Surveyors Qualifications
- in both a private and a public task performance

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Agenda

1. Introduction
2. Basic framework conditions for cadastral systems
3. The Danish and Swedish Cadastral System
4. Professional practicing surveyors in Denmark and Sweden
5. Conclusions
1. Introduction

1.1 Main claims

“A good Land Administration System (LAS) is a basic infrastructural element in a Community of law..... A trustworthy multipurpose cadaster is basis and at the core of a LAS.”

1.2 Basic key-points

A trustworthy Cadastral System depends on
- High focused political, legal and administrative framework conditions
- How the cadastral process is carried out professionally and responsibly by the surveyors

It is less important for credibility of the Cadastral System whether cadastral works are organized or carried out as a private business or as a public administration
1. Introduction

1.2 Basic key-points

Framework
- Ownership of private property is inviolable and protected by constitution

Cadastral System
- A basic part of the infrastructure of society

Cadastral Works
- Carried out by dedicated professional surveyors in a holistic, dialogue based and sustainable task performance

2. Basic framework conditions for cadastral systems

2.1 Political framework
2.2 Legal framework
2.3 Administrative framework
2.4 Professional framework

"There is a political consensus that a trustworthy, transparent and multipurpose cadastral system is a basic infrastructural pillar in a community of law"
2. Basic framework conditions for cadastral systems

2.1 Political framework

Private property
- Private property is **inviolable** and **protected** by constitution
- Real estate/private property is the **basis for significant national and private economies**
- Trade and use of land is based on **market economy**
- Public **control** and **restrictions** to manage the balance between public and private interests
- Basic object for **securing rights** – ownership, easement, mortgage

2.2 Legal framework

Legislation sets out a **clear framework** for responsibility, conduct and performance of cadastral work with a strong **account of the “Third party”** – neighbors, mortgagees, right holders, the community, the Cadastral Register

- **The Parceling Act**
  - Legal **obligation** to register land transformation
  - Cadastral work is performed in a **private-public cooperation**

- **The Chartered Surveyors Act**
  - Cadastral work **main objective**
  - **Personal responsibility**
  - Ownership and management **restrictions**
2. Basic framework conditions for cadastral systems

2.2 Legal framework

The Real Property Formation Act
- All kind of changes in the boundary of properties must be handled by the Public Cadastral Authority
- Cadastral work can only be practiced by a person employed by the Public Cadastral Authority
- The Public Cadastral Authority is responsible for claims and its consequence to a client

2.3 Administrative framework

eGovernance – INSPIRE and PSI-Directive
- Good Basic data to accelerate the adoption on and optimizing digital solutions in the public and private sector
- A shared digital infrastructure that is safe and sufficiently robust to meet future requirements
- Effective and reliable sharing of core data for and between all authorities
- No redundant data in the system. Data/information is collected once by the responsible authority, shared and downloaded at the source
2. Basic framework conditions for cadastral systems

2.4 Professional framework

Conducted by an academic profession – the cadastral surveyor
- Public authority – to solve e.g. boundary disputes
- Dialogue based and solution orientated task performance in an intersection of disparate interests
- Code of conduct as professional and ethic guideline for business performance
3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

3.2 The Cadastre – Basic elements

3.3 The Cadastral Process in general

“Geodata is the gateway to eGovernance and cadastral data contributes as multi sector reference data”
3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

The Spatial Data Infrastructure builds in general on five basic principles:
- Data shall be only **collected once**
- Data shall be **maintained** where this can be done most **effectively**
- Data shall be **combinable**, regardless of their source
- Easy **overview** of available data and internet services
- There shall be **clear conditions** which assure that data can be utilized by many users in many contexts

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The Cadastre – a **multipurpose** digital/analog register with a **two-part primary role** (The National Survey and Cadaster)
- **Authoritative** property basic data register
- **Reference data** for spatial eGovernment

The Cadastre consists of three main elements:
- Cadastral **Register** – information on property
- Cadastral **Map** – digital index map in UTM/ETR(89) ref.
- Cadastral **Archive** – detailed information on boundaries
3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

The Cadastre consists of three main elements:

- **The Land Register** – a digital register that includes basic data about rights and burdens in property (The Land Registration Court)
  - **General information** – owner, cadastral id, area etc.
  - **Title information** – deeds, purchase price etc.
  - **Easements** – restrictions
  - **Mortgages** – principal and mortgagee
3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

The structure of the Swedish Land Information System

3.1 Spatial Data Infrastructure

The Swedish Real Property Register
3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

The Real Property Part consists of
- **Register information** – properties, plans, regulations, rights
- **Cadastral Map** – digital index map Reference for spatial eGovernment

The Real Property Part includes basic data about (Lantmäteriet and 38 municipalities)
- Property **identity**
- **Easements** from cadastral procedure
- **Plans, restrictions and regulations**
- **Legal survey**

The Land Register part includes basic data about (Lantmäteriet)
- **Title information** – deeds, purchase price etc.
- **Leasehold Mortgage** – principal and mortgagee
- **Rights, restrictions**
- **Notifications**
3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

The Cadastre provides
- Unique identification of every land parcel
- Complex information about real property for legal and fiscal purposes - securing rights, restrictions, taxes, administration of land use, building control, sale of real estate etc.
- Digital spatial integrity with other basic data by register information and the cadastral map
3. The Danish and Swedish Cadastral System

3.2 The Cadastre – Basic elements

The basic elements in the Danish Cadastre
- Real property units – the land parcels – as a closed objects in the digital Cadastral Map in the UTM-reference system
- A unique administrative identification nr. for every land parcel
- Informative attributes in the Cadastral Register – area, area of private roads, public registration as agricultural property, forest conservation areas, windfall and coastal zoning

