New Cadastre in Norway

Leiv Bjarte MJØS, Norway

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ABSTRACT

A cadastral reform takes place in Norway. The legislation is under revision, and a main element of the reform is the introduction of a new cadastre. The present cadastral system needs modernisation, and the Norwegian Mapping Authority now develops a new cadastral system which will renew the existing systems and meet the requirements of the proposed new cadastral law. Under the present law, the cadastre consists of two parts; the cadastral maps and the cadastral register. The new cadastre will integrate cadastral maps and register, to a seamless and uniform system for the whole of the country. The new cadastre will include a building register and an address register, in accordance with the existing GAB system. Public impositions, cultural heritages automatically protected by law, and polluted areas, will be new elements added. The paper presents a review of the property registers history in Norway, structure, objects and attributes in the new cadastre, and status and goals for the project.

CONTACT

Leiv Bjarte Mjøs, Project Manager
Norwegian Mapping Authority
Pb 2363 Solheimsviken
N-5052 Bergen
NORWAY
Tel. + 47 5559 6830
Fax + 47 5559 6801
E-mail: leiv.mjos@statkart.no
Web site: www.statkart.no

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1. HISTORICAL REVIEW

1.1 The old Norwegian cadastre - *matrikkelen*

The property system in Norway has two main parts, the legal register called "land book", and the cadastre. In brief, the modern Norwegian property registers history, starts in the middle of the 17th century, and its development is closely related to the development of the actual tenure systems and arrangements. The first "modern" cadastre was established in 1665-1670, after a decision by the king. The objective of this register, in this paper called the cadastre; in Norwegian "matrikkelen"; was to serve as at tool for fair distribution of tax. Registration objects were territorial units called "gaard", and taxation value for these units. The basic registration unit "gaard" which literally means farm, quite often comprised one or several actual farming units (holdings), each with a farming household. The actual property right to each "gaard" could be held by several land owners. So, this basic cadastral unit was a multiple unit, including both different property units and farming holdings. It was not compulsory to assign unit numbers, but the local taxation authorities started to assign unit numbers within their districts, and in 1722-23 identification numbers was assigned completely for all taxation areas. No major changes was carried out for this first cadastre for nearly 100 years, but during this period a major change in the actual tenure took place. The farmers became owners of their farming units, and the farms became the property units. The multiple farm unit "gaard" became an auxiliary entity for cadastral purposes- "auxiliary cadastral unit", which it still is. To strengthen the basis for tax revenues, a new cadastral law was adopted in 1818. In the period of 1818-1838 the cadastre was revised, and the auxiliary cadastral units were assigned new identification numbers. The properties within the auxiliary cadastral units were assigned property unit numbers. After this revision, identification was by auxiliary cadastral units and property unit number, and not by name. Under this revision changes were also made in the taxation values, but still the registration object was the taxation value. However, the system was not satisfactory, and in 1863 a new cadastral law passed the Parliament. By this revision the auxiliary cadastral units were entitled continuous identification numbers within the municipality, and the properties were entitled continuous numbers within the auxiliary cadastral units. This cadastre was put into force in 1886. The main information of the register was still the taxation value, - and the register did not show size and property boundaries. In the 1880's the taxation system in Norway was changed and income tax became more important. Throughout the next century, the cadastre gradually became less important as basis for tax revenues, and in 1976 the cadastre was repealed as basis for property tax.

1.2 Cadastral maps

Information about size and property boundaries were never registered in the old cadastre. An attempt to start an economic mapping programme was made early in the 19th century for

some territories close to the Swedish border, in connection with an on-going military mapping programme. This attempt was stopped because of lack of economic resources and resistance from the farmers, who considered the mapping programme as a threat against their newly achieved private ownership. From 1860 and onwards, an extensive property mapping programme took place for the purpose of land consolidation, and this surveying and mapping activities were for consolidation purposes only. These activities never developed to a proper cadastral map system. Not until the 1960's a national economic mapping programme was started in Norway. At present, 60 % of the country is covered by economic maps. In connection with property sub-divisions, surveys and property mapping have been conducted since late 18th century in the major cities. In rural areas sub-divisions of properties have been conducted by laymen, and boundary descriptions have been registered in the land book. It was not until the new cadastral law was put into effect in 1980, - compulsory surveys of new properties were introduced for the rural areas of Norway. Under this law the municipalities were assigned the responsibility for conducting cadastral surveys and cadastral mapping.

