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## **Land consolidation in Norway**

A study of a multifunctional system

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Land consolidation is “a sequence of operations designed to reorganise land parcels in an area, regrouping them into consolidated holdings of more regular form and with improved access [...], which is intended to provide a more rational distribution of land to improve the efficiency of farming” (FAO, 2003).

The legally defined aims of the land consolidation procedure vary from country to country, but the general objective is, however, to improve land holdings and to promote efficient and appropriate use of the real estates.

The official name of the land consolidation activities in Norway is *Jordskifte*. This concept is normally translated into “land consolidation” in English. A more precise translation would be “reallocation of holdings by pooling and redistribution”. The execution and decision-making body on land consolidation in Norway is organized as a special kind of court, called “The Land Consolidation Court”. This body has become a permanent public institution, within the framework of the judicial system.

The land consolidation activities started in Norway in the 19<sup>th</sup> century with the “classic” land consolidation objectives of solving the problems related with land fragmentation and to develop proper joint infrastructures and the like. However, the Land Consolidation Court has gradually developed, and nowadays their activities cover a wide range of problems related to land use and property conditions, in rural, urban and semiurban settings; becoming a multifunctional institution.

This study has been undertaken during a period of 10 months in the Department of Landscape Architecture and Spatial Planning of the University of Life Sciences (UMB), in Ås, Norway; thanks to a scholarship awarded by the Research Council of Norway in 2006/2007. The supervisor of this work in this university was the Professor Hans Sevatal.

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## 1. INTRODUCTION

### 1.1. THEME AND STRUCTURE OF THE STUDY

The standard meaning of land consolidation is that it is a comprehensive reallocation process in a rural area that “suffers” from fragmentation of agricultural or forest holdings or their parts. The legally defined aims of the land consolidation procedure vary from country to country, but the general objective is, however, to improve land holdings and to promote efficient and appropriate use of the real estates.

The objective is pursued by consolidating land plots through land exchanges, to form plots that are better adapted to their proper use. In addition to actual land exchanges, improvement of the road and drainage network and other infrastructures are usually parts of the scheme. Landscaping, environmental management and conservation projects may be implemented, and/or at least taken into consideration in a land consolidation process.

The official name of the land consolidation activities in Norway is *Jordskifte*. This concept is normally translated into “land consolidation” in English. A more precise translation would be “reallocation of holdings by pooling and redistribution”.

The execution and decision-making body on land consolidation in Norway is organized as a special kind of court, called “The Land Consolidation Court”. This body has become a permanent public institution, within the framework of the judicial system.

When land consolidation activities started in Norway, in the 19<sup>th</sup> century –it started in 1821, but it took off in 1860-; it had the narrow, classic land consolidation objectives: to solve, once and for all, the problems related with land fragmentation and to develop proper joint infrastructures and the like. However, the Land Consolidation Court has gradually developed into a permanent institutionalized body, handling a lot of other, related issues as well. Nowadays these activities cover a wide range of problems related to land use and property conditions, in rural, urban and semiurban settings; and even in remote mountainous areas. The tools for solving these diversified problems have been developed. In addition to the reallocation of holdings, the land consolidation court activities include actions as, for example:

- clarification of boundaries and rights
- new layout of properties and rights, through dissolving joint ownership, division of properties, new layout of properties, prescribing rules relating to joint use – like the use and maintenance of common private roads-, elimination of rights of use, etc.
- rearrangement of properties, as a “compensation” for damages done by the construction of public infrastructure like highways, etc.
- assessment of compensation for expropriation and for restrictions imposed on the use of property, caused by public infrastructures like roads, etc.

The themes of the study, then, are aspects of this “Norwegian” land consolidation.

The study of the land consolidation in Norway is going to be presented in eight main chapters; which proceed from general information about Norway and the Norwegian agriculture, to the study of specific land consolidation cases.

After the introduction in the first chapter, containing general information about the theme, objectives, research questions and materials and methods of the study; an overview on general information about Norway and the Norwegian agriculture is provided in the second chapter. Land consolidation activities were initiated to improve the layout of plots and the infrastructures in rural areas, with the aim of reducing the costs linked with the land fragmentation. Before going deeper into the study of the land consolidation activities, it is important to know the agriculture activities in the past to understand which role the land consolidation plays nowadays.

In the third chapter, land consolidation is approached from an institutional point of view; it provides a theoretical base of this study. Land consolidation is a means of enhance collective simultaneous rearrangements of properties, where many landowners are involved. But to reach these arrangements depends of the transaction costs of the process. So the organization of institutions and transaction costs are basic factors to understand land consolidation in a country, together with the property conditions, which will be studied in the fourth chapter.

The fifth chapter deals with the Norwegian land administration system. Cadastral and legal register systems have great importance as information sources concerning real estate, so they are another basic pillar in the study of land issues and land consolidation.

All these chapters provide the information needed to understand the framework where the land consolidation activities are developed. In chapter number six, land consolidation is studied in detail, including history, legislation, organization, activities, procedures, etc. As it is going to be shown, land consolidation covers a very wide range of issues related to property and rights, so the study of specific land consolidation cases is useful to go deeper in the way the land disputes are solved, and how the land consolidation staff deals with them. In chapter number seven, six main cases and two examples of urban cases are studied, concerning different land disputes.

In chapter number eight, conclusions of the study are included. From the formulation of the research questions in chapter number one, and after studying the different aspects of the land consolidation in Norway, the objective is to try to provide an answer to them. In this chapter the main contents will be summarized in a kind of final analysis. No understanding of a phenomenon is complete without some sort of explanations, i.e. answers to the question “why”.

Each chapter is finalized with some concluding remarks, related to the research questions.

In the final part the appendix is included, which is composed by three documents. Regarding the case study, the questionnaires designed for the interviews with the landowners and land consolidation staff are included, and the final document of one of the cases studied, written by the land consolidation court staff during the process itself. The third document is the last amendment of the Norwegian land consolidation law, with date 1 January 2007. In spite of in the study several references to the law are made, this is not included entirely due to the English version of the law is not updated. It is just included here the last amendment in Norwegian.

## 1.2. OBJECTIVES AND RESEARCH QUESTIONS

The overall objective is to study certain aspects of land consolidation in Norway. The “multifunctional” and the “conflict resolution” aspects are central in my study. Within this broad framework, I focus on more specific aims:

- a) To study *land consolidation* as an institution, understanding the term “institution” as a set of rules which provide the structure for the exchange, rearrangement, etc. of property rights. These rules supply a stable structure for human interactions, too. Thus the land consolidation is understood as a part of the institutional framework in land issues.
- b) To study the *property conditions*, especially in rural Norway, in an historical context, as a base for understanding the development of land consolidation, and also its organization and legislation.
- c) To study the *conflict resolution* aspects and mechanism in land consolidation. The concept of “conflict” is rather wide; the “conflict” might vary from disagreements over subdivision and layout of plots, common infrastructure etc, to legal disputes over boundaries, rights and so on. The mechanisms might consequently vary from mediation to formal legal decisions.

To make a study of this nature one needs to formulate research questions, and also decide how to perform the study; i.d. the methods, as well.

The research questions are summarized as follows:

- a) What kind of problems can be “solved” through land consolidation?
- b) How, when and why did the multifunctionality developed?
- c) How are the various types of “conflicts” handled in Norwegian Land Consolidation?

## 1.3. MATERIALS AND METHODS

### 1.3.1. Introduction

In detail, the materials and methods used in the study will be a combination of:

- a) Study of literature, legislation, etc, and repeated deep and broad conversations with my tutors and other persons linked with the “academia”.
- b) Interviews with professionals like land consolidation judges and other staff members in the Land Consolidation Court, lawyers and possibly others.
- c) Interviews with landowners and possibly other parties that have taken part in a land consolidation scheme.

The study of literature about institutional theory, property rights, property conditions, land consolidation, land administration, etc, together with conversations with personal linked with the “academia”, are indispensable for acquiring and understanding all the information related with the matter in question.

Even if the land consolidation activities in Norway cover a wide range of issues related to property and rights, my aim is to present a broad overview of them. The study of detailed land consolidation cases will be very useful to show how different kinds of conflicts are managed and solved.

The study of the cases is done by means of interviews with the land consolidation staff and landowners involved in each of the cases. The interviews with the land consolidation staff have the objective of going deeper into the way they are dealing with land disputes in general (way of working, methodologies used, legislation which determine the different procedures, main problems found, etc). The interviews with the landowners have the objective of, on one hand, check their opinion about the process of solving land disputes with the intervention of the land consolidation staff, and, on the other hand, compare the different perceptions on the case from the point of view of the land consolidation staff and the landowners involved.

Six main cases are studied by means of the realization of the interviews with the personal involved in each of them. In some of the cases, the interviews have been carried out with just the land consolidation staff or the landowners involved; in other cases the interviews have been carried out to both parties. A questionnaire was previously designed, distinguishing two interview models: one directed to the landowners and other directed to the professionals (land consolidation staff, lawyers, etc).

Besides these cases, two urban cases handled by the land consolidation court are included, too. These cases are not studied in detail as the other ones; they have to be considered as examples of the kinds of cases which are faced by the land consolidation courts in urban settings. A brief explanation of the background and the conflicts will be included of each of them.

Land consolidation tends to be rather specific in each country. *Jordskifte* is an institution specific of Norway, so most of the information available in this matter is just in Norwegian. This fact meant a handicap for me in the access to the information. Therefore, a lot of references are oral information, and the articles and essays available in English were the basic references of this study.

In spite of the problem with the language, it has to be mentioned that documents in Norwegian were used in this paper, too. Translations from Hans Sevattal and Siri-Linn

Ekvedt were basic for their understanding. The formal records which describe the steps in the solving process of the land consolidation cases (Nor. *Rettsbok*) were understandable for me thanks to the translations and explanations of Øystein Bjerva, who is a land consolidation judge.

Anyway, in the study are included a lot of terms in Norwegian, written in italics and preceded by “Nor.”. Several English terms are included, too.

### 1.3.2. Case study

#### 1.3.2.1. Definition and objectives

My research strategy for the empirical part is that of a case study. Case studies are widely used for applied research, simply because they provide methodology for studying “real life” situations and phenomena in context, and across academic fields. Land consolidation schemes are real life phenomenon, and they require insights produced in law, economy, technology, agronomy, and social sciences as well. The context in my case comprises the property conditions, the institutional framework and the historical developments.

Case study is one of the ways of doing science research, but other ways include experiments, surveys, multiple histories and analysis of archival information (Yin 2003).

Rather than using large samples and following a rigid protocol to examine a limited number of variables, case study methods involve an in-depth, longitudinal examination of a single instance or event: a case. They provide a systematic way of looking at events, collecting data, analyzing information, and reporting the results. As a result the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research. Case studies lend themselves to both generating and testing hypotheses (Flyvbjerg, 2006).

Yin (2002), on the other hand, suggests that case study should be defined as a research strategy, an empirical inquiry that investigates a phenomenon within its real-life context. Case study research means single and multiple case studies, can include quantitative evidence, relies on multiple sources of evidence and benefits from the prior development of theoretical propositions. He notes that case studies should not be confused with qualitative research and points out that they can be based on any mix of quantitative and qualitative evidence. This is also supported and well-formulated in Lamnek, 2005: “The case study is a research approach, situated between concrete data taking techniques and methodologic paradigms”.

Per definition, the aim of the case study is to describe the case, and it does not search universally valid knowledge. Nevertheless, it is always possible that some findings of a case study could also be later on applicable to other cases which have not been studied, though this is usually difficult or impossible to assess in the framework of a single case study.

#### 1.3.2.2. Types

Case studies as research strategy can be applied in many different fields, and the methodologies and aims can be diverse, too. Taking this into account, some types of case studies can be differentiated:

- Exploratory case studies: exploratory case studies condense the case study process: researchers may undertake them before implementing a large-scale investigation. Where considerable uncertainty exists about program operations, goals, and results, exploratory case studies help identify questions, select measurement constructs, and develop measures; they also serve to safeguard investment in larger studies.
- Critical instance case studies: critical instance case studies examine one or a few sites for one of two purposes. A very frequent application involves the examination of a situation of unique interest, with little or no interest in generalizations. A second, rarer, application entails calling into question a highly generalized or universal assertion and testing it by examining one instance. This method particularly suits answering cause-and-effect questions about the instance of concern.
- Program effects case studies: program effects case studies can determine the impact of programs and provide inferences about reasons for success or failures.
- Prospective case studies: in a prospective case study design, the researcher formulates a set of theory-based hypotheses in respect to the evolution of an ongoing social or cultural process and then tests these hypotheses at a pre-determined follow-up time in the future by comparing these hypotheses with the observed process outcomes.
- Cumulative case studies: cumulative case studies aggregate information from several sites collected at different times. The cumulative case study can have a retrospective focus, collecting information across studies done in the past, or a prospective outlook, structuring a series of investigations for different times in the future.
- Narrative case studies: case studies that present findings in a narrative format are called narrative case studies. This involves presenting the case study as events in an unfolding plot with actors and actions.
- Embedded case study: a case study containing more than one sub-unit of analysis is referred to as an embedded case study (Yin, 2002).

In my case, the kind of case study which is going to be used is the critical instance case study, because the study of independent cases is going to be carried out. Because of the variety of activities and cases developed within the land consolidation activities, no interest in generalizations is pursued, but to provide a general overview on them.

#### 1.3.2.3. Case study methodology

Many well-known case study researchers such as Robert E. Stake, Helen Simons, and Robert K. Yin have written about case study research and suggested techniques for organizing and conducting the research successfully. According to their work and proposes six main steps have to be considered:

- 1) Determine and define the research questions
- 2) Select the cases and determine data gathering and analysis techniques
- 3) Prepare to collect the data
- 4) Collect data in the field
- 5) Evaluate and analyze the data
- 6) Prepare the report

#### Step 1. Determine and define the research questions

The first step in case study research is to establish a firm research focus to which the researcher can refer over the course of study of a complex phenomenon or object. The researcher establishes the focus of the study by forming questions about the situation or problem to be studied and determining a purpose for the study. Case study research generally answers one or more questions which begin with "how" or "why." The questions are targeted to a limited number of events or conditions.

#### Step 2. Select the cases and determine data gathering and analysis techniques

During the design phase of case study research, the researcher determines what approaches to use in selecting single or multiple real-life cases to examine in depth and which instruments and data gathering approaches to use. When using multiple cases, each case is treated as a single case. Each case's conclusions can then be used as information contributing to the whole study, but each case remains a single case.

#### Step 3. Prepare to collect the data

Because case study research generates a large amount of data from multiple sources, systematic organization of the data is important to prevent the researcher from becoming overwhelmed by the amount of data and to prevent the researcher from losing sight of the original research purpose and questions. Advance preparation assists in handling large amounts of data in a documented and systematic fashion. Researchers prepare databases to assist with categorizing, sorting, storing, and retrieving data for analysis.

#### Step 4. Collect data in the field

The researcher must collect and store multiple sources of evidence comprehensively and systematically, in formats that can be referenced and sorted so that converging lines of inquiry and patterns can be uncovered. Researchers carefully observe the object of the case study and identify causal factors associated with the observed phenomenon. Renegotiation of arrangements with the objects of the study or addition of questions to interviews may be necessary as the study progresses. Case study research is flexible, but when changes are made, they are documented systematically.

#### Step 5. Evaluate and analyze the data

The researcher examines raw data using many interpretations in order to find linkages between the research object and the outcomes with reference to the original research questions. Throughout the evaluation and analysis process, the researcher remains open to new opportunities and insights. The case study method, with its use of

multiple data collection methods and analysis techniques, provides researchers with opportunities to triangulate data in order to strengthen the research findings and conclusions.

#### Step 6. Prepare the report

Exemplary case studies report the data in a way that transforms a complex issue into one that can be understood, allowing the reader to question and examine the study and reach an understanding independent of the researcher. The goal of the written report is to portray a complex problem in a way that conveys a vicarious experience to the reader. Case studies present data in very publicly accessible ways and may lead the reader to apply the experience in his or her own real-life situation. Researchers pay particular attention to displaying sufficient evidence to gain the reader's confidence that all avenues have been explored, clearly communicating the boundaries of the case, and paying special attention to conflicting propositions.

These steps were followed also in the design of the land consolidation cases study. The first step in the process is, of course, to define the main objectives of the study by means of the research questions. One of the tools used to try to give answer to these questions is the case study, which will provide information about the kind of problems which can be solved through land consolidation and how are the various types of "conflicts" handled in the Norwegian Land Consolidation.

Because of the different kind of cases which can be found in Norway, cases from three areas were studied: west coast (two cases); Akershus (one case) and Drammen (three cases). It is important to keep in mind that, because of the specificity of the cases, the interest of the case study is not to try to generalize on land consolidation activities, but to show the different problems which can be found and solved through land consolidation.

The case study was carried out by means of interviews with personal involved in each of the cases, either land consolidation staff or landowners, and in some cases, both parties were interviewed. A questionnaire was previously designed, distinguishing two interview models: one directed to the landowners and other directed to the professionals.

According with the data extracted from each of the interviews, the analyzing the data was carried out. The main intent in this case was to try to focus on the kind of conflicts and tools used in each of the cases considered. A report about the cases was done to explain in detail the content, problems found, solving procedures and solutions found to each of them.

## 2. BACKGROUND: NORWAY AND NORWEGIAN AGRICULTURE

### 2.1. GENERAL INFORMATION ABOUT NORWAY

First of all, some data regarding general information about Norway is provided in order to get some basic knowledge about the country:

Features	Numbers
Surface	385.155 km <sup>2</sup> (mainland: 323.802 km <sup>2</sup> , artic islands: 61.353 km <sup>2</sup> )
Population (01/01/2006)	4.640.219
Population density	12,1 inhab/ km <sup>2</sup>
Counties	19
Municipalities	431
Capital	Oslo

Figure 1: General information about Norway. Source: [www.noruega.es](http://www.noruega.es) (2007)

Norway is the northernmost country in Europe; stretched along the western side of the Scandinavian Peninsula, approximately one fourth of Norway's land lies north of the Arctic Circle. At North it borders on Barents Sea, at Northeast on Finland and Russia, at East on Sweden, at South on the Northern Sea, and at West on Atlantic Ocean.



Its mainland extends from 58° to 71° North, a total distance of about 1.750 km, greater than the distance between Oslo and Rome. Norwegian coastline, formed by glaciers, is craggy and rugged, and stretches along 21.925 km including all the fjords and coastal islands.

Norway is placed approximately in the same latitude than Alaska, but its climate is much milder thanks to the effects of the warm water of the Gulf Stream, which comes from Mexico and runs along the Norwegian coast.

The country's population density is 12,1 inhab/km<sup>2</sup>, the second lowest in Europe (only Iceland has a lower density).

Figure 2: Situation of Norway in the Scandinavian Peninsula. Source: [www.geographyiq.com/images/no/Norway\\_map.gif](http://www.geographyiq.com/images/no/Norway_map.gif) (2007)

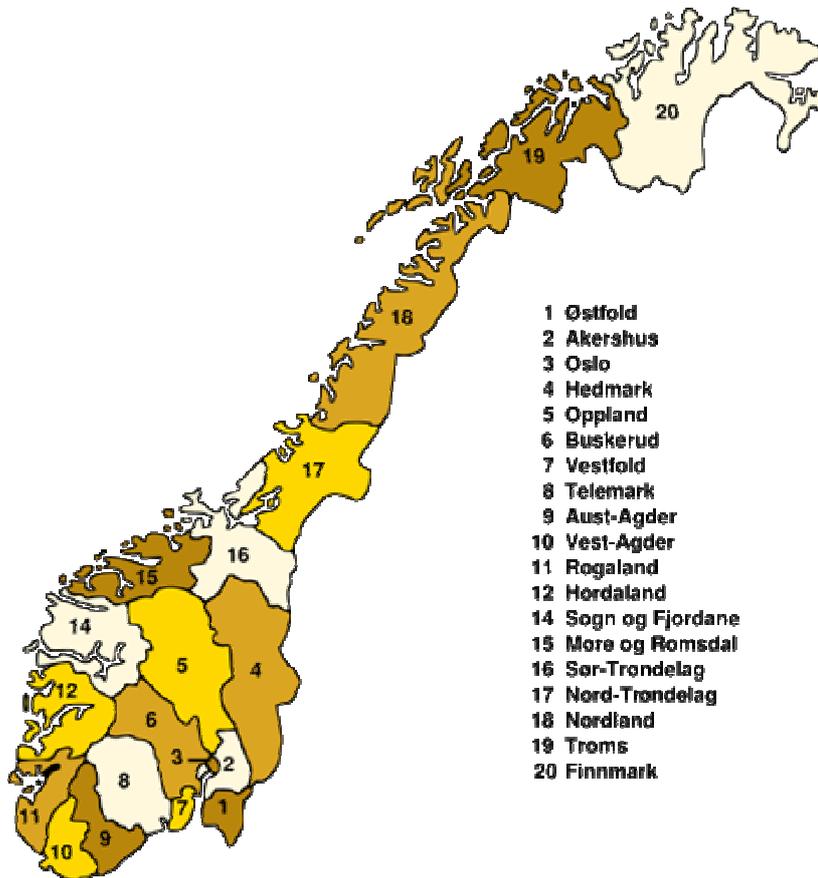


Figure 3: Norwegian counties.  
Source: www.mf.dep.no (2007)

The whole territory of mainland Norway is approximately 324.000 sq. km. Only 3 % is arable land, 25 % productive commercial forest, less than 1% is urbanized land, and the rest, appr. 70 % of the total area of Norway, are mountains, bogs, lakes, etc. 6,1% (2004) of the territory is protected as parks and other kinds of nature reserves.

Norway has a small population compared to the size of the land area, about 4,4 million people. Approximately the half of the population lives in the south-eastern part of the country, and more than three fourths of the people lives at less than 16 km from the sea. 75 % of the population lives in urban or semiurban communities and 25 % in rural communities. However, it does not mean that those areas are still mainly agricultural areas; just a small percentage of the population, even in the rural areas, is involved in agrarian production nowadays.

