost all surveys were administrated at the local office so there were no need to keep the cadastral documents digital because no one else was going to work with them.

However, since a few years back all cadastral documents at Lantmäteriet are being digitally filed. This is a first step to a digitalized Authority and is absolutely necessary for the new methods of working, production distribution and team based work, Lantmäteriet is implementing. Both of these approaches can be operated much more efficient thanks to the transition to a digitalized process. An obvious example is keeping all incoming documents digitally available which enables the cadastral surveyor to access documents wherever he or she works.

Furthermore to improve the digitalization at the Authority Lantmäteriet is introducing electronic application. A legislative change in the Real Property Formation Act (SFS 1970:988) makes it possible for the applicant to apply for a cadastral procedure online without using old fashioned postal service. All that is needed is a valid electronic identification. Expectations with the system of electronic application is to get more complete and accurate applications since the applicant has to fill in certain information to be able to submit (Porsander 2017).

Additionally another legislative change was made to the Real Property Formation Act (SFS 1970:988) in 2015. This change is regarding cadastral procedure meetings and the possibility to let interested parties and others join the meeting by connecting through audio or video. This is an important change and is made mostly to facilitate for the property owners and other interested

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parties. Unlike 50 years ago properties are not only owned for housing. Many companies and individuals have done business of property ownership. It is also common that people have properties for seasonal housings. Consequently, people are not always living where they own their properties why digital meetings give them a chance to participate without having to travel far. The possibility to have digital cadastral procedure meetings is also beneficial for Lantmäteriet. A situation that is both linked to production distribution as well as team based work is when a cadastral surveyor is conducting a survey somewhere else in the country. Just like the field work is handed over to an employee at the local office the cadastral procedure meeting can be handed over to someone at the local office in order to chair the meeting. The cadastral surveyor in charge for the survey could then be able to join the meeting digitally. Even if the local surveyor might have to conduct parts of the survey, for example the cadastral procedure meeting, resources could be freed up at highly congested offices, thanks to the production distribution.

Benefits with the digitalization has also proved valuable when it comes to communication, for instance between members in a team where different persons are doing different parts of the survey. In a digital program, i.e. OneNote, instruction and information is given about the survey, available for everyone involved in the process. To be able to go back and clearly see what everyone is supposed to do reduces communication problems.

As an authority Lantmäteriet has an obligation to give public access to more or less all documents which has been submitted or written at the Authority according to the principle of public access. This principle is determined in the Swedish constitution. Thanks to the opportunity to keep the document digital less time has to be spent for public service, since every property owner could find every cadastral dossier regarding his or her property by using a computer.

To further simplify and support production distribution and team based work Lantmäteriet will in a short period of time start “one-way-in”. This project aims to get all applications and other documentation for cadastral procedure sent in to Lantmäteriet’s headquarter in Gävle where the documents will be centrally managed. Thereby, time will be saved at the local offices when no time is needed to digitalize incoming documents. Further advantages with “one-way-in” is that it promotes a uniform management of incoming documents and will ultimately be more efficient with a skilled and experienced staff.

Finally, digitalization both enable, improves as well as simplifies flexibility and utilization of the capacity within the cadastral authority. As stated before, the improved flexibility leads to uniformity conducting the surveys which is according to the Administrative Procedure Act (SFS 1986:223).

6. DISCUSSION

There is no doubt that digitalization plays a key role in the future to make the process more efficient. Whether the measures implemented so far could be called digitalization or not could probably be further discussed, however, these measures is a beginning and something to build on for the future.

Lantmäteriet has found ways to try to solve challenges the authority experience. Already today many of the problems presented in this paper have eased which proves that new thoughts of how to work is a step in the right direction.

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BIOGRAPHICAL NOTES

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