1.3 The land book – the "legal register"

With respect to registration of titles, rights, duties and mortgages etc. in properties, the registration system developed out of the medieval practices of making transactions in land public at the local assembly called "ting". In the early 17th century, the proceedings of the local "ting" became recorded in a special book called "tingbok". It gradually became convenient and necessary to make extracts of transactions in land in the form of special registers. These registers are the roots of our legal register. In 1738 it was decided that a special land book should be established, facilitating information of rights and duties to buyers of property. In this register the properties were identified by name and it was not compulsory to use the identifications of the cadastre. The introduction of the land book was uphill work, and as late as in 1818 only 50 % of the courts had established the land book. As mentioned above, property identification was introduced in the cadastre in the period 1818-1838, and in 1845 decisions were made to introduce a new land book in Norway, based on an index card system using the identifications of the cadastre. About 1890-95 the new land book was established in most of the courts. With the land registration law of 1935, the land book was given legal force. In the period of 1988-1993 the land book was digitised, but still administered as local registers in the courts. The land registry, being a distributed organisation comprising 87 local courts, is now under revision The parliament has decided that the land registration shall no longer be executed by the courts. It is not yet decided how the land registry shall be organised in Norway, but one of the options considered by the Government, is the Norwegian Mapping Authority as land registry.

1.4 The present situation

The cadastral law of 1980 introduced a new property register in Norway – the GAB system. The major cities, which up to 1980 had used different systems for property identification (mainly using address number as identification number), converted their identification systems to auxiliary cadastral unit numbers and property unit numbers. An uniform system for property identification was introduced in Norway. The GAB system substituted the old cadastre. As mentioned above, the old cadastre showing tax values, had lost its significance,

and the GAB system introduced registration of property size and other property attributes, as buildings and address information (GAB – Ground property, Address and Building). The objective had turned from being a system for tax revenues, to be a tool for facilitating local and central public administration. The GAB system is established as a central system under governmental administration with municipal responsibility for updating the system. The ground property register (G) was based on the Land Book and implemented in 1980-1983. The address register (A) was established in 1983 by implementing the address register established in the 1980 census. The building register (B) was established in 1983 by introducing a responsibility to report information about new buildings under construction. In 1992-94 all buildings greater than 15sqm were digitised and registered with respect to label point, code indicating the use of the building and references to the ground property unit identification. Dwelling units were registered in 1999-2001 as a preparation activity for the 2001 census. The ground property and address registers are considered to have high quality, while the building register should be considered as imperfect. Property boundary information is not included in the GAB system (except from the possibility to register label points). Owner information is transferred from the Land Book and National Population Register.

Responsibility for cadastral surveys and mapping is assigned to the municipalities, as a monopoly task. A national standard for digital cadastral maps was established in 1991 as a result of a joint effort of The Norwegian Mapping Authorities and the Municipal Central Organisation. Digital cadastral maps (DEK) are under establishment, mainly as joint projects where the municipalities establish the digital cadastral map in urban areas based on cadastral survey maps, and where the Norwegian Mapping Authority establishes the cadastral map in rural areas on basis of economic maps. By January 2002 property boundaries are digitised and registered in DEK for 70 % of all property units in Norway.

The primary unit in the GAB system is the property unit, which may be comprised of several parcels, while the primary unit of DEK is the parcel. The linking of the two systems is a challenge.

GAB and DEK are administered under the cadastral law of 1980, and are under the responsibility of the Ministry of Environment.

The Land Book is administered under the land registration law of 1935, and is administered by Ministry of Justice.

2. THE PROPOSAL FOR NEW CADASTRAL LAW IN NORWAY

A committee appointed by the Government, presented in 1999 a proposal for a new cadastral law. The Ministry of Environment now prepares a proposal for a new cadastral law, and it is signalised that the proposal will be presented to the Parliament in spring 2002.

The new cadastral law introduces 3 new major elements:

1. The municipal cadastral survey monopoly will be abolished and private surveyors will be permitted to conduct cadastral surveys. It will be required 5 years academic education for

authorisation.

2. A new property register will be established – the new cadastre, and the old name *matrikkelen* reintroduced. The new cadastre will comply with the requirements for full integration of graphical information (the cadastral map) and register information. The new law will be a considerable strengthening of the legal basis compared to the present situation.