The actual cultivated agriculture area (arable land), however, is very small relative to the population, and the rather marginal conditions for many types of agriculture make this figure even “smaller” so to speak, compared to more southern countries. This does not mean that the rural societies were proportionally “poor”, it just means that the people had to utilize other resources and develop other activities. By and large this meant maritime resources and the “outfields” (forests, mountains, etc).

In a country with a 20.000 km coast length, Norway always has been a country closely linked to fishing, shipping and commercial exchanges, and maritime resources and trade play a very important role within Norwegian economy.

Although the long distances which characterize the country, the maritime transport, which allows the movement of great amounts of merchandise with low costs compared with other kinds of transports, has permitted the development of the domestic and foreign trade.



## 2.2. NORWEGIAN AGRICULTURE AND FORESTRY

### 2.2.1. Role of agriculture in developed countries nowadays: multifunctionality

In European countries, the agricultural sector has evolved during the last decades from being a strategic sector which main aim was food supply, to a wider and more multifunctional sector.

The concept of “Norwegian agriculture” goes beyond the activity of the Norwegian farmers and their use of the land. The Norwegian agriculture makes reference also to the consumers, the food production, the environment, the protection of the arable land and the cultural landscapes, the creation of wealth, exportations, population settlements and employment. Within this term it is included everything related with the agriculture itself, forestry, reindeer breeding, aquaculture, animal production and development of new economic activities starting from agriculture.

Agriculture plays a very important role regarding the maintenance of jobs and the maintenance of the rural settlements in all regions of the country.

### 2.2.2. Norwegian agriculture

Norway is not an outstanding agrarian country, but, in spite of part of the Norwegian land lies north of the Arctic Circle, its climate is mild thanks to the effects of the warm Golf Stream; which allows the development of certain kinds of productions, even in the northernmost areas of the country.

Economic and institutional conditions (for instance, infrastructures, labour costs, long distances, small-scale production structure, etc), define high production costs in agriculture.

The production is almost entirely destined for the national market and plays an important role in ensuring national food security, sustaining the viability of rural areas and safeguarding certain environmental qualities. In spite of the country is self sufficient in some agrarian products, Norway has to import more than the half of the food which is consumed. Because of the fisheries Norway is a great net exporter of foodstuffs.

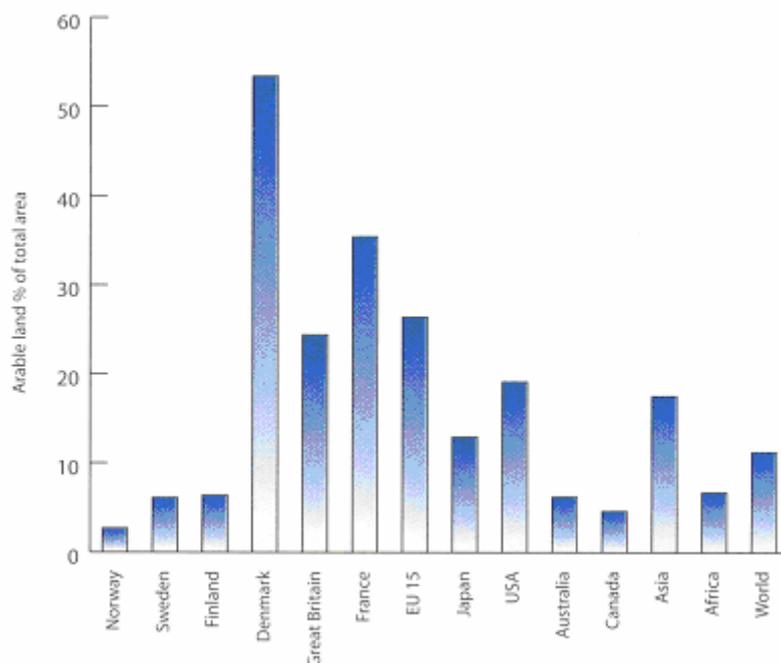
In Norwegian agriculture, the main productions are dairy and meat products, eggs, cereals and temperate fruits and vegetables. About three quarters of farm income is derived from livestock production and one quarter from crop production.

Agriculture represents 1,6 % of the Norwegian gross domestic product (GDP). If forestry and fishery are also considered, this percentage reaches 4% of GDP.

<b>Norwegian GDP by economic sector (2004)</b>	
Agriculture, forestry, fishery	4 % (Agriculture: 1,6 %, Forestry: 1,1%)
Industry	22 %
Services	74 %

**Figure 6: Distribution of the Norwegian GDP by economic sectors.**  
Source: [http://es.encarta.msn.com/encyclopedia\\_761556517\\_6/Noruega.html](http://es.encarta.msn.com/encyclopedia_761556517_6/Noruega.html)

Arable land is located in three main regions: south east, south west and central areas of the country and represents only the 3% of the total area of Norway. It means approx. 0,2 ha arable land pr. inhabitant. The average farm size (parcel) is around 16 ha arable land, while the average field size is only 1,5 ha.



**Figure 7: Arable land in different countries (% of total area)**  
**Source: Faostat 2002. Category 061, arable land and permanent crops.**

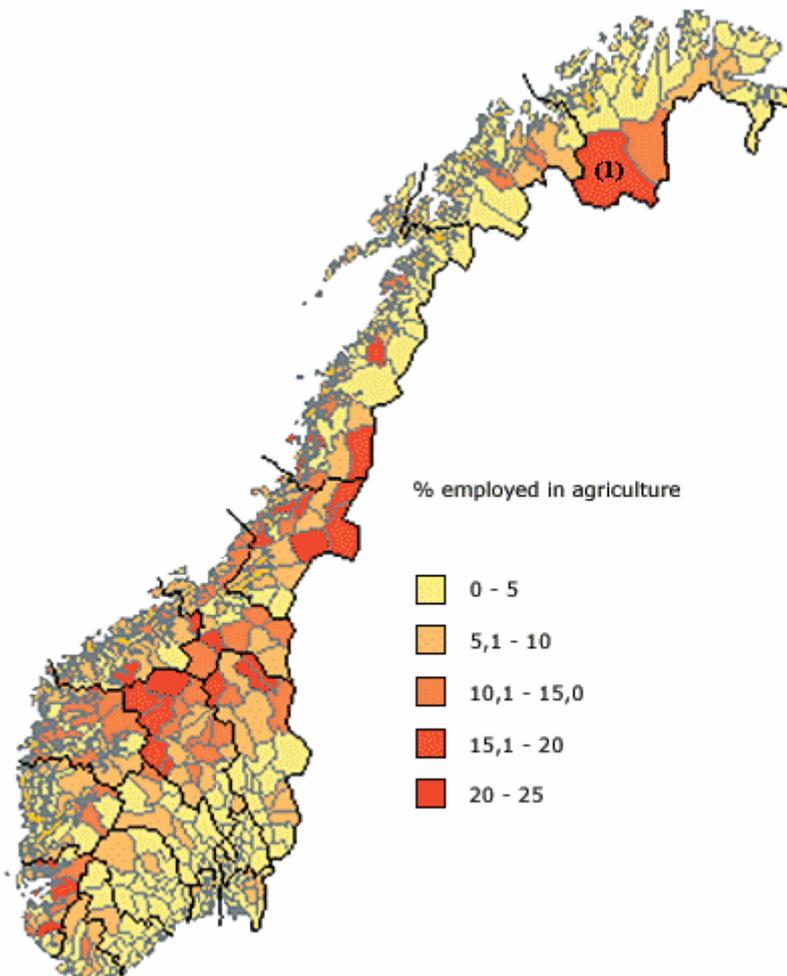
Country	Arable land per inhabitant (ha/inhab.)
USA	0,58
Brazil	0,34
Spain	0,32
Norway	0,20
India	0,15
France	0,14
China	0,11

**Figure 7: Arable land per inhabitant in different countries.**  
**Source: FAO Statistical Yearbook, 2004.**

Only 1/3 of arable land is suitable for cereal production. Generally, this land is located in the lowland of the south eastern Norway, generally closer to urban areas. Due to, inter alia, climatic conditions, the remaining 2/3 of arable land is only suitable for fodder production (basically grass) for the purpose of cattle and sheep meat and dairy production (goat and cow). This land is generally located in the fjord and mountain areas and in northern parts of the country. Through a set of policies lowland farmers have been encouraged to stay out of dairy production and concentrate on cereal production, thus allowing the remaining farmers of the fjords, mountains and of northern Norway to cover a substantial part of the national dairy and meat market. The volumes of production for different agrarian products in Norway are shown in figure 10.

The sub-arctic conditions which exist in part of Norway are characterised by harsh climate, low temperatures and a short growing season, which varies between 100 and 190 days, largely dependent on latitude and distance from the sea. The indoor period for livestock varies from around 200 to 260 days a year.

Around two-thirds of the agricultural productions located in rural areas and agriculture contributes to 16 % of the employment the rural municipalities (which are 39 % of the total municipalities with 54 % of the total land area).



**Figure 9: Employment in agriculture at municipality level in Norway.**

Source:  
<http://www.regjeringen.no>  
 (2007)

(1) Reindeer herds are included as “agriculture”; which explains the high percentage in Finnmark.

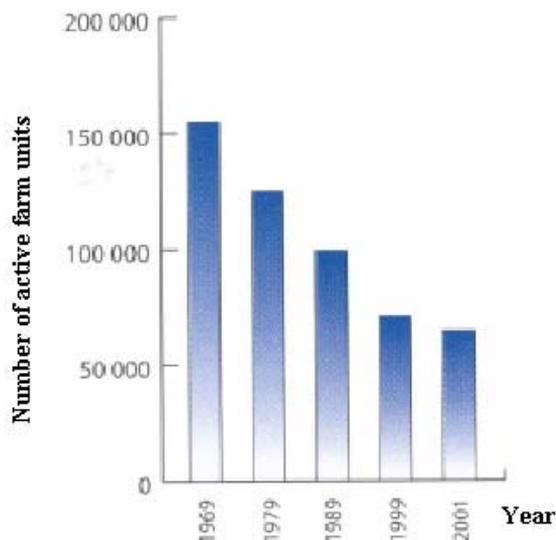
Product	Volume (in tonnes)	% of national consumption (1999)	Share of total farm income from the different productions (2000) %*
Milk	1559 mill liters	99	32,4
Beef meat	90	97% total meat	32,1 (total meat)
Sheep/lamb meat	23		
Pig meat	102		
Chicken meat	43		
Eggs	47	98%	2,4
Cereals	1351		12
Cereals for food	124 (1999)	36%	
Potatoes	380	83%	2,1
Vegetables	161	58%	7,5 (including fruit
Fruit and berries	71	18%	and berries)
Sugar and honey	1.25	3%	

\*Based on value of produce from farmer + support for produced quantity

**Figure 10: Volume of production, % of national consumption and share of total farm income for different products. Source: <http://odin.dep.no>**

In the last decades a profound reduction in the number of active farms has taken place. In 1950 there were 200.000 farms in Norway, many very small, and offering only a part-time livelihood in agriculture, forestry, and related rural occupations. Today there are slightly over 50.000 active farms, many of which offer only part-time livelihoods.

Here, a remark has to be made regarding the meaning of “part-time” livelihoods. It is not clear which is the exactly definition of this term, because the part time jobs could be referred to one person, one couple, one family, etc. In any case, part time farming has always been important within Norwegian agriculture in the sense that the combination of different occupations has always taken place, contributing greatly to the high standard of living in rural Norway.



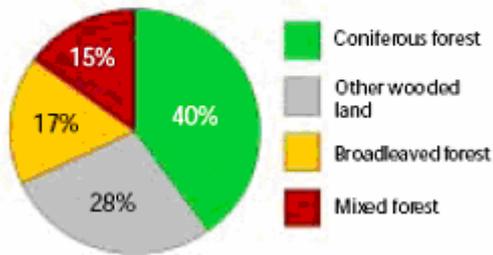
**Figure 11. Evolution in the number of active farm units in Norway.**

Source: <http://www.regjeringen.no> (2007)

### 2.2.3. Norwegian forestry

Talking about forestry; forest and other wooded land cover 39 per cent of the land area in Norway, but it represents a relatively small percentage of the GDP and the yearly exportations of the country. Forestry activities are mainly concentrated in the eastern and southern part of the country, where 60 % of the productive forests are found. The most part of the forests belongs to private owners; just in the Northern part of the country the state forest ownership dominates.

#### The forested area of Norway



	Area, km <sup>2</sup>
Forest land & other wooded land	120.000
Forested area, from which:	87.000
Coniferous forest	49.000
Broadleaved forest	20.000
Mixed forest	18.000
Other wooded land	33.000

#### Forest ownership

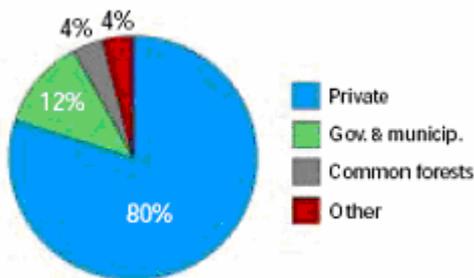


Figura 12. Forest land (% and surface in km<sup>2</sup>) and forest ownership in Norway (%).

Source: NIJOS, 2002

The forest sector contributes about 1,1 % of GDP, 1,6 % of the employment and 8,6 % of the export value not including oil and gas. Approximately 88 per cent of the forest area is in private ownership, divided among more than 120.000 properties.

Over the last 50 years, the annual volume of timber harvested has varied between 7 and 11 million m<sup>3</sup>, with a downward trend the last ten years.

A wide range of measures, including legislation, taxation, economic support schemes, research, extension services, and administrative procedures are employed in implementing the forest policy. The Forest and Forest Protection Act from 1965, with amendments – most recently in 1997 – is the main legal framework for sustainable forest management in Norway.

The use of policy instruments in the forest sector is currently changing. Emphasis is put on the measures connected to the Norwegian Forest Trust Fund, which is constituted by private funds administered by the local forest authorities for long term investment in sustainable forest management. Expansion of the forest area is no longer a political goal: the existing forest area is to be the basis for future wood production.

Besides the timber production, new objectives are pursued for the forestry sector. Priority areas include the development of markets for bio energy and support to

activities that stimulate the demand for wood products through better communication between different actors, information and product development.

#### 2.2.4. Norwegian agricultural policy

The present political formulated goals of Norwegian agriculture are:

- produce safe and healthy food of high quality in the light of consumer preferences
- produce other goods and services in accordance with the sectors overall resources
- produce public goods as viable rural communities, a broad range of environmental and cultural benefits, and long term food security.

As well as the importance of agriculture as the main activity for supplying healthy and quality food, it also plays a strategic role in the maintenance of the landscapes. Globally, agriculture is together with forestry the largest land user and it has profound impact on the environment, both in positive and negative ways. Talking about economic terms; ensuring the economic and social viability of rural areas constitutes an important policy objective in most countries.

Important parts of the agricultural policy is laid down in the Agricultural Agreement, negotiated between the farmers' organisations and the Government and approved by the Parliament. Support and protection measures in the agricultural sector are not primarily based on income considerations, but aim first and foremost at ensuring a sufficient level of public goods, such as food security, viability of rural areas and environmental protection, demanded by the Norwegian society.

The multifunctionality of Norwegian agriculture is, then, ensured through a combination of economic, legislative and administrative measures, as well as through training and extension. In 1997, total transfers associated with agricultural policies amounted to 2,3 billion euros. Net budgetary outlays amounted to 1,3 billion euros and, thus, accounted for 57% of the transfers, while transfers from consumers through border protection accounted for 43%.

Primarily acreage and livestock support aids represent approximately 60% of budgetary outlays, while other aids given to agrarian sector, totally independent from the prizes and productions, amount to around one third. Aggregate measure of support (AMS) policies, account for the remaining budgetary support.

In comparison with other countries, the transfer of public funds to the agrarian sector is quite important. Together with Switzerland, Japan and Iceland, Norway is one of the countries of the OECD (Organization for Economic Co-operation and Development) which most subsidize the national agriculture. Due to the geographic and climatic conditions of the country, subsidies for the agriculture are indispensable nowadays and they will be in the future.

The aim of the Norwegian agrarian policy is to promote more effective methods and techniques in agriculture, so the need of subsidies will be lower in the future. To reach this objective, the requirement demanded to the farms is to get more profitability.

This politic strategy must also give priority to the opening of new markets for the products. Other factor to consider here is that prizes must be reduced, so the differences between the Norwegian agrarian products and the imported ones are reduced, too.

### 2.3. FINAL REMARKS

The main part of the information in this chapter, concerning with Norwegian agriculture, has been taken from governmental web pages, in an attempt to look for the most reliable information in this matter.

In spite of the characteristics of Norway, related to its climate, low density population, long distances and difficult topography, it seems that these facts are shown as a great handicap for the economic development of the country because they entail high costs; emphasizing this fact much, maybe too much.

It has to be taken into account that these attributes can be seen from two points of view, because, even if the climate conditions are not the best for agriculture productions, the mild climate which exist in Norway thanks to the Golf stream allows the development of certain types of agriculture even in the northern areas of the country.

And it is precisely because of the climatic conditions and topography of the country, with frequent rains and numerous waterfalls, that hydro-electric production has developed remarkably, providing a cheap source of energy which allowed, for instance, the development of iron and steel industry (specially aluminium and iron alloys), which require huge quantities of energy.

Opposite to the long distances which are often mentioned as a drawback, maritime transport appears as the cheapest way for moving large amounts of merchandises between very distant places.

Another fact which has to be considered is that the only information which it is possible to have access for me is the English one, constraining the information sources in this matter.

### **3. LAND CONSOLIDATION; AN INSTITUTIONAL APPROACH**

#### **3.1. INTRODUCTION**

Land fragmentation, i.e. non-contiguous landholdings, represents an important problem in agricultural activity in many regions. It may cause production loss, but the main problem is that it increases production costs due to high supervision costs and increased time requirement.

As an attempt to solve this situation, farmers can try to improve the structure of their holdings by means of transactions with land, but they could find difficulties in the process. It would require negotiating with numerous small landowners; and the restrictions on the access to information and/or the non-transparency conditions of the land markets are other circumstances which may have influence on the process. These factors leads to high transaction costs, which, in many cases, will not permit to achieve final agreements when these costs are higher than the value of the land which is going to be transferred.

The access to reliable information is in many cases the main handicap which conditions the operation of the land markets. The cadastre and the legal register system are the two main information sources about the real estates concerning their registry, their description and their property situation. The quantity and quality of the data of these two sources, but also their accessibility to the general public, are key factors which influence the achievement of land exchanges.

Besides that, it can be noticed that these exchanges are produced within a complex institutional framework which conditions them. Institutions, both in the form of laws and in the form of social norms, etc. provide the structure for these exchanges, and the importance of the institutional framework in the process is generally acknowledged.

Taking the previous into account, land consolidation in the institutional context arises as an instrument which permits the achievement of “agreements” in land exchanges in which many parties are involved, by means of the reduction of the transaction costs. The land consolidation process is a very complex one, because there are numerous actors involved, and each one has his particular features, requirements and wishes about the real estates that are going to be rearranged; so these conditions have to be considered as much as possible to get a final solution which benefit the most part of –presumably all- the actors involved.

#### **3.2. INSTITUTIONS**

The term “institution” is commonly applied to customary and behaviour patterns important to a society, as well as to particular formal organizations of government and public service. As structures and mechanisms of social order among humans, institutions are one of the principal objects of study in the social sciences, including sociology, political science and economics. Institutions are a central concern for law, the formal regime for political rule-making and enforcement. The creation and evolution of institutions is a primary topic for history.

An institutional approach to land consolidation implies the application of different theories which all make use of the concept of “institutions”. One of the most commonly used definitions of this concept is from Douglas C. North:

*“Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction”.* (North 1990:3)

The fact that the institutions are identified as the “rules of the game” grasps the fact that we are dealing with a multitude of rules, the clearly stated and visible ones, as well as the more invisible and sophisticated ones that make up the social web and shape human interaction.

In a more concrete sense, the institutions consist of formal law, either in the written form or derived from jurisprudence, basic legal principles, court practices or otherwise. In modern societies the most common are laws and regulations formally passed by parliament, local government, etc., and regulations made by administrative authorities based upon formal law.

But informal law, in the form of traditions, customs and conventions also play a very important role, even in modern societies.

Besides formal and informal laws, there is a third group of institutions that are not so easy to recognise as such; they consist of values and norms of behaviour embedded in the very culture of the society in question, often in rather subtle ways. This comes more clearly to the fore in the way institutions are defined by W.R.Scott, a sociologist (Scott, 1995:5):

*“Institutions consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behaviour”*

Both types of rules define incentive structure in the societies, and specifically into the economies; but they are not enough in themselves if they are not framed into the existent socio-economic context and if they do not enjoy of certain flexibility in view of possible environmental changes that could be produced.

It could happen that, finally, the content of the informal rules was expressed in formal rules; nevertheless, this is usually a very slow process. If, effectively, much time is expensed until this change occurs, it could be possible that, when it was finally produced, new informal rules and individual behaviour had appeared in answer to the new politic and socio-economic conditions and, therefore, institutional change was already produced.

In consequence, two main affirmations can be made in accordance with these arguments:

- a) Generally, institutions are not previously designed, but the result of spontaneous actions of the different agents (physical and juridical persons) which take part in the process. Most of the existent institutions in a society in a determinate moment, after suffering the process of appearance, diversification and selection along the time; are stable and solid.
- b) Time is the main factor. By means of the learning and the evolution of the customs, individuals must take out larger performance of their actions and coexistence conditions. That is, the time is shaping the institutions, and these institutions, together with the production factors of the classic models (land, work, capital), and the growing factors more modern (human capital, technologic change, capital) produce economic development.

The affirmations that the institutions evolve, and at the same time they are stable, are not in contradiction. The stability makes reference to the internal interrelations within this institution, that is, its consistence. And it is this same consistence which guarantees us that institutions will adapt to the new socio-economic frameworks. But

the adaptation could be a very slow process because it is difficult for the economic agents to get rid of their previous habits (Miró Rocasolano, ?).

### 3.3. PROPERTY AND PROPERTY RIGHTS

The term (word) “property” is often used somewhat confusing and contradictory; both for an abstract institution and for the object to which these property rights are attached, so it is important to be precise about the way the term is used. Here the term “property” will be used for the object, and the term “property right” will be used for the institution.