The basic elements in the Swedish Cadastre
- Real property units – the land parcels – in the 3D digital Cadastral Map in the SWEREF 99 / RH2000 reference system, including building, fences, trees, water areas etc.
- Ownership flats – condominiums
- Joint property units and joint facilities
- Informative attributes in the Cadastral Register – area
- “Arken” – The national Digital Cadastral Archive – cadastral dossiers including measuring sheets of all property boundaries
3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

The Cadastral Process
- Reflects a change in property division often combined with a change of use of the property / the physical environment
- Is the formal and legal acts and agreements that ensure the implementation of property development
- Is conducted by the surveyor as the professional advisor and case responsible
- Starts by an application

The Danish Cadastral Process is performed in a private-public cooperation model

The private practicing chartered surveyor
- Conducts the case preparation and management in the intersection between public and private interests
- Creates the legal foundation and documentation of the cadastral changes and the future use of the property
- Takes part in both an advisory and design stage in property formation due to the role as private counsellor
3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

The Danish Cadastral Process is performed in a private-public cooperation model

The cadastral authority – The Danish Geodata Agency
- Is responsible for The Cadastre, the statutory/legal basis for the cadastral area as well as monitoring and control tasks in relation to the cadastral process
- Conducts the processing, quality assurance and registration of the cadastral changes
- Have the responsibility for displaying and distribution of data and for dissemination of property change
3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

The Swedish Cadastral Process is performed by Public Authorities – Lantmäteriet or municipalities with cadastral authority.

The cadastral authority – cont.

- Handles the **property formation** and **boundary determination** taking into account the legal framework and the third parties
- Handles establishing of **utility easement**, **joint facilities** and **joint property unit management**
3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

The Swedish Cadastral Procedure

4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites
4.2 Professional business and disciplinary requirements
4.3 Professional representations of interests

“In order to fulfill societal expectations and concerns regarding the performance of cadastral work the surveyor have to fulfill a variety of requirements for professional exercise of the activity. These requirements can be regulated by law, or be part of self-regulation of the profession.”
4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Education
- **Academic level** – 5 Years on University level consisting of a bachelor (3 years) and master (2 years) in surveying and cadastral science
- **Problem Based Learning**

Professional practice
- At **least three years performing** general cadastral work in a chartered surveying company or in a cadastral administration doing cadastral work, undergoing further education

Appointment
- Awarded according to State law based on **approval of professional skills**, by National Geodata Agency – based on documentation of minimum three years relevant cadastral/surveying work in practice
4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Continuing Professional Development
- Not compulsory but de facto. Recommendation 37 hours per year – professional training, knowledge sharing and dissemination

Education
- In general a Master degree in Surveying – but due to a lack of surveyors at the moment also bachelor degree

Professional practice
- Introduction program as an assistant surveyor by cadastral authority – including legislation, field surveying, practical handling on the technical system, how to manage a meeting, ethics rules etc.
- 2-3 year individual plan to complete competences to become a decision surveyor during this period
4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

- Continuing Professional Development
  - The central governmental agency Lantmäteriet supervises continuously the land surveyor’s competence and gives regularly support

4.2 Professional business and disciplinary requirements

- Obligatory insurance
  - An obligatory insurance system defined by the State authorities – National Geodata Agency

  - Board of appeal
    - A penalty board under State authorities – National Geodata Agency – independent from the surveyor’s organization, to settle complaints about the surveyor's work. Have the power to periodically or permanently revoke the appointment to provide cadastral work
4. Professional practicing surveyors in Denmark and Sweden

4.2 Professional business and disciplinary requirements

Disciplinary board
- A committee defined by the surveyor’s association providing advisory opinions and guidelines on professional matters and defining the “Bonus Pater professional”

Remuneration Board
- A disciplinary board defined by the surveyor’s association considering complaints of fees and gives opinion on the costs and the professional performance of the work

Ethical codes
- A national ethical code as guideline for the surveyor’s work and The CLGE Code of Conduct – ratified by most European Countries
4. Professional practicing surveyors in Denmark and Sweden

4.2 Professional business and disciplinary requirements

“Insurance” – responsibility
- The cadastral authority – Lantmäteriet or the municipality – is responsible for every claim and its consequence to a client. The surveyors are not personally liable

“Advisory board”
- The cadastral authority – Lantmäteriet – is responsible for giving juridical and technical support and produces tutorials and courses directed to the land surveyors.

4.3 Professional representations of interests

The Danish Association of Chartered Surveyors (DdL) – personal
- Responsible for the professional, economic and social interests of the surveying profession as well as member’s personal work and professional interests

The Danish Association of Licensed Surveyors (PLF) – companies
Mission
- Develop and strengthen the liberal chartered surveying companies
- Representation of political, professional and business interests
4. Professional practicing surveyors in Denmark and Sweden

4.3 Professional representations of interests

The Swedish Professional for Built Environment - Samhällsbyggarna
- A professional interest organization
- Have adopted CLGEs Code of Conduct as guideline for professional work

5. Conclusions

5.1 Conclusions

A well-functioning Cadastral System must be based on
- A nationwide transparent system - protecting private properties
- The System is ranked as a part of the infrastructure of the society
- Accepted legal framework
- Strong administrative framework
- High Professional qualifications and prerequisites
- Dialogue based, secure and efficient processes
- Professional business and disciplinary requirements
Surveyors Qualifications
- in both a private and a public task performance

Postludium

Thank You for Your attention
– this is how we perform in Denmark and Sweden

XXV International Federation of Surveyors

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