3. Legal basis for registration of 2 new types of cadastral units – *property in strata* and *joint property (land jointly owned by property units)*

Further, - the new law will comprise a clearer division of responsibility between the cadastre and the Land Book. Information about land-use plans and regulations, is not included in the cadastre, this information is presupposed to be administered in a future plan register.

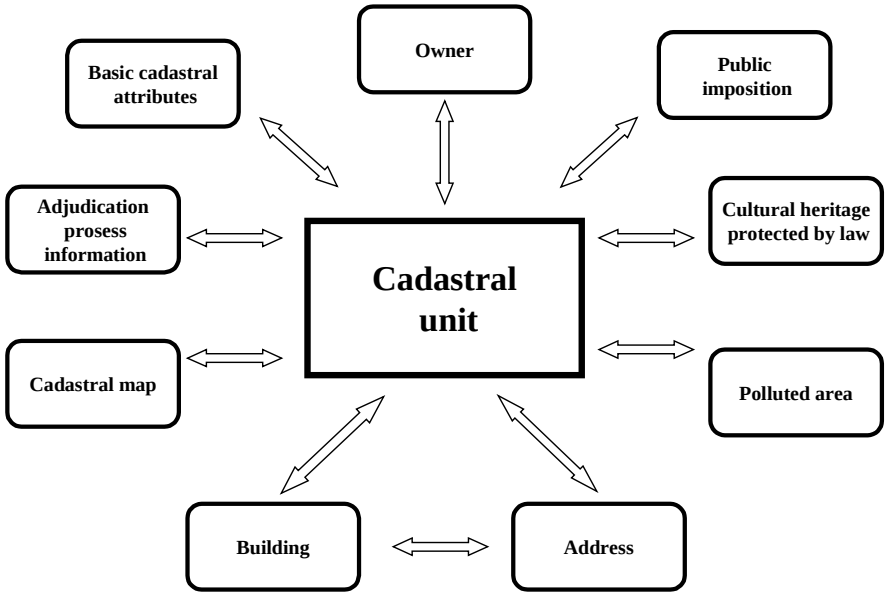
Land Book: *Titles, rights and duties, mortgages*
Cadastre: *Property maps and technical property information, including building and address information*
Plan register: *Land-use plans and regulations*

3. THE NEW CADASTRE

The Norwegian Mapping Authority has started the development of the new cadastre. This due to the need for modernisation of the present systems, GAB and DEK, - and the proposal for a new cadastral law. The development activities are organised as a project in the Norwegian Mapping Authority, corresponding with the preparations for the new law. According to the existing plans, the new cadastre shall be developed, operating and brought into effect at the turn of 2003. The new cadastral law can earliest be brought into force at this point of time. The project started in 1999. Structure, attributes and functions of the new cadastre are analysed and decided in co-operation with representatives for the municipalities and governmental institutions.

3.1 Structure of the new cadastre

The cadastral units are the core of the cadastre. To the cadastral units descriptive information is attached, organised as thematic registers.



3.2 The cadastral units

The proposed cadastral law defines 5 types of cadastral units:

Type of unit	*Definition*
Property unit	The ordinary cadastral unit, delimited by property boundaries on the surface, and ownership rights stretches downwards in the ground and upwards in the air, according to common practice. The property unit comprises one or several parcels.
Leasehold unit	Part of property unit leased for building purposes.
Section (of building, condominium)	Part of built-on property or leasehold with exclusive rights to dispose one or several apartments/premises of the property.
Property in strata	Building or construction, divided horizontally from one or several property units.
Joint property (land jointly owned by property units)	land; mostly forests, mountains, pastures, lakes and other outfields owned jointly by property units.

Others	Cadastral units registered under previous laws, not comprised by the definitions above.*

* few objects, mainly rights to exploit waterfalls, registered after previous regulations

3.3 Cadastral unit identifications

The cadastral units are assigned nation-wide unique identification numbers. The identifications are built up like this:

1	2	3	4	5
Municipality unit number	*Auxiliary cadastral unit number*	*Property unit number*	*Leasehold unit number*	*Section unit number*