“Property right” is defined as the right or faculty of somebody (a legal or a physical person) to possess something (an object) and to have it at one’s disposal within the legality limits. The fact that it is a right means that the holder has a title in which the right is legitimated. The property right is exerted on tangible and physical goods; the object might be concrete or abstract.

Property right come in many forms, it is not just the ownership of object, it includes many legal relationships between holders of immovable property (real estate) that are purely conceptual such as the easement, where a neighbouring property may have some right on your property, right-of-way, or the right to pass over a property.

Modern property rights conceive ownership and possession as belonging to legal individuals, even if the legal individual is not a physical person. Thus, corporations, governments and other collective bodies are owners, and their ownership is framed in terms of individual ownership. Exceptions to this pattern include the “commons”, which belong to a defined group of individuals, a community, and the “public domain” or “open access”, to which access is unlimited. In this last case one may say also that there is no property right to the resource in question.

Property right is usually thought of in terms of a “bundle of rights” defined and protected by the local sovereignty. Traditionally, that bundle includes the power to:

1. Control use of the property (object)
2. Enjoy the benefit from the property (mining rights, rent, etc)
3. Transfer or sell the property
4. Exclude others from the use of the property

The bundle of rights theory (in a metaphoric way) is commonly used to explain how a property can simultaneously be “owned” in some sense by many parties. These different rights (like “straws in the bundle”) which could exist simultaneously on a piece of land can be exchanged between the holders.

Legal systems have evolved to cover the transactions and disputes which arise over the possession, use, transfer and disposal of property, most particularly involving contracts. Positive law defines such rights, and a judiciary is used to adjudicate and to enforce.

The concept of property right is defined differently in legal and in economic theory. From a legal point of view, there are other rights in or over the piece of land besides the property rights; which are not included in this concept. They are rights or duties, but from the legal point of view they are not property rights.

The definition of property rights in economics is made very clear by Eggerston (1993): *“The term property right refers to the control of valuable assets by an individual (Alchian 1965). The term is used in a general sense, which does not correspond to its use in legal theory, and reflects the individual’s power to control scarce attributes of assets in various uses.”*

For instance, land use is ordered and regulated by a branch of public policies with encompasses various disciplines by means of the so called Land Use Plannings. Patterns of land use arise “naturally” in a culture through customs and practices, but land use may also be formally regulated by these plannings, through zoning and planning permission laws, or by private agreements such as restrictive covenants.

Zoning commonly includes regulation of the kinds of activities which will be acceptable on particular lots (such as open space, residential, agricultural, commercial or industrial). Planning permission is the permission required by property developers and private individuals in order to be allowed to build on, change the use of a plot of land or to redevelop an existing building.

A restrictive covenant is a legal obligation imposed in a deed by the seller upon the buyer of the real estate to do or not to do something. Such restrictions often “run with the land” and are enforceable on subsequent buyers of the property. Examples might be to maintain a property in a reasonable state of repair, not to build in a certain part of the property, etc.

According to that, building permits, restrictions on the land use imposed by a public body and restrictive covenants, can be consider as a special type of rights or regulations made on the land use, because they condition and limit land activities in the plots. They can be termed “negative” rights, because from the owners’ perspective they represent a duty, an obligation.

From an economic point of view such rights are often included in the concept of “property right”, but from a legal point of view it is important to keep them apart, simply because the rules governing them are so different.

### 3.4. THE CONCEPT OF PROPERTY CONDITIONS

This concept is used to characterize the existing situation, concerning property units (objects), owners (subjects) and property rights.

- A property unit refers to the physical piece of land, which is characterized by its size and shape, location, inclination, configuration, etc.
- The property units can be owned by different kind of owners: private or public, local or foreign, farmers or absentees, individual or collective holders, etc
- The property right is the specific right that the holder has on, over or in the piece of land. If the property right is understood as a bundle of rights, one particular right would be an individual straw in the bundle. Fee simple ownership represents absolute ownership of real property, so it means that the holder is the titular of all the straws in the bundle of rights existent in the piece of land (Sevatdal, 2006)

### 3.5. ECONOMIC NATURE AND EXCHANGE OF PROPERTY RIGHTS

An essential requirement for the development of the economic activity is that the human relationships and the interactions among them and with respect to their possessions (objects) are known and socially defined, in the sense of what can be done and what can not. These faculties which are at humans disposal are called “appropriation rights” or “property rights” and they are defined or established by the society by means of violence, negotiation, laws, costumes or any other system for the assignation of rights (this concept of property rights in this statement comprise all types of rights; both the legal and the economic approaches to property rights).

The specification of these appropriation rights makes possible that the exchanges are realized, that the productive system is specialized, and that each agent knows which actions have to be taken. In short, property right is a system established for the satisfaction of the social needs.

The specific right assignation made within a society will determine the nature and the characteristics of the economic activity that is going to be developed. Right assignation will determine the way exchanges will be developed, because it will define the organization of the exchanges and it will ideally provide (or will not) incentives which are required for the economic development.

In a broader sense, it could be mentioned that the way appropriation of rights is established, supposes the creation of economic and social conditions; but, at the same time, socially definition of these rights is required. It is needed that each society establish, by means of the adequate mechanisms of collective decision, a specific system of rights and rights assignation which are in accordance with the values that are wanted to be preserved or with the objectives that are pretended to reach.

Any right appropriation system which was not correspondent with the nature of these social values or objectives will result in higher costs for the society, it will imply less efficiency, it will be more unfair and it even could block the productive progress itself (Torres López, ?).

Any transaction requires a series of mechanisms which protect actors who take part in the risks related with the interchange. The objective of the contracts is to foresee future events which could affect the object of the transaction. Even the simplest transactions involve the existence of a previous contract which could be explicit and formal or implicit and informal.

A contract would be complete if it establishes clearly what must be done by each of the agents involved, before any future event which could affect the object of the contract. The neoclassic economic theory assumes that all contracts are always incomplete because of the available information about future issues is incomplete. Any transaction implies risks and uncertainty (Coase, 1960).

On the other hand and, to get this real efficiency in the assignation of appropriation rights, it is important that the society establishes a complementary and specific “subjection system” which guarantees its effective recognition from all the agents. In our societies this subjection system is the Law.

### 3.6. TRANSACTION COSTS

Transaction costs can be defined as “the costs of transferring property rights”, or “the costs derived from the establishment and the maintenance of the property rights” (property rights in the economic sense).

In general terms these costs represent the necessary expenses that have to be done for the creation, arrangement and operation of the institutions and for guaranteeing the obedience of certain rules.

It is immediate to think of transaction costs in terms of “frictions” within the economic system (Furubotn and Richter, 1997), which generate costs. Specifically there are costs associated to market operation (in terms of property rights exchange), to resource definition (in terms of property right definition), to market administration and to verify the fulfilment of the rules, all of them with important impact on the creation and distribution of the social wealth.

Coase (1960) explain the existence of the markets as resulting from the transaction costs: “markets are institutions which exist to facilitate exchanges, it means, to reduce the costs which making exchanges imply”. Indeed, to get the operation of the markets, and to get the fulfilment of the exchanges (defining property rights and its protection), institutional arrangements, as rules which permit the verification and fulfilment of exchanges, are required. In this way rules arise to reduce the transaction costs in the markets.

To North (1990:27-28) the basis of the transaction costs is in the information costs, understood as the costs for exchange, and the costs to protect and make actors fulfil what have been already agreed. Nevertheless, transaction costs are included into the production costs in this way: “*the total costs of production consist of the resource inputs of land, labour, and capital involved both in transforming the physical attributes of a good and in transacting, defining, protecting and enforcing the property rights to goods (the right to use, the right to derive income from the use of, the right to exclude and the right to exchange)*”.

In any case, a number of kinds of transaction cost have come to be known by particular names:

- Search and information costs are costs such as those incurred in determining that the required good is available on the market, who has the lowest price, etc.
- Bargaining and decision costs are the costs required to come to an acceptable agreement with the other party to the transaction, drawing up an appropriate contract and so on.
- Policing and enforcement costs are the costs of making sure the other party sticks to the terms of the contract, and taking appropriate action (often through the legal system) if this turns out not to be the case.

These costs are explained in this way: before a particular mutually beneficial trade can take place, at least one party must figure out that there may be someone with whom such a trade is potentially possible, search out one or more such possible trade partners, inform him/them of the opportunity, and negotiate the terms of the exchange. All these activities involve opportunity costs in terms of time, energy and money.

If the terms of the trade are to be more complicated, involving for example agreements as payment in instalments, prepayment for future delivery, warranties or guarantees for quality, provision for future maintenance and service, options for

additional future purchases at a guaranteed price, etc; negotiations for such a detailed contract may itself be prolonged and very costly in terms of time, travel expenses, lawyers' fees, and so on. After a trade has been agreed upon, there may also be significant costs involved in monitoring or policing the other party to make sure he is honouring the terms of the agreement.

In each economic transaction it has to be taken into account that the benefits to the participants in an exchange have to be high enough to cover their transaction cost if the trade is to take place at all. Indeed, many otherwise mutually advantageous trades do not take place because of the very high transaction costs that would be involved.

There are a lot of different factors with influence on the transaction costs, which, to a large extent, also determine the realization and development of the economic exchanges.

First of all, the achievement of economic exchanges is determined by institutional reliability. Institutional framework has to provide a stable scene in which all the parties feel sure to negotiate contracts and to reach their objectives. The main role of the institutions is to minimize as much as possible the uncertainties about whether the terms of the contract can be realized and, if not, to take appropriate legal or other actions to make the parties do so.

It takes resources to define and protect property rights and to enforce agreements. Institutions, besides providing the structure for the realization of the exchanges, also provide the structure of incentives within societies and determine the assignment of resources of a certain economy. The economic growth of a society has been done creating an institutional framework which induces to the increase of the productivity and which permits the fulfilment of agreements; it means the reduction of the transaction cost and the definition of the property rights.

When institutions which guarantee efficient exchanges do not exist, incentives arise in order to search the private profit of the agents involved, without taking into account the social costs which this actions will imply. For the obtaining of the proper operation of the exchange system, property rights have to be clearly defined. If such definition does not exist, the exchange will be produced under high transaction costs and there will not be incentives to get an efficient assignment of resources; so, if there are no incentives to fulfil the laws (it is costly to fulfil them), the agents will decide to not to fulfil them, so this will affect the economic develop (Valencia, ?).

Institutional approach considers the existence of transaction costs not just in the exchanges that are produced in the markets, but also in the exchanges produced within enterprises and organizations.

It takes resources to transform the inputs of land, labour, and capital into the output of goods and services and that transformation is a function not only of the technology employed, but on institutions as well. The institutional framework will affect both transformation and transaction costs; the latter because of the direct connection between institutions and transaction costs, and the former by influencing the technology employed. Therefore, institutions play a key role in the costs of production (North, 1990:64)

Secondly, transaction costs are also influenced by the number of parties involved in the exchange and the variety and number of exchanges that are going to be realized. The more parties and exchanges are involved, the more complex are the agreements that have to be made, and the higher are the costs because of the difficulty of the negotiation process.

Repeat dealing between the same agents involved in economic exchanges tend to minimize transaction costs because by means of these repeated interactions, the degree of information and knowing of the other party increases, so the security in the exchanges also increases.

Other factors which condition economic exchanges are linked with ideologies, beliefs, and religious, moral and ethical precepts of the parties involved in the process. These are circumstances that could not have direct influence on the terms of the contract, but which can be determinant if there are insurmountable ideological differences between the parties.

### 3.7. LAND MARKETS. CADASTRE AND LEGAL REGISTER SYSTEMS

Correct and agile operation of the land markets is conditioned by the access of the parties to the information necessary to reach agreements. The transparency and the reliability of the information is the key to get exchanges.

In the land markets, there are two main information sources about the property conditions, i.e. the holdings, the owners and the rights. These are the cadastre and the legal register systems.

The cadastre is an inventory, a source of information about the real estate, concerning its physical characteristics, its title holder, its uses and its value. It is considered as a real estate data source for both administrations and citizens.

The cadastre can be defined also as a Geographic Information System which contains the physical, legal and economic attributes concerning all the real estates, constituting a territorial registry, and which can be used as support of a lot of legal and economic actions.

The legal register is a system by which the ownership and rights in land are recorded and registered, usually by government, in order to provide evidence of title and to facilitate dealing. In most of the developed countries, the Land Registry system develops the tasks of assignation, delimitation and arrangement of the real property rights, at the same time that issues information concerning these points. The main aim of these actions is to provide transparency and security to the markets.

The cadastre and the legal register system have great importance as information sources concerning real estate; and quantity, quality and the disposal of this information to general public determine the transaction costs and, as consequence, condition the achievement of exchanges and the good operation of land markets.

A cadastral system potentially enables an efficient market in real property units by reducing information asymmetries and reducing transaction costs through the presence of skilful, impartial transaction officers, and the recording of spatial and legal attributes of property units. To realize this potential, there is a need of a better understanding of the cadastral system and its operating conditions.

The increase of the efficiency of the operation of the cadastral system has to be reached by means of the improvement of the cadastral data providing updated and reliable information to users, but also improving the access channels to the cadastral information.

Efficient property registration reduces transaction costs and improves the security of property rights. Expanding access to information in the property registry helps owners to be clearly identified, reducing the transaction costs to determine who owns what and cutting the need for time-consuming due diligence. The legal register system has as one

of its main basic aims to avoid legal conflicts about the right title holder on the real estate, so the expenses originated in the estate transfers decrease:

- on one hand, reducing the information costs, so the buyer has security that the seller is the legitimate holder of the real estate which is going to be transferred,
- on the other hand, removing the watching expenses on the transfer, which is reached providing the buyer the legitimate property right on the real estate.

Another aim of the legal register system is the assignation, delimitation and arrangement of the property rights, which also imply the reduction of asymmetries of the information and the reduction of the transaction costs. The issue of registry certificates implies that it is not necessary to investigate the property because these documents provide precise information about the property situation of the real estate.

### 3.8. LAND CONSOLIDATION IN INSTITUTIONAL THEORY

Land fragmentation, i.e., non-contiguous landholdings, can cause significant levels of production loss due to high supervision costs and increased time requirement. This is considered as one of the most serious obstacles to agricultural efficiency in many regions. Fragmentation can occur in several ways, for example:

- as a fragmented farm, i.e. a farm that comprises a number of parcels located some distance from one another.
- as fragmented ownership, i.e. a farmer's holding that includes land owned by the farmer as well as land leased from others. The leased land may be owned by a neighbouring farmer or it may involve a case of "absentee ownership" with the owner living in a distant city.

Land consolidation can be an effective instrument in rural development because it can facilitate the creation of competitive agricultural production arrangements by enabling farmers to have farms with fewer parcels that are larger and better shaped, and to expand the size of their holdings. It can be used to improve the tenure structure in support of rural development by addressing land fragmentation.

Leasing seems to be the principle way in which farmers have been able to enlarge their holdings, allowing them to increase production. It is attractive to those wanting land because it has lower financial requirements, thus enabling farmers to invest their money in equipment and other inputs. Leasing also represents an alternative to many people, especially the large elderly population, who can no longer work the land themselves.

While leasing can be beneficial, it seems just a partial solution of the problem. The small and fragmented parcels are just as inefficiency for the tenant as for the owner, and because of the small size of the parcels in a holding and their distribution over a wide area, consolidation is difficult. Assembling a holding suitable for commercially competitive operations can result in leasing agreements with many owners.

If farmers want to enlarge their holdings by means of the purchase of land, they face many difficulties because of the conditions of the land market and the access to information about the real states.

Some of the problems that can be found are the identification of the right holders of the piece of land. Records may refer to the original, often deceased, owners and present heirs may be difficult to locate, especially if they are not local residents. Delays in clarifying ownership and issuing titles after boundary disputes or property exchanges, for instance; can be also added to the problem list. The joint ownership of land also could impede sales because the most part of the owners must agree and this can take time especially if some owners are outside the village.

Taking all these factors into account, high transaction costs can be reached compared with the value of the land further discourage purchases. Deininger (2003) points out that, in fact, land fragmentation is one of the major sources of high transaction costs in land markets. Assembling contiguous land parcels and creating a plot large enough to be a viable cultivation size requires a farmer to negotiate with numerous small landowners. The more parties are involved (each one with its different requirements and attributes) the more complex are the agreements that have to be reached, so the transaction costs increase remarkably.

In addition to these factors, supportive institutions are needed for land markets to function efficiently, and transparency and reliability of the information together with easiness in the access to it is required, too.

Under this situation, it is improbable to expect land markets to solve fragmentation on their own because of heavy costs in transacting land make it more difficult to achieve voluntary land consolidation. A joint action would be very difficult to reach by means of negotiations. Within this framework, compulsory land consolidation arises as a mechanism to reach general simultaneous settlements in land exchanges in which many parties are involved, by means of the reduction of the transaction costs.

Besides these general comprehensive LC principles, each party implied in the property re-arrangement process has his particular features, requirements and wishes about the real estates that are going to be exchanged; so the land consolidation process is a very complex one because all these conditions have to be taken into account to get a final solution which benefit the most part of the actors involved. If land registration is a key factor to make property rights work, land consolidation is a means to enhance collective simultaneous rearrangements of properties.

### 3.9. FINAL REMARKS

Institutions are the structure and the mechanisms of the social order among the human beings, and provide the framework for the social and economic interaction. Economic transactions and the transaction costs associated to them (information, negotiation, decision costs, etc.) are defined by the institutional context.

Within an institutional approach, land consolidation is a way to come about transaction costs; and, to a large extent, it is a part of the institutional set up in a society.

In some sort of conclusion to this chapter, the organization of institutions and transaction costs are one basic factor to understand land consolidation in a country. The other basic factor is the property conditions, which will be studied in the following chapter.

## 4. PROPERTY CONDITIONS IN RURAL NORWAY

### 4.1. INTRODUCTION

Arable land is a most valuable resource in Norway, because it is just the 3 % of the country. Norway has also, compared with other European countries, always had a small population compared to the total land area. In 2002 the population was 4,5 million (SSB 2002). Around 75 % live in urban or semi-urban communities, while 25 % live in rural communities. While there has been a steady increase in the population, the proportion of persons that derive their income from agriculture has declined drastically, and in 1990 only 1,5 of the population derived their main income from agriculture. So, even in rural communities, most people obtain their income from other sources than agriculture (Sevatdal, 2007).

Year	Arable land (ha)	Population	Persons with main income from agriculture
1800	Data not available	883.500	710.252 (80 %)
1900	980.000	2.217.970	991.177 (45 %)
1990	1.040.000	4.393.833	66.264 (1,5 %)

Figure 13. Trends in population, arable land, and persons with main income from agriculture, the last 200 years in Norway. (SSB 2000a, SSB 2000B, SSB 2000c, SSB 2000d). Source: Grimstad and Sevatdal 2007.

The predominant rural settlement pattern was, and still is, single farms, or small groups of farmsteads. Here has to be mentioned the classic concept of “farm” in Norway, which has to be understood as the whole of infield and outfield lands, so the cultural landscape would consist of a dichotomy between the cultivated and the non cultivated land:

- a) Infields (Nor. *innmark*): arable and semi-arable land for annual and intensive cultivation of crops and later on, fodder. They are the closest lands to the site of the houses, which used to be fenced areas.
- b) Outfields (Nor. *utmark*) can be defined as uncultivated and/or undeveloped lands; as forest, mountains, lakes, etc. These are the lands above the limit of permanent crops. Two categories can be differentiated:
  - 1.) the more productive areas which would comprise productive forest and the best grazing areas
  - 2.) the mountainous or alpine outfields (above the timber line), which would be suitable for summer grazing, hunting and fishing.

Nowadays, farms are relatively small: a few hectares crop fields, similar acreage of nearby grazing land, larger acreage of forested area, and commons of different types in much larger areas above timber line. Land division - which needs public approval - has altered this ownership pattern somewhat the last century. Most active farms rent additional land. Most agricultural land is privately owned. There are a few large estates outside those belonging to the State Forestry Agency.

The types of tenure found in Norway do not deviate too much conceptually from the types found in other countries in the Western European historical traditions. The distribution of the different types may of course differ very much, but by and large the

same concepts and terminology could be used, and understood, in most of Western World. There is however one demographic, historical factor that is important to understand the Scandinavian situation, and probably especially the situation in Norway: these countries have never experienced neither massive invasions and subsequent settlements of alien peoples, nor great revolutions. This means that there has been a more or less continuous legal and cultural development of institutions concerning land tenure. For example, the transformation of Norwegian farmers from tenants to owners was a slow process of farmers gradually buying their holdings as a response to economic feasibility. It was not a land reform in the usual sense. It started later in the 17<sup>th</sup> century and was completed late in the 19<sup>th</sup> century.

Tenure systems and property rights under such conditions tend to develop in response to economical, technological and demographic factors, normally in a peaceful and gradual manner. It also means that “old” or even “archaic” forms and features do not suddenly disappear. They made fade away and gradually lose importance in some regions of for some types of land, while in other places they are very much alive. Institutional history is somehow preserved, as layer upon layer of tenure arrangements. All in all this may result in highly sophistic situations, that may even seem complicated and difficult to understand by outsiders.

Another remark which have to be done is that in Norway there was not systematic cadastral mapping before 1860 because of the taxation system used in that time, which was based on asset value of the farms. Actually, the development of parcel maps was made together with the Land Consolidation activities; and the cadastral system did not exist until 1960 (Sevatdal, 1999).

## 4.2. HISTORICAL DEVELOPMENT OF THE LAND TENURE SYSTEMS AND THE PROPERTY CONDITIONS IN NORWAY

The information concerning the matter of this chapter is mainly in Norwegian, so I had to resort to the little information available in English I found to develop this subject. The content of this chapter was extracted from three main information sources: the draft “Land administration in Norway” by Hans Sevatdal (2007), the book “The Cadastral map in the service of the State. A History of Property Mapping”, by Roger J.P. Kain, and Elizabeth Baigent (1992) and the articles “One tenant, several landlords. The Land Tenure System of Norway until ca. 1800” by Kjelland, Arnfinn (1996) and “Norwegian farms, some background information” by John Follesdal (1998).

Some concepts regarding Norwegian history have to be explained for the better understanding of the current land use and property situation in Norway.

### 4.2.1. The *leilending* (tenant farmer) and the *skyld*

In the Middle Ages most Norwegian farm land was owned by the church, the king and a few wealthy land owners. The church, for example, received considerable real estate as gifts in return for agreeing to provide a requiem mass in the memory of the donor, and, in the 14<sup>th</sup> century, church owned close to half of the land (Follesdal, 1998)

The majority of Norwegian farmers at that time rented their land, they were tenants. The tenancy however had its peculiarities. The farmers were tenant farmers, and the tenancy was in principle based upon a free contract between owner and farmer. The tenant was a free, taxpaying and full citizen of the state, as well as a member of a

society. As long as he fulfilled the obligations of paying the rent and keep up the buildings and the land, he could not be evicted by the landowner, unless in the case that the landowner himself did not have another farm to live on. And as long as the dominant owners were the state, the church, noblemen, or members of the urban merchant or civil servant class, this was a rather remote or non-existent possibility.

The duration of the tenancy period might at an early stage have been as short as three years, but developed into lifetime for man and wife combined, which meant a widow or a widower disposed the farm till he/she died. If he/she remarried the same right would apply to the new spouse (Sevatdal, 2007).

The real income to the landowner from the farms rented out was called *landskyld*. It originated in the late Viking ages to the early Middle Ages and referred to the annual rent of a farm in proportion to its size and value, that a *leilending* (a tenant farmer) would pay to the *jorddrott* (a land owner who leased out his land to tenant farmers). The *landskyld* became a fixed sum, and it was payable in goods that the tenant farmer produced on the farm, i.e., cow hides, butter, fish, grain, etc. or in terms of right up to it. It is important to keep in mind that the *landskyld* was based on the productivity of a farm and not directly on the size of the farm. It is generally not possible to calculate the size of a farm simply by using the *landskyld* (Follesdal, 1998).

The background lies in the very fact that the principal landowners in the Middle Ages and right up the end of the 18<sup>th</sup> century were either non-farming organizations; the church and the state, or non-farming persons like noblemen and urban commercial middle and upper class citizenry. Their main interests were by and large not the physical units in themselves, but rather the income they generated by the work of the tenants.

The practice that ownership was expressed and conceptualized in the income generating potential of the land; i.e. the annual rent the tenant had to pay, developed as early as the 13<sup>th</sup> century, or maybe even earlier (Sevatdal, 2007).

Besides the annual rent (*landskyld*) the tenant had to pay to the landowner, the term *skyld* was much more. Actually, the taxation system in the rural areas from the Middle Ages to approximately 1900 was based in this concept, as a kind of assessed value of the property unit which the owner owned, and/or the unit of farm the farmer farmed.

Furthermore, the very object of ownership was termed, expressed and conceptualized in terms and in values of *skyld*, representing the value of the land ownership rather than the land itself, therefore becoming the object of possession and lease.

According to that, property owners owned *skyld* in a *gård*, and farmers rented *skyld* in a *gård*. A *gård* is perhaps translated best as “cadastral farm”, the historic unit of settlement, which usually originated as a single farm and which was often later subdivided into two or more *gårdsbruk* or *bruksenheter* (working farms). Various forms of joint ownership of land were extremely common in Norway, but normally the joint owners could not point to any part of the farm which was their own. It was value, not physical land, which was divided and in which the owners had a share. The owner of the largest share of the *skyld* on any farm or the one with the highest social status, if the shares were equal, enjoyed the *bygselrådighet*, the right to organize the tenancy of the farm and the payment of entry fees and annual rent to the owner. Ownership or lease of *skyld* conferred rights of access to common resources such as the *utmark* in direct proportion to the amount of *skyld* owned or leased. The corollary of these common rights was the obligation to pay tax, which was levied in proportion to the amount of *skyld* held.

#### 4.2.2. The transition from tenancy to freeholder ownership

From the middle of the 11<sup>th</sup> century Christianity was established in Norway. But in 1537 the Lutheran Reformation was enforced in Norway by royal decree. At this time the country was under Danish rule, and the Reformation was enforced simply by applying the Dano-Norwegian church ordinance in Norway as well.

This Reformation led to a major change in the land property situation: the Danish Crown confiscated all the land of the old Catholic Church. The Church's land property was of two different types: the part that belonged to the central institutions, the archbishopric, the dioceses and monasteries, and the part that belonged to the local churches and benefice of the vicars. The King could not touch the latter part; the new Protestant clergy obviously had to have some income in order to survive (Kjelland, 1996).

But the concentration of land ownership in Norway, did not last long. In 17<sup>th</sup> century, the king began to sell land holdings to creditors and others.

The most important change in the land ownership system of Norway at that time was the disposal of Crown land (31 % of the total rent, see Figure 2). The Danish Kings Christian IV and Fredrik V were eager but not successful participants in the wars of Europe in the first half of the 17th century. This almost led to state bankruptcy around 1660, when absolutism was imposed.

Already in the late 1640-ties the King started to pay his debts by giving Crown land to his creditors, whether they were interested in such payment or not. Many of the Crown creditors were the upcoming new, privileged town bourgeoisie, mainly in Copenhagen but also in the Norwegian towns. This bourgeoisie grew as a consequence of the new trades of forestry and mining. Before 1660 the Kings gave trade privileges to this bourgeoisie, to keep them as allies in his struggle with the nobility.

<b>Landowners</b>	<b>1350</b>	<b>1500</b>	<b>1660</b>
The Church	41 %	47,5 %	21 %
The Crown	7 %	7,5 %	31 %
The Nobility	15 %	13 %	8 %
Others (farmers and absentee owners)	37 %	32 %	40 %

**Figure 14. Distribution of land ownership in Norway, from 1350 to 1660, in %.**  
 Source: [http://www2.hivolda.no/ahf/historie/tilsette/ak/Tenant\\_landlord.html#tab%201](http://www2.hivolda.no/ahf/historie/tilsette/ak/Tenant_landlord.html#tab%201) (2007)

The disposal of Crown land increased after 1660, and several bourgeoisie traders became land owners without wanting to. The right to utilize other resources could of course create interest, but this was still without value in most areas. From 1661 to 1721, the selling process continued successively, and more and more farmers purchased their own farms, but the percentage of such ownership varied widely from region to region. There were three important reasons that allowed farmers to increasingly purchase their own farm:

- 1) the increasing use of mortgages which allowed farmers to borrow the purchase money. (The farmers would buy the farm, log the timber on the farm, and sell the timber to obtain money for mortgage payments. Absentee landowners, of course, were not interested in doing such logging themselves);

- 2) the increasing willingness of landowners to sell their land because they could invest the capital in the shipping and export industry and receive a higher rate of return;
- 3) a law passed in 1684 that limited the amount that a landowner could charge for the *førstebyggesel ved brukerskifte* (the fee payable each time a new tenant farmer took over a farm), and the *tredjeårstake* (the fee for renewing the lease every three years).

As an aside it has to be mentioned that a second major land sale occurred during the period 1723 - 1730 when most of the land owned by the churches and churches across Norway were auctioned off to individuals or to congregations.

It can be seen that the change from a tenancy to farmer ownership was a very long and not very “dramatic” process, because it took the conveyance of ownership, by buying and selling. The landowner would sell when time, market value and other circumstances were favourable for him, and the farmer would behave likewise. The process started around 1660, but was not completed before ca. 1850. The transition started in the forest districts of south-east Norway, and around 1750 most of the farmers in this area had become freeholders. Regional variations in this process occurred.

The transition from tenancy to freeholder ownership is mainly a part of the general modernization of the economy of Norway, made possible by the new trades. This also applies to the starting point, the disposal of Crown land around 1660. It is important to notice that no urbanization followed in the footsteps of this transition process as massive as it was produced in central Europe; due to topographical and other reasons the farmers of Norway got involved in the new trades (as they had always been in the fisheries along the coast), and developed a mixed farmer's economy that did not call for any heavy urbanization until the middle of the 19th century (Kjelland, 1996).

#### 4.2.3. Taxation systems, taxation records and the *Matrikkel*

From the 13<sup>th</sup> century, *sklyd* was an important (but not exclusive) concept on which the taxes were levied. The relationship between the owners and the tenants at that time was an economic one, based on free contract; and the *sklyd* corresponded reasonable well to the actual economic value of the farm unit, both from the owner's and the farmer's perspective. According to this, the *sklyd* was a convenient base upon which the state, as it emerged during the 11<sup>th</sup> and 12<sup>th</sup> centuries, could levy the taxes.

This had a heavy impact on the cadastre as it was developed from 1665 onwards: the state had no great interest in developing maps as part of the cadastre system. Neither formation of property units, by subdivisions, amalgamations or otherwise, nor taxation practices were dependant on maps to such a degree that it justified the expenses (Sevatdal, 2007).

The oldest surviving taxation records, apart from isolated pre-Reformation documents, are the *skattemanntall* (taxation registers) from 1514, 1519 and 1520-22. The *skattemanntall* and *lensjordbøker* (county land books, registers of Crown land) were the forerunners of the *matrikkel*, the register of properties and their ownership (Kain and Baigent, 1992).

In 1661 a commission called the *Landkommisjon* was established to create a *jordebok* (real estate register) over all real estate in Norway, with detailed information about each farm, including the *landskyld*, the name of the owner, and the name of the *leilending* on the farm if the farm was being leased out. The commission was also

charged with adjusting the real estate taxes so that these would be calculated more fairly, but this work was not completed. The *Landkommisjonens siordebok*, however, was finished (the commission's work did not include Finnmark, and the material for Trøms is missing).

Three years later, in 1664, a new commission was established to adjust the real estate taxes, and the result of this commission's work is found in the *matrikkel* (real estate list) from 1665. For each farm the 1665 *matrikkel* gives information about the old and the new real estate tax.

The commission used the various goods that had been used to pay the *landskyld* to calculate a new value for each farm expressed in *tunge* (flour and wheat), butter, or fish. This new value came to be known as *matrikkelskyld* and was used as the basis for determining the real estate tax. Unfortunately, this recalculation only occurred in a few areas. In the rest of the country the *matrikkelskyld* simply used the existing *landskyld* without any recalculations. Thus the old *landskyld* came to be the basis for calculating real estate taxes for most of Norway. The *matrikkel* also states the name of the owner, the name of the *leilending* (if the farm was rented out), the size of the harvest, the number of farm animals, etc).

Farm identification was based on a unique identifying number to each of them (Nor. *matrikelnummer*). In the early 1700's each farm in Norway was assigned a *matrikelnummer*, and this numbering system was changed successively according with the different changes made in the *matrikkel*.

Each farm kept its unique *matrikelnummer* until 1838, when a new system of *matrikel nummer* was introduced. This new system assigned a unique *matrikelnummer* to each main farm, and any *bruk* (smaller units which composed the main farm) was assigned a *løpenummer*. In this way, each *bruk* could be uniquely identified by its *matrikelnummer* followed by its *løpenummer*. If a *bruk* was subdivided, the new *bruk* would be identified by the *matrikel nummer* followed by its *løpenummer* and the letter *a, b, c*, etc. The 1838 *matrikkel* also introduced a new way of measuring the real estate tax, using the *skylddaler*. One *skylddaler* was set equal to 400 *speciedaler* (an old currency) and 1 *skylddaler* was divided into 5 *ort* or 120 *skilling* so that an accurate tax could be assessed on each farm. The 1838 *matrikkel* contained both the old and the new numbering system for each farm, and thus serves as a cross-index between the new and the old numbering system.

The *matrikkel* from 1886 also contains such a cross index, and once again changed the numbering system: each farm was assigned a *gårdsnummer* (farm number) and a *bruksnummer* (*bruk* number). This *matrikkel* also changed the way the tax was calculated. Instead of using *skylddaler*, the 1886 *matrikkel* set the total real estate tax for all farms in Norway equal to 500,000 *skyldmark*, and set 1 *skyldmark* equal to 100 *øre*. The value of each farm was then determined in terms of *skyldmark* (Follesdal, 1998).

From 1838, taxes were defined in monetary terms, but still remained the importance of the *skyld*. In 1980 taxation and valuation in terms of *sklyd* disappeared from the cadastre completely when the GAB (*gård*, address, building) system replaced the *matrikkel* system.

#### 4.2.4. The cadastral mapping

None of the rural tax registers developed from 1520 to 1904 was accompanied by mapping, and indeed rural Norway has never had a national cadastral map system which shows legally binding property boundaries as part of the statutory land registration system. Mapping costs money, and the perceived benefits of mapping must outweigh the perceived costs before it is accepted as a necessary part of the cadastral system in a country.

The special form of ownership and property law governing land in Norway was such that those most concerned with land –the state, the landowners, and the farmers– had little to gain from cadastral maps. Taxes due to the state were levied on *skyld*, not land at such, so the state had little to gain from the production of a cadastral map which recorded the physical extent of properties.

Similarly landowners owned *skyld*, not land, and had little to gain from maps. It was important to them to mark out the *gård* (cadastral farm) boundaries, but *bruk* (working farm) boundaries did not matter to them.

Farmers, owned or leased *skyld* but farmed land and were thus interested both in *bruk* boundaries within an individual *gård* and in boundaries between *gårder*. Even them had relatively little interest in maps, since their interests were best served by the erection and maintenance of physical boundary markers in the field.

In special cases, such as disputes or reallocation, recourse to a map was necessary, but in general the costs of cadastral mapping outweighed its benefits for the farmers.

From the Middle Ages property division was carried out in terms of division of *skyld* (called *skylddeling*), but after the approval of a law in 1764, it was decreed that *skyld* division must be followed up by physical division. Although with the transition from division of value to division of land it became both practicable and of benefit to the interested parties to draw maps, there was no systematic *matrikkel* mapping. The first rural *matrikkel* maps were drawn around 1890.

Together with the property division process, maps acquired importance in Norway from at least the end of the 17<sup>th</sup> century in the resolution of property disputes. A royal order of 1719 empowered “skilled and impartial” surveyors to arbitrate in and decide property disputes. This order put such surveying and mapping on a more precise legal footing, although in fact surveying under the 1719 order did not begin until the mid-eighteenth century, when the Land Consolidation Service was established in 1859 (Kain and Baigent, 1992).

In conclusion, in Norway there was not developed surveying and mapping activities as an integrated part of the cadastre system in rural areas until 1980’s. In urban areas; cities, towns and typical building sites in rural areas, surveying was done as a matter of routine, but not for agricultural land, forest or mountains. It has to be stressed that surveying and mapping were in use in rural areas for certain purposes as land reallocation, legal procedures and developed schemes, but it did not entail a massive or systematic mapping of this areas (Sevatdal, 2007).

#### 4.3. PROPERTY CONDITIONS NOWADAYS

The information concerning the matter of this chapter was extracted from the articles “Institutions and innovations: Property and land use in the Norwegian outfields”

(2006), “Real Estate Planning; an applied academic subject” (1999) and “Common Property in rural areas in Norway” by Hans Sevattal.

The property conditions both in infields and outfields can be understood as a function of land use through history. The various uses have created new property arrangements on top of the existing ones. Another tendency has been that different resources in the same area have been treated separately, often in what are called “functional” tenure arrangements, meaning that each resource has been recognized as a separate property unit –or object- in itself, and has been treated as such through various transactions

#### 4.3.1. The property units

The whole territory of Norway is subdivided into administrative units; the counties and the municipalities. There are 19 counties and 431 municipalities. From a property point of view, each municipality is subdivided into auxiliary territorial units, mainly for cadastral purposes and partly for historical reasons, and each of these units is subdivided into the real property units.

In Norway there are approximately 2,3 millions cadastral property units. Every year there is an increase of 40.000 property units, by subdividing of existing ones. The annual turnover of property units (buying/selling) was appr. 135.000, which gives an annual turnover rate of 5,8 %, at a total value of 68.000 million kroner (1996). 67% of these 135.000 properties were residential, 15% were recreational (cabins), 6% were agricultural and forest properties, 2% were commercial properties and 1% industrial. The rest 9 % were a mixed group of unspecified.

There are 180.000 combined agricultural and forest property units, but actually less than 50.000 farms in terms of effective economic (commercial) entities. They are generally small, but highly productive and “modern” family farms. Quite often the economic activity of the farming household combines agriculture, forestry and an extremely wide variety of other occupations.

#### 4.3.2. The owners

The agricultural land is owned almost totally by physical persons. Legal persons in the form of companies, corporations or other organizations play a minor role, except for one particular organization, the state, which does not own agricultural land, but forests and mountains. A few large forest estates are owned by companies, some forest are owned by authorities, trusts and foundations, but by and large two groups of owners dominate the trust: individual (physical persons) and the state.

Considering the occupation and residence of the owners, it can be extracted that the majority of the personal owners used to be farmers; this follows from the close connection between farms and outfields, and from the fact that for a long period, at least from early 19<sup>th</sup> century, Norwegian farmers have been predominantly owners, not tenants (Dyrvik, 1977).

Several factors have contributed to keeping this situation relatively stable, not least in ideology promoting personal farmer ownership to rural land, and laws and regulations based upon such ideologies, as well as the “allodial right” (Nor. *odelsrett*). This is a right for members of an extended family to claim rural properties (farmland, infields as well as outfields) if the property is sold to a person outside the family, or to a member of the family with a lower rank in the list of the allodial succession. In cases of

such forced sales the purchase price of the property is assessed by a special local board, on the basis of the value of the property as used for agricultural or forestry purposes. It should be observed that allodium is a right, but not a duty in a legal sense, even if it is commonly said to be felt like a duty in a social sense. It is a fairly complicated legal arrangement, and its effects can work in different ways. Two important aspects are:

- 1) The allodial right can only apply to human beings, never to a legal person or body such as an organization.
- 2) The crucial issue is kinship, not occupation or residence, etc. From the first aspect it follows that all sales of allodial property to a legal person -the state, another organization, or a company, etc- will almost certainly activate allodial right for somebody. This contributes to explaining the remarkable stability of the exceptionally high percentage of ownership by physical persons. From the second issue it follows that whether the right-holder is a farmer or not is of no relevance, family counts, not other features related to the person in question.

Summing up, it seems reasonably that these – as well as other factors- both institutional and economic (land laws, taxation, etc)- promote transactions (conveyance) of farms and outfields within the owning family, and vice versa they create serious obstacles for market transactions in such lands and rights.

These factors contribute to explaining a very important and rather striking development of the last two and three decades: a massive change from almost 100 % farmer ownership of farms, outfields included, to a far lower percentage of farmer ownership. The mechanism here is the profound reduction in the number of active farms. In 1950 there were 200.000 farms in Norway, many very small, and offering only a part-time livelihood in agriculture, forestry, and related rural occupations. Today there are slightly over 50.000 active farms, many of which offer only part-time livelihoods (Randen 2002, Korsvolla *et al.* 2004).

The reduction in the number of holdings, i.e. property units, is by no means in proportion to the reduction in the number of farms; of the 200.000 units in 1950, 170.000 units are still in existence, not as active farms but as property units. The cultivated land may be rented out to neighbouring farms, or not used at all, while the houses are in use as ordinary residences or for recreational purposes. The important point here is that these farms are not sold – or subdivided and sold- to neighbouring farms. In general, the present owners are descendants of the former farmers -but they are themselves not farmers- and an increasing number of them neither live on the property nor in the local community: they have become absentee owners. The most common situation is that such “farms” are used for residential purposes only, though with huge variations; in some remote areas most might be used for recreational purposes only, or not at all.

#### 4.3.3. The property rights

There is a wide variety of property right arrangements, as one might expect from the diverse natural environments, and historical developments, etc. Six principal types may be considered: fee simple, leasing, usufruct rights, easements, commons, and *allemannsretten*.

- 1) Fee simple: One person, a physical human being or a legal person (corporation) owns a property unit completely. That means that the owner is not restricted in any

way in his use and transaction by others, except for public control of land tenure and land use, and possible mortgage holders. This is the dominant type of tenure for urban land, and also, with some exceptions, for agricultural land. All property rights in the particular land are bundled together and rest with one owner only.

2) Leasing: This tenure form is based upon a contract between the owner and the holder. The tenure arrangement between them is regulated in contract law, not property law. The arrangement may comprise the total property unit, physical part of the unit or even functional parts of it. Such types of tenure is very common for urban land, and to certain extent and in special form, for agricultural land.

3) Easements (servitudes): Rights to do something or right to prevent something on the real property of somebody else. This means that a certain portion of the total bundle of rights comprised by property right is held by another person than the title holder. The legal base for the easement could be a very old arrangement whose origin can not be traced anymore. In the Norwegian tenure system such rights have an equal status as title, they are legal in the same sense, and is equally well protected in law. The easements might be fixed permanently to a property unit, or held by a physical or legal person for a specified period of time. They are very common and are found in all parts of the country, and deemed to be very useful to create a dynamic and flexible system. The distinction between easement and leasehold may not always be clear.

4) Commons: This is also a very ancient and traditional type of tenure. The State, and in some cases a group of locals, have the title to the land, but a specified local community have extensive collective rights to use the land for a multitude of purposes. Pasture, reclamation for agriculture, timber and firewood, hunting and fishing would be the most important. The use of river systems for hydroelectric development belongs to the title holder, i.e. the State. Huge areas in the mountains and the north of Norway are dominated by this type of tenure. In Norwegian a distinction is made between *realsameie* (farms commons), which is a special kind of joint ownership, state commons (Nor. *statsallmenninger*) and parish commons (Nor. *bygdeallmenninger*).

- Farm commons are owned by a group of property units, usually farms, but other farms or property units might have usufruct rights in the land as well. The ownership is held in common by the properties in question, in such a way that each unit has (owns) a specific share of the land as such, as well as of all the resources therein. The farm commons do not constitute property units in themselves –there are not property units in a cadastral sense- but the relative shares are integrated parts of the owning property units.

- The state commons are called so because the state is landowner, but a specific local community has rights of common in the area. The position and the user rights of the local community are fairly strong, the normal wording being that a specific common “belongs” to a specific local community. It is hard to define a state commons without relating it to a local community. Each state common is a separate property unit in a cadastral sense. The user rights held by farms in the local community are defined by current needs, qualitatively as well as quantitatively. This brings a strong dynamic element into the rights system, and

is a very important difference between state commons and farm commons; in farm commons each shareholder owns their share, and might use it as they wish, independent of any need, past or present. These commons represent 8,2% of the total land area of the country. Most of these commons are mountainous, only 7% of them are productive forests. They are distributed unevenly in the mountainous parts of Southern Norway.