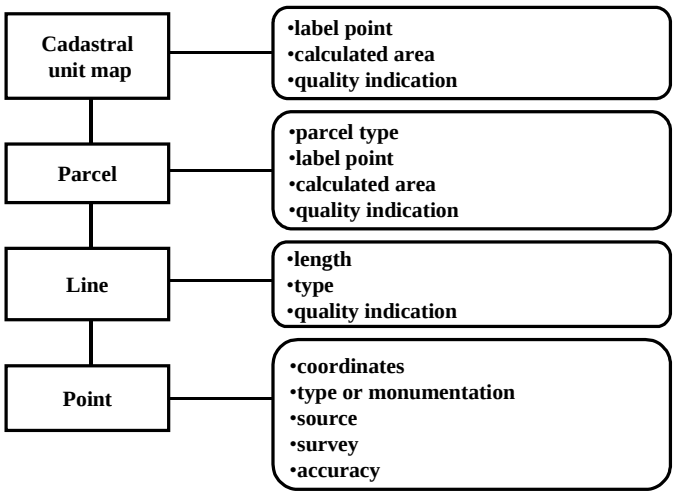
3.4 Contents of the cadastre

The descriptive information in the cadastre is organised as thematic registers. Completeness and quality of the descriptive information in the cadastre will vary.

Basic cadastral attributes
- type of cadastral unit
- state of registration act
- merged properties
- composite property units
- joint property relations and features

Adjudication process information
- type(s) of adjudication process(es)
- dates
- area
- archive references
- scanned documents

Cadastral map
The cadastral map will have this structure and contents:



Owner
- name, address, date of birth and id number
- role
- category
- date for transfer of title
- share

Address
- address unit number
- address name
- type of address
- Zip code and post address
- label point
- reference to basic statistical area

Building
- building unit number
- label point
- code indicating the state of the art of the building
- name of the property developer
- area of building
- number of floors
- entrances
- kind of energy supply
- kind of heating
- kind of water supply
- kind of sewer-treatment
- reference to the register of building older than 100 years
- building owner, if not equivalent to property owner
- units within the building, and census data if apartment unit: area, rooms, kitchen, bathroom, toilets. This is information notified by the occupier, and will only be available

for census purposes

Cultural heritages protected by law
- type
- label point or area
- archive reference

Polluted areas
- type
- label point or area
- archive reference

Public impositions
- type
- date
- archive reference

Appendix for municipal use
The GAB system is a very comprehensive database system, some attributes have low quality and are rarely used. During the analysing activities of the project, efforts has been made to eliminate information with low quality and only of interest for some of the municipalities, when converting to the new cadastre. It has been emphasised the need to reduce the number of attributes in the new cadastre, compared to the existing GAB system, - by transferring such attributes to an appendix for municipal use. This appendix will be closely linked to the cadastre and operated as an integrated part of the cadastral system, but it is only the actual municipality and the central cadastral authority who will have access to the appendix for municipal use (preliminary description).

3.5 Authorities

The new cadastre law will not considerably alter the distribution of responsibility, but the new law will strengthen and clarify the roles.

The Ministry of Environment will be responsible ministry.

The Norwegian Mapping Authority will be appointed as central cadastral authority responsible for the overall administration and supervision of the cadastre and the local cadastral authorities (the municipalities).

The Municipalities will be local cadastral authorities, responsible for updating the cadastre with respect to new cadastral units, surveys and adjudication processes, buildings, addresses and public impositions.

The Land Registration Authority will be responsible for updating title information, new sections and merged properties. This information will be transferred from the Land Book.

3.6 Functions

The cadastre will give the official identification number for the cadastral units and buildings, units within the buildings and corresponding addresses. Thus, - the cadastre will have an important role as a cross-reference register for all information related to property. Beyond this, the cadastre first of all will serve as a tool for facilitating and making more efficient the tasks in local and central administration, and also in the private sector. In local administration the cadastre will be an important tool for the collection of fees, land use planning, protection, constructions and an important element in GIS systems. In central government the cadastre will be a basis for statistics. In the private sector the cadastre will give useful information to the property market, property owners and developers.

3.7 Development and progress

The programming development team was constituted in December 2001 and started their work in mid January 2002. The first prototypes are expected to be presented in early spring 2002. The new cadastre shall be developed, tested and ready for implementation by the turn of the year 2003/2004. The implementation of the new system will be carried out over a period of two years, in accordance with i.e. the present plans, the new cadastre is brought into force for all 435 municipalities in Norway by turn of the year 2005/2006.

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BIOGRAPHICAL NOTES

Leiv Bjarte Mjøs, born 1956, graduated from Norwegian Agricultural University in 1983, diploma i land consolidation. Municipality of Bergen 1983 – 1986. The Norwegian Mapping Authority since 1986. In 1998 appointed as project manager for the Cadastre Database Project. President of The Norwegian Surveyor Association (NJKF) since 1996.