- Parish commons are very similar to state commons, the most significant difference being that the ownership of parish commons rests with the local community – *bygd* - here translated into “parish”, to signify that this is a smaller unit than the modern local authority district (*kommune*).

5) Allemannsretten. This term literally means “every man’s rights” or “all people’s right”. This right is essentially a right of access for everybody to the land and to some resources in the outfield, based on customary law, but turned into formal legislation by the Act on Open Air Recreation (Nor. *frilufsloven*) in 1957. The elements of this body of rights concerning us here are the right of access for everybody to roam, hike and camp, take dry wood for fire, and gather wild berries, nuts, mushrooms, etc in the outfields. The outfields are understood as all uncultivated and undeveloped land, all year round. In winter, when the land is frozen or covered with snow, the right of access also applies to cultivated land.

#### 4.3.4. Property transactions

Regarding transactions, the owners have exclusive power to do all kind of use and transactions which are not explicitly forbidden in law or regulations. However, a lot of legal types of use and transactions are still regulated in law in such a way that certain procedures have to be observed. Some of the most commons transactions are regulated:

- a) Selling a property. In some cases, most notably for agricultural properties, the transaction needs concession (approval) from public authorities, regarding both the new owner and price. In any case the deed has to be registered in the legal land register to make the new title valid.
- b) Contracts establishing easements, leaseholds, mortgage and similar transactions are normally valid without concession and without being entered into the land register, but leasehold arrangements have to be register if the duration exceeds 10 years. However, to have such transactions registered gives security and protection against eventual claims from a third person, and are normally done, except for short time renting of additional agricultural land. The information in the legal land register have so called “trustworthiness”; a person in good faith, should be able to do safe transactions on the basis of the information in the register. If losses still should occur, due to mistakes in the registration, such a person may claim compensation from the state. Very few such claims are made, less 10 per year, out of a total of appr. 1 million entries annually.
- c) Subdivisions of property units are rather strictly regulated, such operations, both the subdivision as such, and the new boundaries need approval from proper authorities. The actual operations; surveying, documentation,

demarcation and so on, have to follow certain procedures and standards, and are (normally) performed by the surveying section of the municipal administration.

- d) Reallocation of land, establishing of joint infrastructure like access road, fences and drainage for several property units, regulations (rules) for commons, settling boundary disputes and a multitude of similar operations are made by the Land Consolidation Court. The point is that in case all the owners and right holders agree, and otherwise follow laws and regulations, they may perform these transactions among themselves as they wish. In cases of disagreement, even if only one out of many disagree, this one or the others may take the case to the Land Consolidation Court. Here a solution will be made either by ruling of the court, or a solution will be found by mediation and negotiations among the parties. The latter are becoming more and more frequent.

#### 4.4. PUBLIC CONTROL ON LAND USES AND REAL ESTATE

The institution of property right is deeply rooted in Norwegian society; but there is however a large body of legislation, and also some political controversy, devoted to the problem of public control of tenure and the use of real property. From an owner's point of view this will often be seen as limitations and even sometimes unfair encroachments on his rights. From a "public" standpoint this may be seen quite different. One crucial question, on which this controversy often ends up, is to what extent compensation should be paid to owners for restrictions imposed on them, in their use and transactions with real property.

There are basically two kinds of public control of real estate: land use control and control of transactions.

Land use control. Land use planning is generally applied to all the territory of Norway, in various forms and with varying degree of detailed regulations and legal consequences. It is based on national legislation and standards, but municipal authorities play a crucial role in the activity, both in the planning and the enforcement processes. The main legal instrument is the Planning and Building Act (PBA). Each municipality administration makes, according to this law, a plan regulating all forms of land use in a certain area. Formally, the area plan has to be finally approved by The Ministry of Environment, but the Ministry seldom objects to the plans.

State control over land use, in addition to the Land Act and Plan and Building Act; is also carried out through national legislation e.g. in the following fields:

- wildlife and hunting
- fishing
- hydro power development
- nature protection, natural heritage, cultural heritage
- outdoor activities and freedom to roam
- fish farming
- expropriation of lands

The land use planning and management system is to a great extent decentralised, so the management of this legislation is for the most part left to the local communes and the county governors. Regulatory measures as indicated here apply to all lands regardless of ownership. Special restrictions apply to the use of national park lands *et al* (Anderssen, 1998).

Control of transactions is most strongly applied in rural areas, to farms and forest land. It comprises several components, the most important are:

- a) control of *ownership*; to buy a farm the buyer has to get approval from the local government, and settle (live) on the farm for the next 5 years. The aim of this is to enhance local settlement, and farmer's ownership.
- b) control of the *price* to keep it at low levels; the aim of this is to enhance the economy for the active farmers, and to prevent speculation in farmland.

The two regimes, property right on one hand and public control on the other, constitute the basic framework for use of, and transactions with real estate (Sevatdal, 1999).

#### 4.5. FINAL REMARKS

The basic idea that has to be extracted from this chapter is that the current property conditions in rural Norway have developed slowly during centuries. No revolutions were produced in Norway, so old property conditions as well as institutions, have not disappeared overnight. They have changed in the course of history, but sometimes maintained their –more or less important- role in property conditions and institutions of today. Path dependence is a concept from institutional theory (North, 1990) that comes to mind to understand this phenomenon.

My point is, however, that the introduction and development of the land consolidation have to be understood in this historical setting.

Changes in the society and the declining of importance of the agricultural activities modify the property conditions (including the land units, the owners and the rights), and an example of this changes is that the land consolidation court has nowadays competences in urban and semiurban settings.

## 5. LAND ADMINISTRATION IN NORWAY. CADASTRE AND LEGAL REGISTER

### 5.1. INTRODUCTION

The information concerning the Norwegian cadastre and legal register systems was mainly extracted from the articles “A Comparative Study of the Cadastre in Norway and the Cadastre in Spain”, by Ekvedt, S.L. (2006) and “Cadastre and Land Registration in Norway”, by Onsrud, H. (2003), and from the Norwegian Mapping and Cadastre Authority’s web site (<http://www.statkart.no>).

#### 5.1.1. Origin and development of registration systems in Norway

Formal registration of properties started in the medieval times, but the current legislation and system came into practise during the last century, based on the German system. However a proper cadastre, based on professional surveying and mapping of boundaries only existed in the bigger cities until 1980. Until the current law on the cadastre came into force in 1980, new parcel boundaries in rural areas were described by appointed lay men, and registered in the legal register only. The low standard in surveying boundaries has resulted in a larger number of boundary disputes than in other corresponding European countries. In bigger cities the local cadastrals, based on professional geodetic surveying and mapping, have been in existence since the 19<sup>th</sup> century.

The cadastre, as it was designed in 1665, had the primary task of being the database for the levying of taxes. This system was in use until 1838 and, as the tenure system changed, it was adapted and revised successively. A very important change in the taxation system took place around 1900, from the tax on property in terms of *skyld*, to a tax on property value in actual monetary terms (Nor. *formue*) and on net income. The cadastre then lost much of its importance, but remained important for other purposes, the most important was to keep order of the register of property units, the identification system and specially the formation of new property (cadastral) units. It is also an important data source particularly for the municipalities.

The legal register grew out of the requirement of making transactions with land publicity known in certain ceremonial forms at the local assembly (Nor. *ting*). This institution date back to the Middle Ages, but it evolved and was modernised in various ways. The first step in the modernization process was the recording of the proceeding in writing, a task given to a special civil servant, a “sworn” scribe (Nor. *sorenskriver*) around 1600. This office soon developed into a local judge, and today we find that the *ting* has been turned into a local court, dealing with legal disputes solely. The legal register was centralised in the final stages of the process to the National Mapping and Cadastre Authorities.

It can be said that the focus for investing in a public infrastructure for land issues has somewhat changed over time, from:

- a) taxation, to
- b) protecting rights and facilitating the use of land as security for loans, to
- c) facilitating public land management.

However, it must be underlined that widespread and secured private ownership to land has never been disputed as a major factor for economic and social development in Norway (Sevatdal, 2007).

#### 5.1.2. Role of cadastre and legal register nowadays

In Norway the land information and the land markets are supported by two basic registers; the legal register (land register or land book – Nor. *Grunnboken*), and the cadastre (Nor. *Mattrikkelen*).

- The legal register is basically a juridical register, based on a title registration scheme comprising rights in real property. The legal register identifies the name of the current owner, as well as all registered rights in the property through filing extracts of the document in the register itself. Registration is however not mandatory. It has two parts: the archive (containing files, documents) and the register strictly speaking (containing information about rights on real estates). This register was before held under the local courts under the Ministry of Justice, but, after the Parliament decision in 2002, was transferred to the National Mapping and Cadastre Authority.
- The cadastre, updated by the municipalities, includes information about all property units, buildings, addresses and comprises cadastral maps as well. It contains “technical” information about parcels, buildings and addresses, and is, inter alia, the main data source for local authorities in their undertaking of land use planning, handling building applications, etc. It is also the information source for calling up local fees for water, sewage, etc.

Administration and responsibility of the cadastre and the legal register are held at three levels; by the Ministry of Environment, by the Norwegian Mapping and Cadastre Authority (NMCA) and by the municipalities (for the cadastre only).

The Ministry of Environment has the superior political and economic power governing both institutions.

The NMCA is the national map institution and takes care of Norway’s need of nationwide geographic information, map series and property information for Norway’s mainland-, coast- and sea areas around Norway and Svalbard. The registration of data in the legal register, before undertaken at the 87 local court offices, is nowadays carried out by the NMCA. The two central databases, for the legal register and the cadastre respectively, are hosted on the same computer, thus providing an integrated on-line service to users. *Norsk eiendomsinformasjon* Ltd is the company responsible for the development and maintenance of these softwares.

The role of the municipalities is to update the cadastral information, including the surveying. The formation of property units through subdivision and amalgamations has to be made also by the municipalities.

Some statistics about general data on land issues in Norway are shown in the next figure:

Feature	Numbers	Comments
Total surface of Norway	324.000 km <sup>2</sup>	
Number of municipalities	431	In charge of cadastral surveying locally and registering data in the cadastre
Number of local court offices	87	Registering data in the legal register (from 2002 transferred to the NMCA)
Total number of parcels	2,4 millones	
Number of cadastral surveys	25.000 (10 % are leasehold parcels)	Additional 25.000 surveys are undertaken for adjusting exiting boundaries.
Number of land sales	Aprox. 140.000	Number of deeds registered
Number of mortgages registered in the Legal Register	Aprox. 450.000	

Figure 15. Numbers on land issues in Norway. Source: Onsrud (2003, p.5)

### 5.1.3. Norwegian Mapping and Cadastre Authority

The Norwegian Mapping and Cadastre Authority (Nor. *Statens kartverk*), is a state agency for cadastre, geodesy, topographic and hydrographic mapping. From 2004 is also responsible for the legal register (the transfer from the local courts is going to be completed in 2007). Funded by the State budget, all incomes go to the Ministry of Finances. The agency has a staff around 600 people.

The NMCA is the national provider and administrator of geographical and cadastre information. Its tasks are:

- Define frameworks, methodologies and specifications for the Norwegian Spatial Data Infrastructure
- Produce, manage and make available the geographical information defined as a government responsibility
- Geodetic network and services for accurate positioning
- Primary data series and digital map series (land and sea)
- Cadastre information
- Land registration
- Development and manage electronic services for distribution of data (wms- and wmf- services)
- International cooperation and projects

The NMCA is divided into four sections: Geodesy, Land, Property and Sea, the property division is in charge for the cadastre. There are 12 county offices under the national division.

- The Geodesy section has the responsibility for the national horizontal and vertical groundwork. This is the formation for all position determinations, surveying and mapping.
- The Land section has the responsibility to establish and administer map data and geographical information over Norway's mainland. The areas the section covers include maps and map data, area, environment, administration, technology and production development.

- The Property section has the responsibility of the cadastre and legal register.
- The Sea section has the responsibility of surveying the Norwegian coast and Norwegian Sea areas, including polar waters. It prepares and updates electronic and printed ocean maps and water descriptions for these waters.

The NMCA operates the cadastre and the legal register, registering new data into both databases. Both databases are kept together, so a integral on-line service is provided to the users. The company responsible of the development and maintenance of both softwares is *Norsk eiendomsinformasjon Ltd.*

## 5.2. THE NORWEGIAN CADASTRE: *MATTRIKELEN*

### 5.2.1. Introduction

The current cadastre was established during a period of approximately ten years from 1978. The initial establishment was mainly based on data from the legal register, and from various sources in the municipalities. The cadastre has been gradually improved over time, and there are still improvements needed when it comes to data quality and data completion.

There is no uniform cadastral map covering all Norway, there are important differences in map quality between urban, rural and mountainous areas. In remote areas there are no good cadastral maps at all, and there is no intention of introducing them. This situation can be explained considering that there is less need for quality maps in rural areas with little building activity, than it is in urban areas with a lot of building activity.

Information and registrations in the maps may as well differ slightly from municipality to municipality because they have the main responsibility for surveying, map making and registration of information in the cadastre in their own municipality, though with central guidelines.

In June 2005 a new law on land registration was voted by the Parliament. It was meant to come into force on the 01.01.2007. The new law introduced a new system that was to be called *Matrikkelen* (cadastre). The new system is to replace today's GAB-system and the Digital Cadastral Maps (Nor. *Digitale EiendomsKartverk*, DEK) and unite these two into one system. Another change wanted by the previous government was that the municipalities should in principle have monopoly on property surveying. The actual situation is that the municipalities have monopoly on it, but hire private surveyors as well.

### 5.2.2. Type of cadastre

According to Dale and McLaughlin (1999 p. 10-11) there are four types of cadastre systems: juridical, regulatory, fiscal and multipurpose cadastre. The juridical cadastre is most concerned with holding and registration of rights in land, the regulatory with the development and use of the land, the fiscal economic utility of the land and the multipurpose cadastre includes all the three cadastres mentioned above.

Today's cadastre of Norway is a multipurpose information cadastre. The multipurpose cadastre is a modern cadastre which includes several types of information in one system.

Until 1900 the cadastre's main purpose was levying of taxes and to provide a system for identification and creation of property units. This cadastre came into being in 1665. When the taxation system changed in 1900, the cadastre lost its importance for taxation purpose. Today the property tax is on its way to a reintroduction. The present system (GAB) came into being in 1980 as a multipurpose information system about land (Nor. *Grunn*), addresses (Nor. *Adresse*) and buildings (Nor. *Bygninger*).

### 5.2.3. Information in the cadastre system

The cadastre consists of a central database ("GAB-system") with textual information about properties, buildings and addresses, and cadastral maps held locally by the respective municipal surveying office. There are two types of information registered in the cadastre, alphanumeric information and geographical information.

It has to be taken into account that the Norwegian cadastral system is a property based system (versus parcel based system). The cadastral information is referred then to "properties". A specific property can include more than one "parcel" or property unit; so each individual parcel is not identified, but the whole property to which the parcel belongs to.

The following table indicates some major features of the central cadastral database:

Property information	Building information	Address information
Property number	Building number	Street name and house number
Surface/area	Type of building/use	Information about various districts (school, parish, statistical area, etc)
Current land use	Number of floors	
Owners name and numeric identifier (transferred from the legal register)	Numbers and data about each flat (m <sup>2</sup> , number of rooms, etc)	
Owners postal address		
Geographic co-ordinates for a reference point	Geographic co-ordinates for a reference point	Geographic co-ordinates for a reference point
Reference to cadastre map sheet		
Cross references to building number(s) and address(es)	Cross references to parcel number and address(es)	Cross references to parcel(s) and building number(s)

Figure 16. Information contained in the cadastral database. Source: Onsrud (2003, p.7)

Under follows some statistics of what that is registered in the cadastre:

Features	Numbers
Property units	2.310.000
Addresses	3.200.000 (2001)
Buildings	1.800.000 (2001)
Rented sites	180.000
Sections in condominiums	276.000

Figure 17. Numbers on registered information in the cadastral database. Source: Onsrud (2006 p. 209) and Onsrud (2005)

- **Property units** are areas that are geographically registered as real properties defined by property boundaries on the surface, but that stretch up in the air and down in the ground as far as private ownership reach
- **Rented site** is a special type of property sub unit. It is a closer defined part of a property for long-time-renting for building purposes. Renting of land has been a very common form of holding property in Norway.
- **Section in condominiums** is a closer defined part (section) of apartment buildings or buildings for business purpose.

The government (municipality or state) do not guarantee the reliability of the information in the cadastre, as it does for the legal register. Public liability for the cadastre is in line with liabilities for other catalogues or collections of information made by a public agency; so generally it is accepted that no party can claim compensation based on claims that the information in the cadastre was wrong.

#### 5.2.3.1. Property units' identification

Property units are identified by means of a unique identification number. This is created each time a new property unit is registered in the cadastre for the first time, for instance in cause of a subdivision or amalgamation. The municipalities assigns the official parcel numbers when they register a new parcel in the cadastre. In addition to the parcel numbers, the cadastre contains the official identifiers for buildings and flats, as well as the officially assigned street names and house numbers. Only numbers listed in the cadastre should be used in the legal register, the register of persons, and other public registers which contain information about parcels and buildings and/or include addresses.

The identifier consists of the number of the municipality (4 digits), the cadastral zone within the municipality (4 digits) and the parcel number within the cadastral zone. A typical number may look like this: 1234-5678-21. It is also possible and widely used to add sub numbers to signify for example rented sites, parcels and sections in condominiums.

Cadastral Unit	Municipal number	Auxiliary number ( <i>gårdsnummer</i> )	Property number ( <i>bruksnummer</i> )	Rented site number	Section in condominium number
Property unit	1234	567	89		
Rented site	1234	567	89	1	
Section in condominiums	1234	567	89	(1)	1

Figure 18. Property unit's identification numbers. Source: Onsrud (2003 p. 217)

Since 1980 this system has been uniformly for all of Norway, both in rural and urban areas. Both the cadastre and legal register are organized with these units. The identification in both registries has been the same at least since the beginning of the 17<sup>th</sup> century. The identification number is automatically interchanged between the cadastre and legal register in this respect.

### Creation of a new property

A new parcel is given the first free *gårdsnummer* in the municipality area. When a new property unit is created, it will always take the form of subdivision of existing cadastral unit. For instance, let us assume that a property unit is divided into two units. In Norway this operation will be treated, not as a formation of two completely new units, but as a subdivision. This conceptually means that one of the two products will be regarded as the “mother unit”, the other as a “daughter unit”. About the identification of these two parcels, the mother unit will retain the original property unit identification number, while the daughter one will get the first available number under the auxiliary *gårdsnummer*. It also follows that the “mother unit” retain all rights, etc; not positively mentioned to the subdivided, or to go with the new unit.

Leasehold parcels are numbered under the number of the respective freehold parcel. A number for leasehold parcel will look like: 1234-5678-21-1.

### Buildings

The register includes all the buildings in Norway. Each building is given a unique national building number of nine digits. The last digit is a calculated control digit. This ensures that a building maintains its original number even if it is transferred to another property unit by subdivision.

### Housing Numbers

Flats are identified by a housing number. The housing number consist of the municipality number, the street number, house number, floor number and number of entrance door.

### Addresses

The official addresses are identified by the street number and house number. In areas where such information does not exist, the official address will be the identification number of the property unit. The official address must not be mixed with postal address, which can be a post box etcetera.

It should be underlined that a parcel being the legal property unit, in Norway may consist of several separate pieces of land, plots. Plots are not individually numbered, which means that legal documents can not be registered in the legal register for a particular plot.

This is particularly common for farms. The whole farm is then considered as the property, identified by a single property number. This means a mortgage will be linked to as many separate plots of land as the property consists of. It also means that control of land transfer is exercised on the level of the whole property, including all its separate plots. (Selling of one separate plot of land requires *permission for subdivision*, even when no new boundaries are created, however without surveying the boundaries.)

A consequence of this model is that we need to separate between the physical property units and the legal property units. On top of this the “economic property unit”, which should be understood as the object valued as one entity for taxation, or used as one unit in commercial terms. In some cases the economic property unit may consist of several legal units.

The legal property unit (used as collateral) always includes buildings and other permanent constructions on the land, including trees. Separate ownership to land and building is not allowed, unless the land is leased and a lease contract is registered in the legal register. The different kinds of objects are shown in the table below:

<b>Object</b>	<b>Definition</b>	<b>Use</b>
<u>Plot</u> (Physical property unit)	A closed polygon with uniform ownership	The smallest unit shown in the cadastral map
<u>Parcel</u> (Legal property unit)	All land and permanent constructions on the land registered as one property in the legal register. Flats or sections in condominiums are also considered legal property units	Is the object for mortgaging and registration of other rights in the legal register. May consist of several plots
<u>Economic property unit</u>	All land and permanent constructions on the land considered as one object for valuation and taxation. Normally also the object considered one entity in commercial terms	Is the object valued for taxation. May consist of several legal property units

Figure 19. Definition of physical, legal end economic property units in Norway. Source: Onsrud (2003 p. 13-14)

#### 5.2.3.2. Alphanumeric information

*Matrikkelen* contains technical alphanumeric information about land, addresses and buildings, but now also information about flats (Nor. *leilighetsregisteret*). The NMCA is the administrative body, but the municipality has the daily responsibility of entering and updating of the information.

In figure 20 below the alphanumeric information in the cadastre is described. In the right column follows an example of how this information is registered. The property unit used in the example is the property unit of the town hall in Re municipality in south-east of Norway. The information is collected from the municipality's online cadastre service.

Not all information was available from the online service; this can either be because some information is not public, however also because all information has not been registered in the cadastre. This is one of the negative sides with the GAB-system: it contains a great number of lacks. There are many things that should have been registered that are not, there are registrations that are incorrect, and there are registrations that should have been deleted that are not. It must be said that the information in the cadastre are mainly used by the municipality itself, and not so much private persons, as a reason for why there are so many lacks.

Information	Description	Example
Title holder	Name (or name of company) Address	Re kommune Regata 3, 3174 Revetal
Property unit	ID Address X- and y-coordinates for reference point Surface Date of establishment Current use Historic information  Public instructions Polluted ground Cultural monuments Commercial data Cross reference to buildings and addresses	0716/85/49/0/0 Regata 3, 3174 Revetal 152685, -25790  7109,71 m <sup>2</sup> 14.10.2003 Commercial-, centre area Subdivided from 0716/85/1/0/0 on 14.10.2003 - - -
Building	Building number X- and y-coordinates for reference point Name and address of the formal and responsible developer (Nor. <i>tiltakshaver</i> ) Building type  Status of building Constructed surface Number of floors Surface per floor Elevator Water and sewage Cross reference to property unit and addresses	19438015-0 - -  Office and administration, town hall Started 01.01.2004 4335 m <sup>2</sup> 4 - Yes Attached to public water
Flat	Surface Surface use Number of rooms Number of WCs and bathrooms Heating	
Address	Official address (street name and number) X- and y-coordinates for reference point Auxiliary unit/statistical area Constituency Parish School district Postal area  Cross reference to property unit and buildings	Regata 3, 3174 Revetal - Nr. 201 Revetal  Nr. 2 Revetal Våle Nr. 6 Revetal, 3174 Revetal -

Figure 20. Alphanumeric information. Source: Onsrud (2006 p. 220) and www.statkart.no.

### 5.2.3.3. Geographical information

The cadastral maps in Norway are produced by the municipalities, and until recently they were only held at a local level; in other words, there has never existed a national cadastral boundary database in Norway.

From 1965 to 1990, a topographic national mapping programme was carried out for the first time in Norway. The results of this work were called “economic maps”, which include information about property boundaries and other cadastral issues in urban, semi-urban and rural areas. Remote rural areas were not included. These maps, once digitalized, were the cadastral maps of the rural areas.

The cadastral maps contain information about property boundaries, boundary marks, boundary lengths and reference points for cadastral unit, building and address with belonging descriptions. When a property unit is matriculated the municipality produces the “cadastral document” for the property unit, this document contains the alphanumeric information that is registered and the cadastral map. In July 2004, 83 % of the real properties registered in the GAB-system were also included in digital cadastral maps. It is a goal to get *all* Norway’s area on digital cadastral maps.

Urban areas have historically had generally high quality on maps in both precision and completeness, while in remote areas there are no good maps at all. A result of this is a great number of boundary disputes in rural areas. A reason for the difference in quality is that there has been less need for maps in rural and mountainous areas than in urban areas.

Norway’s cadastre has today no fiscal purpose thus is boundaries less important in areas with less building activity. When Norway before 1900 had a fiscal cadastre, the taxes were based on other products than the surface and property boundaries and therefore maps had little importance historically.

Regarding the scales of the cadastral maps, there are three scales generally used: 1:500, 1:1000, 1:2000, depending on the characteristics of the area itself (urban, rural, etc.). Municipalities decide the scale of the maps.

### 5.2.4. Administration, operation and costs

Administration and responsibility of the cadastre are held by the Ministry of Environment, the Norwegian Mapping and Cadastre Authority and the municipalities. The municipalities are the responsible as a last resort of the updating of the cadastral information:

- Alphanumeric land information: the municipalities report new property units, create new identification numbers, register rented sites, sections in condominiums, subdivisions and amalgamations and change other data in property units.

- Address information: the municipalities give official addresses (street name and numbering).

- Building information: they enter data about the approval of new buildings, extension of buildings, start up of new buildings, furthermore when new buildings/extensions is taken into use, when buildings is changed in such a way that demands updating of the register, when buildings are tore down, lost in fire, lost in nature catastrophe or in other way and more.

In accordance with the current law on the cadastre (Land Subdivision Act, from 1978) the municipalities have the monopoly on cadastral surveying. The municipality, but not the landowner, may contract a consultant to undertake surveys, but this opportunity is not frequently utilised; less than 3 % of the surveys are currently done by private surveyors. Surveying fees are decided by the municipal council within cost recovery as the upper limit. Within one municipality there are fixed fees, not reflecting the cost of the individual survey.

The cadastral maps are maintained and held by the municipalities. Larger municipalities have converted maps to digital form, to be integrated with the Cadastral database on local level. The National Mapping Authority has started a program to build a national parcel boundary database, which was completed in 2006. The program is a joint effort with the municipalities based on cost sharing. The national database shall facilitate the next generation of the cadastre, which then will include digital maps closely linked with the alphanumeric information.

Legislation is quite flexible regarding the precision of the cadastral works, but in general the geodetic precision is +/- 2 meter in rural areas and 0,2 - 0,5 meter in urban areas. When it comes to reconstruction of boundary corner points, expropriation, or construction which needs precise boundaries, the data will be referred to the relevant cadastral surveys, or a new field survey will be undertaken.

As an aside, it has to be mentioned that corner points are generally monumented in Norway using standard markers in aluminium.

Costs of the different cadastral tasks, in form of fees, are decided by the municipalities. There are fixed fees for some works, like subdivisions.

Registration of data in the cadastre in the municipalities, including updating of the cadastral map, is covered by users fees, but only partly because some data originate from the municipality itself.

The operation, maintenance and upgrading of the cadastre database is partly (50%) covered by income from sales of data, and the rest is paid by the Government through the general budget allocation to the NMCA. The distribution of the data from the cadastre is covered by the income got from the selling of the data. First time registration or mapping of boundaries (undertaken for rural areas 1965-85), was paid by the Government as an investment in basic infrastructure.

### 5.3. THE NORWEGIAN LEGAL REGISTER: *GRUNNBOKEN*

#### 5.3.1. Legal register reform

The Norwegian legal register, as a juridical register, comprises rights in real property. This book, before held under local courts under the Ministry of Justice, and still supervised administratively by it, was transfer to the National Mapping and Cadastre Authority in 2002.

The main objectives for this action were:

- making courts concentrate on land disputes only, recognising that the administration can ensure legal security
- achieving better co-ordination between cadastre and land registration, particularly in development issues
- streamlining uniform services throughout the country

- facilitating electronic documents, e-signatures
- lowering costs

In spite of the transference of the legal register to NMCA, hitherto separate databases, separate laws, and two separate divisions for cadastre and register are maintained, not existing common business processes for cadastre and legal register yet.

The legal changes following the legal register reform consist in changing only a few words in one single article:

Before LR reform	After LR reform
Land registration is performed by (a judge at) first instance courts	Land registration is performed by one or more registrars at <i>Statens kartverk</i> as decided by the Ministry, otherwise by a first instance court
The judge can delegate his responsibilities to clerks	A registrar at <i>Statens kartverk</i> should have a law degree. The registrar can delegate his responsibilities to clerks
System for appealing (to second level court) and claiming compensation (MoJ) kept unchanged	

Figure 21. Legal changes before and after the legal register reform. Source: Onsrud (2006)

### 5.3.2. Information in the legal register

The legal register comprises rights in real property, identifying the name of the current owner as well as the registered rights in the property through filing extracts of the document in the register itself.

Registration is however not mandatory. A contract is valid and legally binding between the parties even without registration, but registration gives protection against third parties. Several laws, as for example the Building and Planning Act, refer to the registered owner (the title holder) as the proper person in position to execute the rights and obligations of ownership. In fact 100 % of land sales, and mortgage documents are registered on the legal register.

No legal property may be registered in the legal register unless it is surveyed and registered in the cadastre beforehand. This is controlled at the legal register office, which also is obliged to check that several other legal provisions for transferring land is fulfilled. The legal register offices are thus playing an important role in controlling land use and ownership.

In general the legal register is very reliable. Any party registering a right in a property can be confident that the right is not challenged by any other rights than those which are registered before on the same property. Any party can trust that the listed owner is the real or legal person in position to exercise the rights of the owner. A party can trust that the Government will compensate any loss due to incorrectness of the register, provided that he or she has been in good faith.

### 5.3.3. Administration, operation and costs

Administration and responsibility of the legal register are held nowadays by the Ministry of Environment and the Norwegian Mapping and Cadastre Authority.

Registration of data in the legal register is undertaken in one single registration office at NMCA headquarters. The practical work is done by clerks trained internally, but the filing of data shall be supervised and controlled by a judge. In practise the control is limited to special cases which need the attention of legal expertise.

The filing of data is done in two steps, where the information entered into the register by the first person is checked and legally confirmed by another person. The latter may be a judge or a senior clerk authorised by the judge to undertake the legal confirmation. The whole filing process is accomplished within one day.

Documents are normally entered in the legal register the same day they are received at the office, most frequently submitted by regular or registered post. Around 5000 documents are received each day, so far on paper only, but the electronic crossing out of mortgages started this year. The registration process takes 4 days:

- 1<sup>st</sup> day) reception of document and making daybook
- 2<sup>nd</sup> day) registration
- 3<sup>rd</sup> day) confirmation
- 4<sup>th</sup> day) return of registered document by post and invoicing

Claims on registration, most typically if the judge has refused to register a transaction, are dealt with by courts of appeal on regional level. In general the Government is liable to any economic loss which can be referred to incorrectness of the legal register, provided that the party having had a loss has been in good faith. Even losses due to fraud, as for example resulting from a property sold by using a false signature are covered by the governmental guarantee. If an indemnity is agreed by the court, the amount due will be paid out by the Ministry of Justice.

The legal register is more dynamic than the cadastre. In total there are currency made about 900.000 transactions in the legal register per year, and about 40.000 in the cadastre (effecting information about parcels, not including changes only concerning buildings and addresses).

Regarding the writing of legal documents, it has to be mentioned that the system of private licensed notaries with a monopoly on writing these documents, does not exist in Norway. The private individuals may write deeds or other documents for registration in the legal register without seeking professional assistance. Deeds are however normally written by a lawyer or most frequently by a real estate agent. Almost all sales of land do involve a professional middleman, not least to ensure a safe settling of the agreement when it comes to the transfer of the money involved. Private practising lawyers are generally licensed to act at real estate agents, but most real estate agents have a specific license based on a two year education at a business school.

Costs coming from registration of data in the legal register are fully covered by fixed user fees, according to the “document fee” (Nor. *dokumentavgift*). There is a fixed fee for registration of deeds.

The operation, maintenance and upgrading of the legal register database, as well as distribution of data from the legal register are covered by income from sales of data.

## 5.4. THE LEGAL REGISTER AND CADASTRE DATABASES

### 5.4.1. Operation of the legal register and the cadastre databases: *Norsk eiendomsinformasjon Ltd.*

The administrative operation of the legal register and the cadastre databases is carried out by a company owned by the Ministry of Justice. This company (*Norsk eiendomsinformasjon Ltd*) is:

- responsible for system improvements and for purchasing technical services from private sector companies
- responsible for daily monitoring of the functionality of the central database
- issuing and maintaining the contract with the technical operator of the database, based on tendering
- in charge of the selling of data, mainly through an integrated on-line service to users of the two registers, both in private and public sector

The two databases are hosted on the same mainframe computer to facilitate safe and easy exchange of information between the two registers, as well as to facilitate an integrated service to users.

The costs for the operation of the central database are covered by the general budget of the National Mapping and Cadastre Authority provided by the state. Approximately 50 % of the costs are recovered by income from sales of data.

### 5.4.2. Access to information. Interconnection between cadastre and legal register

Both the cadastre and the legal register are open for everybody, though a fee has to be paid to access the information. The only data element not generally open to the public, is the personal identifier. The on-line service is offered to users in both private and public sector.

The cadastre is mostly used by the public, organizations and agencies at different levels; municipality, county and government, whilst the legal register is used by private persons.

The cadastre plays an increasingly important role for various branches of the public sector, particularly for the municipalities. It is for instance providing the basic information about land and buildings needed for calling up charges on municipal services for water, sewage, renovation and more. Data about boundaries and title holders play an ever more important role in land use planning, land management, environmental protection etc. Furthermore the information in GAB is of great value for different occupations like the financial and real estate market, the government and municipal staff, for different planning purposes, contractors and for national statistics.

The cadastre is continuously updated by the municipalities as resulting from cadastral surveying, issuance of building permits and assignment of street names and house numbers. Most of the municipalities are linked on-line to the central database, but very small municipalities may communicate by sending paper forms to the NMCA.

Nowadays, frequent transferences between the cadastre and the legal register are done. The name of title holder and property unit identification numbers are directly transferred from the legal register to the cadastre whenever this is changed (daily). All

land transactions, including the sales price, are automatically, by a computerised routine, reported from the legal register, through the cadastre, to the tax authorities.

The address and the personal identifier of title holders are used to link the cadastre to the Central Register of Persons, and for legal persons the address is used to link the cadastre to the register of Companies. The cadastre and the Postal Service also interchange address information and postal areas.

The reason for copying names of owners from the legal register into the cadastre is to service users who do not otherwise need to have access to the legal register. However, it should be underlined that in case the real owner is different from the formal holder of the title, the real owner may also be inserted in the cadastre, whilst this is not allowed in the legal register. The cadastre may also list other names linked to the property, as for example a user, tenant, etc. This facility is however currently not fully utilised.

## 5.5. LEGAL ISSUES

The operation of the legal register and of the cadastre is regulated by the law on Land Registration and the Law on the Cadastre, respectively. The law on the cadastre also regulates the surveying of parcels. The respective laws are supported by several bylaws.

In addition to these laws, several other include regulations which affect the land market and the operation of the legal register:

- a) The Planning and Building act stipulates the conditions for subdividing land, stating that no new parcel should be allowed unless it will have a size and shape suitable for its use, and that the foreseen use of the new parcel is within the approved land use plan.
- b) Sales on farm land are strictly controlled to avoid fragmentation, as regulated in the Law on Concession.
- c) Conditions for establishing individually owned flats and sections of buildings, and for the operation of condominiums, are found in the Law on Condominiums.
- d) The Mortgage Law stipulates the conditions for registering a mortgage.

Public restrictions on land use and on the use of buildings are widely implemented through zoning and other forms of public planning. For banks and investors, as well as for the average persons who is seeking a property for himself, information about the public restrictions are now as important as information about private legal rights in the relevant property. A pending new law on the cadastre proposes that the cadastre, and not the legal register, shall contain information about the public restrictions.

## 5.6. FINAL REMARKS

The cadastre and the legal register are the two main information sources concerning real estates, but they play different roles within the land administration framework in Norway.

While the legal register is a well developed, competent and efficient register, providing reliable information and guaranteeing security in the property rights regime;

the cadastre is not such. Its importance was historically linked with the levying of taxes, and after the tax reform produced around 1900, it lost much of it. What remained was the function of formation and identification of property units. The government lost much interest in its development and updating. The cadastre was reshaped and modernized in 1980, but even in the present time it still has many defects concerning mapping and confusing information, so it is not as efficient as it should be. This is why many of the land consolidation cases which are carried out nowadays concern the clarification of boundaries and rights.

## 6. LAND CONSOLIDATION IN NORWAY: SYSTEM AND LEGAL FRAMEWORK

### 6.1. INTRODUCTION

#### 6.1.1. General definition and objectives of land consolidation

In general, land consolidation means a comprehensive reallocation procedure of a rural area consisting of fragmented agricultural or forest holdings or their parts. The legally defined aims of the land consolidation procedure vary from country to country, but the general objective is, however, to improve the physical ordering of land, plots, parcels and property units; and to promote the appropriate use of the real estates. The legal basis for a land consolidation scheme is two-sided:

1) The existence of dependency of some sort between the holdings in an area, with regard to efficient economic use. This is the very basis of justification for land consolidation. The dependency could be due to location: the holdings are so physically situated in relation to each other that the use of one affects the use of others, and vice versa. It could also be due to other physical or practical factors. The dependency could also be rooted in the prevailing type of ownership from a purely judicial point of view, for instance various sorts of joint (common) ownership, rights of use and so on.

2) The current or potential economic use of the holdings, which is seriously hindered by the prevailing (ownership) situation, could be improved by means of the measures at the disposal of land consolidation (“the tool box”). The proper instruments have to be found in this “tool box”; which may vary greatly from country to country.

It is rather important to note that potential land use has to be taken into consideration in the process; desired or economic use of land and the relationships between ownership and land use are in a dynamic state.

The broad objective of the land consolidation is pursued by consolidating land plots through land exchanges to form new plots that are better adapted to their proper use (e.g. plots are larger and/or better shaped). At the same time, the relative value and the ownership of the real estates are normally kept constant. In addition to actual land exchanges, improvement of the road and drainage network, different building, landscaping, environmental management and conservation projects, and other functions necessary for the objectives may be implemented in land consolidation. A strictly limited area and the project-oriented procedure are also the characteristics of land consolidation (Sevatdal, 1986).

#### 6.1.2. Land consolidation in Norway: *Jordskifte*

To give a reasonable overview on land consolidation in Norway is not an easy task, simply because this institution has evolved successively and pragmatically from the middle of the 19<sup>th</sup> century until present time. In the course of time new tasks have come into being as needs arose, without paying too much attention to the creation of a logical system in this matter. The present legislation regarding land consolidation, which dates from 1979, has been modified many times since then to adapt it to the current changes

and tasks which arose in the course of time, shaping a complex legal framework nowadays.

The official name of the land consolidation court and its activities in Norway is *Jordskifte*, which is normally translated as “land consolidation” in English. A more precise translation would be “reallocation of holdings by pooling and redistribution”. This more accurate translation would express the fact that many holdings are pooled or put together, and from this “pool” the same number of holdings emerges in a new physical and legally-recognizable shape. At the same time these new holdings retain their old relative values, broadly conceived. This is the “classic” conception of *jordskifte*, but as we shall see, the present conception has moved a long way from this, both with regards to objectives and tools.

Other aspects like, for instance the buying and selling of the land; expropriation for public purposes; extensive planning of land use; investments for land improvement both in private and public sectors (roads, drainage) and both individually and jointly; organizing the tenure; monumentation of boundaries; mapping and surveying; cadastral works; etc. have developed, too.

Land consolidation is so far mostly applied in rural areas, to all type of land; agriculture, forestry, residential, etc. It should be noted, however, that at least in some countries it is not legally restricted to rural areas. In Norway all sorts of land and holdings, both rural and urban can be subject to consolidation from a strictly legal point of view, but in the practice the land consolidation actions are focused on rural areas. However, residential land, land for recreation (recreational homes), land for extraction of sand and gravel, and so on, quite often will be included, but most cases are still initiated by the needs in typical “rural” land use. The basic goal is to adjust the property conditions, or the system of holdings in an area, to the most efficient land use (Sevatdal, 1986).

## 6.2. HISTORY

Official interest in land reallocation development in Norway started towards the end of the 18<sup>th</sup> century. The background was, as in many other European countries that the successive subdivision practices of farmland produced fragmentation of the farms, with an extensive intermixture of plots and strips. It also produced various forms of joint ownership (common tenure), usufructs and annual rotation of plots. In many districts this was also connected with a nucleated settlement, the farms constituted a clustered arrangement of intermixed buildings. In other European countries this was the agriculture villages, in Norway the clusters were generally too small, normally from 3-4 up to 20 farms, to be called a village.

In the outfields the ownership could be also divided so that one farmer possessed rights to the trees (or even to certain types of trees), another farmer the hay-harvesting rights, while the grazing and ground itself could be held in joint ownership (Jones 1980). The mountain areas were (and still largely are) held in common (private) ownership by the farms or as common public land belonging to the Crown (State), which certain rights like hunting, fishing and grazing belonging to the local community.

There are examples of voluntary consolidation operations in the 18<sup>th</sup> century, carried out after an agreement between the owners, by hired professional surveyors. If disputes occurred, they would be settled by the ordinary courts. Most of these consolidations were dividing of common land.

The first legislation on land consolidation in the “modern” sense (reallocation of plots) dates from 1821. *“It relied on the existing legal apparatus to supervise and if necessary conduct the reallocation”* (Jones 1980).

Later on, financial and professional support was given by the government by the 1857 Act. In 1859 the Land Consolidation Service was established, formed by professional officials employed and paid by the government. This, in addition to financial aid to the farmers to remove farms from clustered settlements, triggered off an extensive reallocation activity. From this time to 1920, large parts of the countryside were restructured by consolidation. This may be called the first period of consolidation in Norway.

The attitude and philosophy behind land consolidation at the very beginning in the 18<sup>th</sup> century come close to that of a land reform. The idea was to “individualize” the holdings once and for all, both with regard to legal rights and the physical structure (lay-out). The ideal was the enclosed holding consisting of one piece of agricultural land with the farmyard in the centre, as independent of others as possible. This ideal was, however, not easy to carry out, given the nature of Norwegian terrain, soils, etc.

It also quite soon became apparent that the whole idea of regarding this type of work as a land reform, that could be done once and for all, had to be adjusted to the dynamics of the society. Gradually it gave way to the notion of land consolidation as more of a continuous process, constantly readjusting the ownership structure to changing economies, technology and patterns of land use. This demanded a wider variety of means, the concept of land consolidation became more diversified, and it became a permanent institution in society.

Beside the power to decide upon land reallocation, it was practical and efficient to give the same tribunal power to pass judgement in disputes concerning ownership, boundaries, etc., that had to be settled before a reallocation case could be finally concluded. This judicial aspect of the land consolidation service has gradually been extended, and is in fact since 1934 to some extent detached from the proper consolidation work. According to an amendment that year, disputes concerning boundaries in general could be taken to the land consolidation court, and in the 1979 Act this legal power was considerably extended, more or less to land ownership disputes in general. Thus the original “tribunal” has become a specialized court for many aspects of disputes concerning boundaries and landed ownership (Sevatdal, 1986).

### 6.3. EXECUTIVE ORGANIZATION

According to the 1857 Act the decision-making body on land consolidation issues was organized as a special kind of court, which means that it has the power of a court but only in certain specific stated issues. This institution, the land consolidation court (LCC) has developed into a permanent public institution within the framework of the judicial system.

The body has court power, extensive planning capacity and competence, and is encouraged to mediate decisions. Norway seems to be the only country with an integrated institution that combines court power, planning and mediation in dealing with land disputes (Rognes and Sky, 1998).

Norway is divided into 41 land consolidation court districts and 5 land consolidation court of appeal districts (see figures 22a and 22b); adding a total of 275 employees. The

staff can be divided into three main groups: land consolidation judges, engineers, and administrative staff.

In some counties there is only one land consolidation court and in other counties there are several courts. The workload varies between the different parts of the country and from case to case. The extent of a case can, in terms of area, vary from a few square meters to several hundred hectares – in terms of boundary length from a few meters to several kilometres. In workload the cases can last from a couple of days to several years. Each year the land consolidation courts handles approximately 1000 cases and 1400 kilometres of property boundaries.

Each of the land consolidation offices is headed by a professional “surveyor”, called Land Consolidation Judge. To serve as a land consolidation judge one must have a master degree from the University of Life Sciences (before known as Agricultural University of Norway). The course comprises a variety of relevant subjects, including surveying, mapping, cadastre, law, economics, valuation, land use planning and land consolidation. It is also expected that a prospective candidate for a judgeship in the land consolidation court will have gained some practical experience as a surveyor before appointment. The King of Norway appoints the land consolidation judges.

The land consolidation court, for each of the cases, is normally staffed by one land consolidation judge and two lay judges. In routine cases the court can be overseen by a land consolidation judge only; and in very complex cases the parties can demand that the court be staffed with four lay judges. In every municipality the municipal council will have elected a number of lay judges, and the land consolidation judge picks lay judges from this selection for each case. They are normally farmers or have other types of background, according to the nature of problems in the individual case. The lay judges’ task is to participate in the decisions regarding land use and render verdicts in disputes. All decisions are made by all members of the land consolidation court, taken by simple voting in this body. The lay judges and the professional judge have equal voting rights.

Cases can be appealed to the ordinary courts of appeal or the land consolidation court of appeal depending on the grounds of appeal (Land Consolidation Act, § 61, 1979). The Land Consolidation Court of Appeal is normally composed of one land consolidation appellate judge and four lay judges. In cases where the land consolidation court has been headed by the judge only, the land consolidation court of appeal can be comprised of two lay judges.

# JORDSKIFTERETTENE 1.1.2007

1. januar 2007 var det 34 jordskifteretter og 5 jordskifteverretter

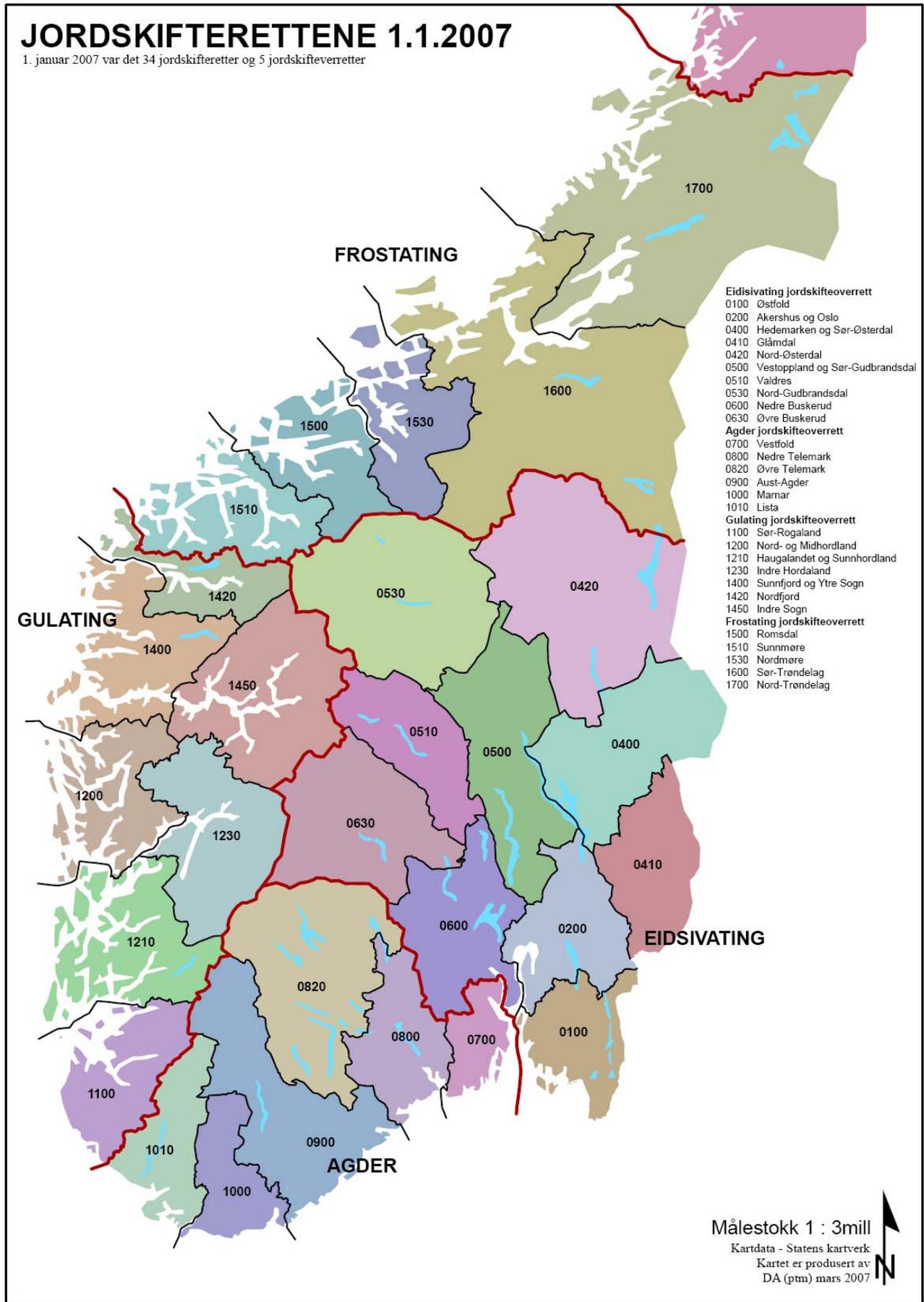


Figure 22a. Land consolidation court districts (*Jordskifteretten*) and land consolidation court of appeal districts (*Jordskifteoverretten*). Source: *Statens kartverk* (2007).

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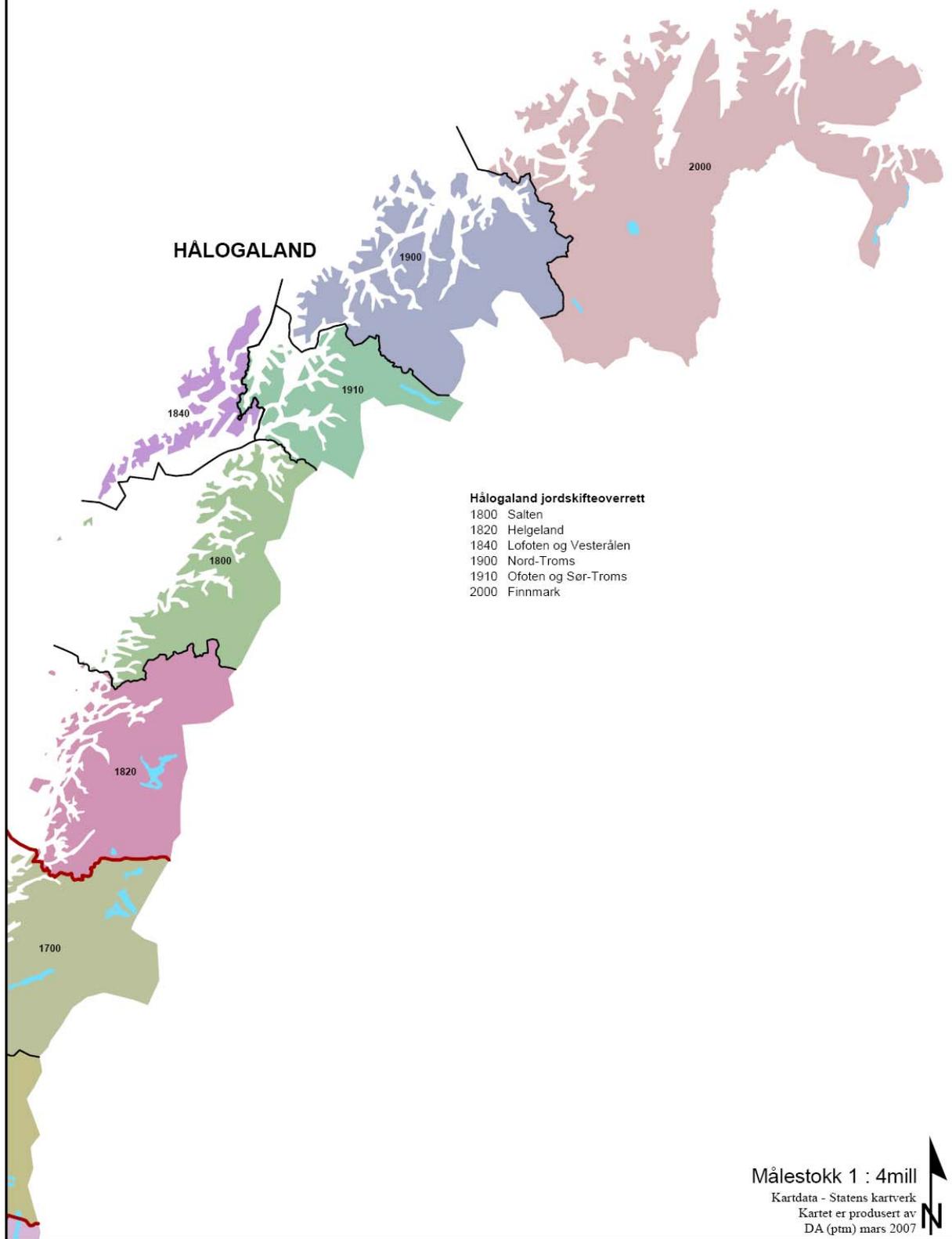


Figure 22b. Land consolidation court districts (*Jordskifteretten*) and land consolidation court of appeal districts (*Jordskifteoverretten*). Source: Statens kartverk (2007).

## 6.4. LEGAL PRINCIPLES AND LEGISLATION

### 6.4.1. Legal principles

The present act on land consolidation in Norway dates from 1979, but it has suffered many changes from this date by means of consecutive amendments, the last on 1<sup>st</sup> of January of 2007. The aims and means have, of course, changed during this period, but the basic principles are the same:

1. The land consolidation process is intended to restructure outdated or unsatisfactory property patterns; so any landed property that is considered difficult to utilize efficiently under existing circumstances may be subjected to land consolidation under the terms of the Land Consolidation Act. Land consolidation might be initiated both by existing situation, but also by the situation that will come into being.
2. The initiation of land consolidation is mainly left to individual landowners or persons that enjoy permanent easements. A request from one landowner or owner of usufruct rights in an area is enough. The others can be opposed to land consolidation, but if the court finds the request justified and that none of the parties will suffer losses –in economic terms- because of land consolidation, the case proceeds.
3. The decision-making body is independent of the administration, it is a first instance court, and has the authority of a court of law. As an independent court, and like other courts, it can not be instructed by the governmental administration; the influence has to be exercised by general legislation (Sevatdal, 1986).

The organization and relationships between the LCC and the different official authorities at national, regional and local levels has to be defined, then. Broadly speaking the LCC has to base its work on decisions and regulations made by the administrative authorities- if such decisions exist. The importance of this relationship is most obvious in issues like land use planning and land policies, but also when it comes to planning and implementation of public infrastructures (roads, railway, etc), environmental and conservation issues and so on.

In principle the power of the LCC is limited to what the parties themselves had decided, if they agreed among themselves. This principle holds true in the relationship both with the parties and with the public administration.

It is also important to note that proper authorities can request land consolidation to promote their interests (building of public roads, railways, land use planning, conservation plans, etc), and such request is treated in the same way as requests from private persons.

The relationships of the LCC with the landowners in one side, and the public authorities (administration) in the other, are shown in figure number 23:

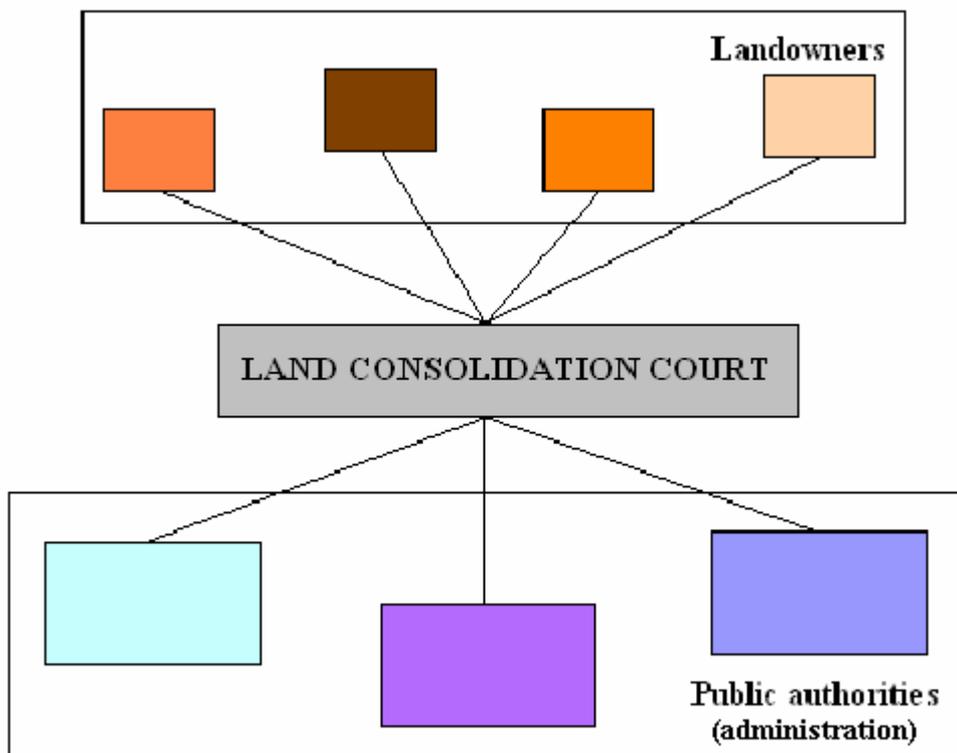


Figure 23. Relationships of the LCC with landowners and public authorities.  
Source: own elaboration (2007)

4. Both the aims and the activities of land consolidation in Norway can be structured in two broad groups; on the one hand clarification of property right issues, on the other hand, rearrangement.

The **clarification** process could take various forms; mediation in disputes resulting in agreements between the parties, or legal court procedures resulting in formal judgements.

The **rearrangement** could take many forms, according to the nature of the problems that are in the agenda. It could be “classic” physical consolidation of fragmented land and holdings, adjustment of boundaries, implementation of joint infrastructure, dissolving commons, subdivision of property units and so on. But the “rearrangement” takes altogether a different form; instead of rearrangement of the physical structure one may arrange the legal structure, i.e. introduce or rearrange the rights and duties concerning the use and the behavioural patterns amongst the parties. Most often this will end up in some sort of organization pattern, for example the creation of a local organization of owners, with a body with executive authority.

Finally there are **other activities** that do not fit well under the headlines of “rearrangement” or “clarification”; the main ones are the assessment of compensations and the buying and selling of land. The assessment of compensations is carried out in certain situations. Most typically it would be

assessment of compensation in cases of expropriation, for instance of land for public infrastructure.

Regarding the buying and selling of the land; the LCC mediate in the process to facilitate the achievement of agreements between the parties.

The structure of the activities developed within land consolidation in Norway can be observed in the following figure:

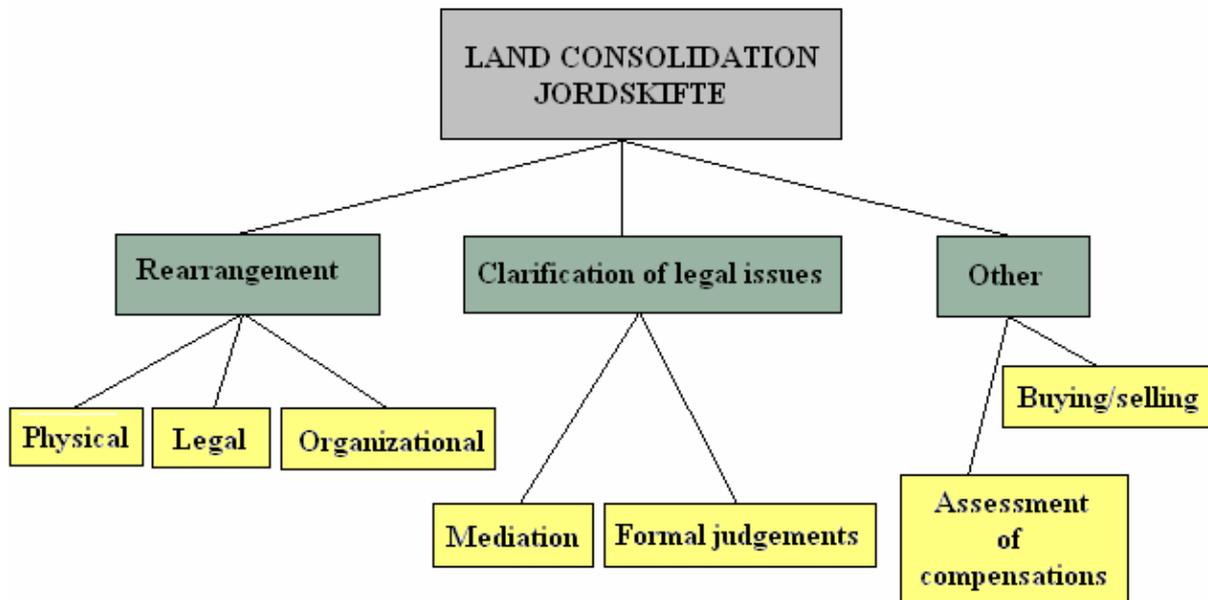


Figure 24. Kinds of activities developed within land consolidation in Norway.  
Source: own elaboration (2007)

5. The formal power of the land consolidation court to make legal binding decisions lies in the relationships between the parties; being them rearrangement, clarification or assessment of compensations. This principle means that issues defined as the sole power of individual owners are outside the formal decision making power of the LCC. Most typical this will include transactions with land, like buying/selling and renting/leasing of land. Such transactions do however play a very important role in the land consolidation. The role of the LCC is then to initiate and especially to mediate/help in negotiations; and finally to give legal/technical assistance in the transactions (settings up contracts and deeds, surveying and the cadastral works, subdivisions, etc).
6. All in all, the working of the LCC can be understood in a context of conflict resolution and transaction costs. Most of its work, decisions and transactions could have been done by the parties themselves, if they had had the means and will to agree on negotiated solutions. There are multitude of reasons because of they do not agree, but the main reason why they apply for LCC can be summarized in one concept: the transaction costs. In an institutional theoretical sense, the sole justification of the LC is that it reduces the transaction costs.

## 6.4.2. Legislation

As mentioned above, most of the legislation on LC is compiled in the Land Consolidation Act, from 1979, which has suffered many amendments until the present time. Some rules are to be found in other legislation as well. The Act from 1979 is structured as follows:

- 1) Preconditions for land consolidation
- 2) The land consolidation court
- 3) Procedures
- 4) Planning and solutions
- 5) Costs
- 6) Appeals.

The basic ideas and contents of the Act are extracted here:

§ 1. Any landed property which is considered difficult to utilize efficiently under the existing circumstances may be subjected to land consolidation under the terms of the Land Consolidation Act. The same applies when circumstances become unfavourable as a result of building, improvement, maintenance, and the operation of public roads, including the closing down of private railways.

§ 1a. The law applies to all types of land.

§ 2. Land consolidation may comprise:

§ 2a) Dissolving a system of joint ownership under which land or rights are jointly owned by estates.

§ 2b) Reallocating landed property through the exchange of land.

§ 2c)

1. Prescribing rules relating to the use of any area that is subject to joint use by estates.
2. Prescribing rules relating to the use of any area when the land consolidation court finds that the attendant circumstances make such use particularly difficult.
3. Prescribing rules relating to the use of any area where reindeer husbandry is going on.
4. Prescribing rules relating to the use of jointly ownership property units in forest and mountains.

§ 2d) Eliminating outdated rights of use, and assigning compensation;<sup>1</sup>

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<sup>1</sup> Such perpetual outdated rights of use are mentioned in § 36 of the Land Consolidation Act: rights of way; grazing; hay-making; making wells and aqueducts; felling and all other production of timber in forests; taking peat for fuel; turf, heather, moss, humus, clay, sand and stones, seaweed; beaches for boats, mooring, and landing places; sites for boathouses and boat sheds; drying and stocking places; places for laying out nets and seines; millraces and water-wheels with damming and aqueduct rights pertaining thereto; and fresh-water fishing with exception of salmon and sea-trout fishing.

§ 2e) Organizing such joint measures as mentioned in chapter 10 of Land Act No. 23 of May 12, 1995 (measuring for agricultural purposes), and § 31 of Act No. 31 of March 15, 1940 relating to water resources (measuring for draining)

§ 2f) Reallocating landed properties when land and rights are to be disposed of in accordance with the purpose of Land Act;

§ 2g) Dividing a landed property with the rights pertaining to it in accordance with a specific scale of values.

§ 2h) Distributing land income and costs related to private joint infrastructure related with land development.

§ 2i) Rearranging the property conditions that might follow from public plans, in:

- 1) an existing built area
- 2) new building area

### § 3. Land consolidation can not be effected:

§ 3a) If the cost and disadvantages involved exceed the benefit accruing to each individual property. (This is to be interpreted strictly in its economic sense).

## 6.5. LAND CONSOLIDATION ACTIVITIES

Land conflicts in rural areas are related with rights, obligations, disagreements about boundaries, land reallocation, etc; and a number of tangible and intangible interests are at stake. All these different conflicts have different nature and characteristics, but, in a broad sense, as it was seen before (see figure 3) they can be grouped in two main groups of problems, related with:

1. Clarification of rights, boundaries, etc. In short, the clarification of the existing state of affairs, by means of mediation or legal formal judgements.
2. Rearrangement of properties, parcels and rights (physical, legal, organizational). In short, changing the prevailing state of affairs concerning property conditions.

Other activities which can be developed also by the LCC, are the assessment of compensations and assistance in the process of buying and selling of land.

The two main kinds of problems define the main activities carried out by the land consolidation court. Both are in principle quite different, but they are normally found in what can be called a typical land consolidation case. However, cases limited just to the clarification of boundaries and rights can be found, too.

These land consolidation activities are detailed next:

### **1. Clarification of boundaries and rights.**

Typical problems that are to be found in most cases are obscure boundaries and unclear legal rights.

Delimitation of boundaries is a special type of case outlined in the Land Consolidation Act. An owner may request the land consolidation court in a specific case to clarify, mark and describe the boundaries of his property. Owners may also request the same for roads, paths, moorings and so on. After a decision is made the boundaries are marked with permanent markers, mapped, and given coordinates so that disputes are avoided in the future.

Another type of case is the clarifying and determining of conditions relating to property and rights of use under joint ownership and in other areas that are subject to joint use by estates, when this is necessary for the rational use of the area. For example, this type of case can clarify who owns the property in question, or who has hunting or pasturing rights, when we have reason to believe that several interests have property rights in the same area.

## **2. Rearrangement /new layout of properties, parcels and rights**

In some cases it is necessary to change the layout, eliminate rights of use, prescribe rules for the use of the properties, and so on. These are called rearrangement activities, and include the following measures:

### **- dissolving joint ownership**

In places where land and rights are owned jointly, the land consolidation court can dissolve the joint ownership and divide the area such that each co-owner receives an individual plot which corresponds to his share in the commons. Often huge outfields areas are owned in common, and through this type of action each owner gets the right to use his share (area) in a new way.

### **- subdivision of properties**

The land consolidation court can subdivide properties, but permission from the Department of Agriculture in the municipality is needed. The future use of the area has to be agricultural. An example of this is when a country courtyard is to be divided from the rest through the distribution of arable land or by dissolving a system of personal joint ownership.

### **- new layout of properties by consolidation and reallocation**

Often properties are fragmented or have an awkward shape. If a new layout would be more beneficial, the land consolidation court can reallocate property through the exchange of land. Land pooling, reallocation and redistribution of land are made according to the value of each holding. New layouts are also used in connection with the division of properties and when land and rights are to be disposed of in accordance with the purpose of the Land Act.

In connection with public building projects –for example, roads, railways, etc- it might be necessary to exchange properties so that the area is usefully framed in relation to the new building project. In such cases the court will conduct an appraisal and decide on the compensation for the damage to each property caused by the new initiative.

### **- prescribing rules relating to joint use**

In areas where there are joint rights about pasturing of land, hunting, etc, the land consolidation court can prescribe rules for the use of the area. Such rules can also be

prescribed in areas with joint ownership or in areas where complex land tenure makes land use difficult. The rules do not change the actual land tenure or governing legal statuses, but prescribe rules on how the properties and rights can be used.

A case regarding regulation of use can also solve problems when it is necessary for several owners to collaborate in order to manage development in an area. If necessary, the land consolidation court can assist the parties in preparing a development plan to divide the value of development between the owners. Potential plans have to be approved by the municipalities according to the rules in the Planning and Building Act.

- joint measures for private joint infrastructures

Prescribing rules relating to use can not be enough to solve the conflict. When it is necessary to make an investment in order to solve the problem, the case is called a “joint measure”. To solve the problem, for example, created by the passage of a new road into an area, it is often necessary to build the road and in addition regulate the right of way. Often such an investment can be beneficial to several properties, and in such a case the court can arrange joint measures and divide the costs.

- elimination of outdated rights of use or usufruct rights

Permanent usufruct rights such as the right to turf, to pasture, to make hay, and so on, can cause problems for the usage of the underlying estate. Such rights can be eliminated by the court through compensation in terms of land, money, or other valuable consideration. The railway authority can use this power to eliminate dangerous railway crossings.

### **3. Other activities**

Other activities apart from these two principals are:

- assessment of compensations

In connection with a land consolidation case; the court can assess compensations and make restrictions on the use of property. The land consolidation court can, in addition, handle different types of assessments as separate cases. In most cases the jurisdiction is limited to areas that do not have a development plan, or are regulated as agriculture, natural spaces, and outdoor recreational areas in the municipal master plan.

- Assessment for private roads – where the parties are given compensation for land through the new road or a share in an existing road.
- Assessment for fences – where the court has to decide if a joint fence between properties is to be established and the division of costs.
- Assessment according to the Act of Easements – where a determination of compensation must be made for the elimination of rights that obstruct the use of a property.
- Contractual assessment – where the parties agree that the land consolidation court will determine compensation in connection with expropriation.
- Assessment according to the Land Act.
- Assessment according to the Reindeer Act.

- buying and selling of land

The role of the LCC in this matter is to facilitate the achievement of the agreements between the parties by means of negotiations. The intervention of the LCC can be applied for any transaction regarding any buying or selling of land, not just agricultural land. Even if the transactions can be developed without the LCC, any of the parties can apply for the mediation of the court if this is his/her wish.

If the purchase of land is required in any of the cases, the LCC can not acquire it, but it can help in the negotiation process. The buying of the land in this case will be done by public authorities.

## 6.6. LAND CONSOLIDATION PROCEDURE

### 6.6.1. Introduction.

According to the two main activities developed by the land consolidation court, the procedure followed in each of them is detailed next. In short the specialized court follows a normal court procedure in all kinds of decisions, even in matter like valuation and physical planning.

### 6.6.2. Starting of the LC case: application

Persons who can apply for land consolidation are the owners of officially registered real property and any person who has a perpetual right of use. In addition, some public agencies have the power to initiate a case without ownership of land. The land consolidation court can not initiate a case on its own.

According to the Land Consolidation Act, § 12; “an application for public land consolidation may be submitted to the land consolidation court in the district where the property is situated”. In the application shall be mentioned among other things “what problems are desirable to solve”. One condition for proceeding with the LC case is that the problem must be solvable by the procedures described in the land consolidation act.

In Land Consolidation Act, § 26, it is stated that “the land consolidation court shall alter the conditions of ownership and use by reallocation of the properties, joint investment, undertakings, regulation of management and land use, and regulation or elimination of usufruct rights, to the extend (the land consolidation court) finds it necessary according to the application. More extensive consolidation can be demanded (by other participants)”

It is enough that one landowner or owner of usufruct rights in an area applies for land consolidation. The others can be opposed to land consolidation, but if the court finds the request justified, and that none of the parties will suffer loss (understood in economic terms) because of land consolidation, the case proceeds. The courts decide if the case shall proceed as a rearrangement case or a boundary dispute case, and the judgement is rendered completely independent of the number of applicants who have signed the application.

Rearrangement cases and boundary disputes differ along a number of dimensions. In boundary disputes the parties bring a conflict to the court; in rearrangement disputes conflict come as a response to the plan proposed by the court. Boundary disputes have fewer dimensions than rearrangement disputes and fewer alternative solutions.

In both types of disputes, however, formal court procedures are used, even in matters like valuation and physical planning. The court (the judge and two duly appointed laymen) renders verdicts in boundary disputes (Nor. *dom*) and makes “decisions” in rearrangement disputes (Nor. *vedtak*). In both cases the parties can appeal the decisions (Rognes and Sky, 1998).

#### 6.6.3. Clarification of land issues (boundaries and rights)

Boundary (and rights) disputes are triggered by disagreements between owners. In Norway, documentation on rights and ownership to land is often imperfect. Furthermore, oral agreements are as binding as written ones. As a consequence doubts and disagreements about rights and ownership often arise.

Because of that, nowadays the delimitation of boundaries represents approximately 42 % of all cases handled in the court. An owner may request the land consolidation court in a specific case to clarify, mark, and describe the boundaries of his property and the boundaries for the perpetual rights of use (§ 88). The owners have the choice, if they will bring boundary dispute to the ordinary courts or to the land consolidation court, but most often prefer the latter, for the following reasons:

- 1) It is not necessary that it has come to a real “dispute” in its true legal sense to bring the case to this court. It is enough that the legal situation is obscure (confused), and one of the owners wants an independent professional institution to investigate the matter, and give its verdict. This verdict has the same authority as a judgement, and if the case should turn into a dispute in its true sense, a formal judgement would be passed by the LCC. It can be appealed to higher court.
- 2) The procedure is so designed that it should normally not be necessary for the parties to employ lawyers. The case will, therefore, be rather inexpensive.
- 3) The land consolidation court has the necessary professional technical apparatus and professional skills at its disposal, including surveying and mapping, and cadastral work that follows when the proper judicial verdict is concluded (monumentation of boundaries, registration, title deeds, etc), which the ordinary courts do not have.

In boundary disputes the work of the court often starts with a pre-trial conference where the case is reviewed. Often the judge and the parties make an excursion to examine the site of the disputed land. The case is then scheduled for a formal trial. In general, the process follows these main stages:

- 1) request (claim) for delimitation of boundaries
- 2) technical investigation
- 3) main hearing / oral proceeding
- 4) claim / statement of claim
- 5) survey
- 6) mediated settlement or verdict
- 7) marking of boundaries
- 8) formal conclusion

The clarification and determination of the conditions relating to property and rights of use is another kind of cases which often arise in areas that are subject to joint use by estates.

In this kind of conflicts, after the investigation of the property and rights situation in the area, a decision is made about which parties have ownership rights and which have other property rights. Many times, the information is confused or there is a lack of it, so the conflict has to be solved by means of eliminating the old rules and prescribing new ones.

A case over the delimitation of boundaries or the clarifying and determining of conditions relating to property and property rights is closed when the property boundaries and rights of use have in fact been clarified and determined.

It has to be mentioned that, in this kind of cases, it is not applied § 3a of the Land Act (“if the costs and disadvantages involved exceed the benefit accruing to each individual property, land consolidation can not be carried out”).

#### 6.6.4. Rearrangement of properties, parcels and rights

The land consolidation plan may be limited to minor adjustment of boundaries between two parties to a complete rearrangement of hundreds of holdings with large investments in new infrastructures. The process has the following main stages:

- 1) application for land consolidation (normally by one or a number of land owners, but it could also be initiated by public authorities in some cases);
- 2) decision whether the case shall proceed;
- 3) after the acceptance of the case, the court starts the identification process (clarification of boundaries and mapping of the land consolidation area);
- 4) valuation of anything that is subject to be exchanged;
- 5) preparation of a draft consolidation plan (the different parcels are pooled or put together. The judge, together with the assistants, creates a plan where the same numbers of holdings emerge but in new physical and legally recognizable shapes)
- 6) presentation of the plan to the parties for discussion;
- 7) comments from the parties;
- 8) alteration on the basis of comments on the plan that the court deem right and proper;
- 9) formal adoption of the plan (made by court decisions);
- 10) marking out of all new boundaries in the fields;
- 11) formal conclusion of the land consolidation proceeding in court.

In the Land Consolidation Act it is explicitly stated that no farmer should lose in the exchange process. Thus, while land consolidation often is triggered by the need of one farmer to get a more efficient holding, the basic criterion for exchange is Pareto improvements. The judge use planning competence to identify the problems and to generate a plan, and uses court authority to make decisions. How, and to what extent, the judge seeks consensus through a mediation process is up to the individual judge. Typically, however, the judge modifies the plan after inputs from the parties. Often an extensive process of drafting, discussing and redrafting of plans takes place.

#### 6.6.5. Conflict resolution in land consolidation: mediation

Within the land consolidation process, mediation plays a very important role in planning and land use disputes (Rubino and Jacobs, 1990), and is gaining popularity as dispute resolution technique in general, too (Kressel and Pruitt, 1989).

Mediation is generally defined as the intervention in a negotiation or a conflict of an acceptable third party who has limited or no authoritative decision-making power but assists the involved parties in voluntarily reaching a mutually acceptable settlement of issues in dispute (Moore, 1996:15).

Consensus building through mediation is often a better dispute resolution technique than court trials (Sander & Goldberg, 1994; Brett, Barnes & Goldberg, 1996) and public planning procedures (Susskind & Cruikshank, 1987).

Reasons given are that satisfaction often increases with the parties' control over process and outcome; that the process is more focused on the needs and interests of the parties; and that the future relationship between the parties can be improved (Rognes and Sky, 1998).

Mediation is a generic term covering a wide range of behavioural styles and techniques (Kressel and Pruitt, 1989). In general mediation is facilitated negotiation (Kovach, 1994), where the mediator assists the disputing parties in trying to voluntarily reach a settlement (Moore, 1996). It is a highly adaptive process (Kolb 1997) where the mediators vary their tactics with the nature of the conflict (Shapiro, Drieghe and Brett, 1985). In general, however, mediation typically goes through the following stages (Kressel and Pruitt, 1989; Moore, 1996):

- a) an introductory stage where ground rules are set out, climate established and information gathered,
- b) a problem solving stage where issues are discussed and tentative agreements are tested out, and
- c) a final stage where the details of the agreement is crafted and commitment to the settlement established.

Mediation is a very important activity during the phase in the process in which the land consolidation court draws up the draft consolidation plan for presentation to, and discussion with, the parties (this is emphasized in the Land Consolidation Act, § 20). The land consolidation court shall also consult with the public authorities if the consolidation plan is likely to affect matters within their jurisdiction.

The Land Consolidation Act emphasizes, also, that the court shall first utilize mediation (§ 17) in the case of boundary disputes before a prospective trail. The court may, in unusual cases, decide that the parties will submit the dispute to arbitration, but arbitration is seldom used.

In contrast to most judges, the land consolidation judge is an expert on the substantive issues of the disputes, and in contrast to most mediators the land consolidation judge can adjudicate decisions if needed.

The literature on judicial mediation is generally enthusiastic for mediation by the courts because it reduces backlog, and the mediated decisions are often perceived as more satisfying than a judicial decree. Mediated settlements yields many benefits for the disputing parties, including reduced costs compared to a full trial, the potential for better

relationships between the parties in the future, and the fact that the parties have greater control over the course of the case.

In choosing decision making procedure the judge can mediate, adjudicate or combine the two procedures. Combination of the two procedures can either be in a mediation-adjudication process where he first mediates and then adjudicates if mediation is unsuccessful, or the judge can mediate some issues and adjudicate some issues. The latter form of combination is probably most likely to take place in complex land-use planning cases.

#### 6.6.6. Appeal system

Cases can be appealed to the ordinary courts of appeal or the land consolidation court of appeal depending on the grounds of appeal. According to the §61 of the Land Consolidation Act:

“An appeal against a judgement in terms of section 17 (disputes concerning boundaries, right of ownership, right of user, or other matters within the land consolidation area or with outsiders); will go to the High Court. The same applies to an appeal against a decision dismissing and application on other than factual grounds and any other appeal on a point of law and matters of procedure.

An appeal against a decision in an expropriation assessment in terms of section 6 (land expropriation for the building, improvement, maintenance and operation of public roads and railways) concerning the right to, and the conditions for, an expropriation or what the expropriation involves, goes to the High Court. In all other cases an appeal goes to the Land Consolidation Court of Appeal.”

Decisions in clarification of boundaries will be normally appealed to the ordinary court of appeal. Complaints in rearrangement issues are often handled by the land consolidation court of appeal. The time limit for an appeal is two months reckoned from the date of notice of judgement.

The Land Consolidation Court of Appeal is normally composed of one land consolidation appellate judge and four lay judges. In cases where the land consolidation court has been headed by the judge only, the land consolidation court of appeal can be comprised of two lay judges.

### 6.7. LAND CONSOLIDATION COURT JURISDICTION

#### 6.7.1. Land consolidation in urban areas

Land consolidation activities were mainly developed to solve problems related with land fragmentation and lack of infrastructures in rural areas. In spite of in the Land Consolidation Act allows the application of these activities also in urban areas, it has not been applied to a significant extent. Exceptions are to be made for clarification of boundaries and the removal of outdated usufruct rights. The latter could typically take place in the process of changing the land use from rural to urban use. New amendments have just been introduced (§ 2i and §2h) to promote land consolidation in urban areas.

More dispersed residential land use both for permanent settlement and for recreation (cabins, summer houses) often occur in land consolidation. If detailed planning of such residential areas is required, the land consolidation court could even initiate such plans to be made by the administration. Such plans (regulations) could also be made by the

land consolidation courts, on behalf of the owners, and sent the administration for approval. The further reallocation, etc. would then be based upon these plans after approval (Sevatdal, 1986).

#### 6.7.2. Land use planning and consolidation

The court organization causes certain problems, especially with regard to decisions concerning land use. Basically the power to decide on the use of land rests within two “institutions”: the individual owner, and political and administrative public bodies. Land consolidation is of course closely linked to land use; it is enough to point out that the very aim is to adjust the ownership to current or potential use, and that all valuation of land has to be based upon prospective land use.

The land consolidation authorities can not make formal binding decisions on land use, it has to base its activities partly on plans, regulations, and principles laid down by the proper public authorities, and partly on the plans and intentions the owners might have for future use.

The basic principle is that land consolidation should be based upon the “highest” and most economic land use, from the perspective of the private “normal” owner, but within the framework of regulations laid down in public regulations, laws, etc. If, for instance, some land in the consolidation area is zoned for residential use, both the layout of holdings, assessment of value and distribution of costs for a joint private road has to be based upon this as a fact. The same will be the case if, for instance, agriculture or forestry uses are restricted because of nature conservation regulations.

With regard to public regulation the land consolidation authorities have formally limited power, in principle the same power as a private owner. In relation to conflicting interests between owners on this matter, the land consolidation court has decisive power, insofar that land use should be the basis of consolidation. But of course, an individual owner is not legally compelled to that use after consolidation. It should also be noted that the land consolidation authorities could exercise an extensive influence on some decisions the administration has to make in a consolidation area.

The present system of land use planning has been in operation since 1965, when a new Planning Act developed. Prior to that year our planning legislation allowed for public land use planning only in urbanized areas.

The municipality is the most important unit of administration in land use planning. Guidelines are drawn up by various institutions, both at national and county levels, but the local Council of each municipality (local government) is responsible for the preparing, deciding and implementation of a master plan for land use, covering the whole area of the municipality. This plan serves as framework for more detailed or “local” plans, for instance town plans, zoning, subdivisions, etc.; and shall determine areas for the following categories of land use:

- development
- agriculture
- forestry
- conservation
- recreation
- extraction
- special uses

The municipality has no monopoly of detailed planning or zoning, although land for development is often bought or, in some cases, expropriated by the municipality, subdivided and resold. Private landowners/developers may have such local plans drawn up within the framework of the general land use plan, and submit them to the local government for approval. All subdivisions need public approval to be valid. Previously approved plans can be changed, by and large, without compensation to land owners, if no investments are made.

Land uses control is carried out by means of planning and legislation. That includes promoting as well as preventing development. The means to prevent undesirable development are mainly disapproval of plans, subdivisions and single building projects, and also directed legislation in some fields. Arable land, the coastal zone and watercourses are attempted to be protected by special laws.

### 6.7.3. Building of public infrastructures

Land consolidation court activities are limited by various arrangements. For instance, in the building of public infrastructures, as a road, the court can propose certain solutions, or modification in the plans made by the administration, but the reallocation has to be based upon the final decisions concerning the public road system, taken by the administration.

A speciality is that if eminent domain is necessary to acquire land for public roads in an area under consolidation, the compensation to the owner is decided by the court. If there is public owned land in the area, this land will (or may) be allocated to the roads.

Anyway, the acquisition of land is not within the power of the land consolidation authorities, it is done by other governmental agencies, or directly between private participants. The duty and power of the land consolidation officers is to help negotiating, reallocate the holdings that may arise through the acquisition process and all kinds of professional assistance in formulating contracts, transference of title deeds, mortgage, etc. They also perform all kind of cadastral work involved (registration, mapping and surveying, monumentation of boundaries, etc.) (Sevatdal,1986).

## 6.8. OTHER ASPECTS OF THE LAND CONSOLIDATION PROCESS

### 6.8.1. Voluntary or compulsory land consolidation

Land consolidation practices vary from country to country, and, regarding the Norwegian case, legislation is characterized by compulsion in this respect. This has to be understood in the sense that a landowner can be involved within a LC case against his will, he may strongly oppose all the decisions taken during the process, and he might find the final result much to his disliking.

The process is not compulsory either because it is not imposed by the government or the LC Court, the cases are initiated when a formal request from at least one of the owners is received. However, in spite of the application for LC consolidation from the landowner/s has certain objectives according with his/their interests, the LC Court may change the whole scheme on the basis of the costs and disadvantages involved exceed the benefits accruing to each individual property.

### 6.8.2. Duration of the land consolidation process

Content and size of the LC cases can be very different, and according to that also their length will change. On the average, a land consolidation scheme today would take approximately 3 years from start to finish. Larger and more complex cases could take much longer, even up to 10 years. There could be many reasons for this, like lack of capacity, a complicated legal situation, appeals to higher courts, etc. The main problem, however, is the consideration to the security of and fairness to the individual owner, and the need for involving all participants in the procedure.

Just because the land consolidation court has so extensive power to decide on property matters, the factual basis for its decisions has to be reliable. Simplified methods for gathering and handling data, valuation, etc, are often advocated, but within the service it is generally agreed that speeded procedures always must be weighted versus the risk taken on behalf of the owners.

In figure number 32 in the next section, average total and effective length of the LC cases in the last years are shown.

### 6.8.3. Costs and financing of the land consolidation procedures

The contributions of the land consolidation court are almost totally financed by the government; the officials are governmental employees, and just a rather small registration fee is to be paid by owners at the opening of the case. Most of the technical works, like surveying, mapping, data handling, etc; are done by the technical staff at the land consolidation office, and paid by the government. If private professionals of some sort have to be hired, for instance for certain technical works, the participants have to pay for these services.

The costs involved in consolidation will vary greatly. The parties pay fees and make payment to the lay judges, surveying assistants and boundary markers, and perhaps, expenses for other experts. The court apportions the costs on the basis of the benefit accruing to each party from the land consolidation without regard to which party actually applied for land consolidation. The applicant might be instructed to pay costs if the application is found to be groundless.

Investments made during the consolidation are in principle to be paid by the landowners, in accordance with their benefit. In practice the costs are greatly subsidized by government grants, at least if the investments are joint undertakings in agriculture or forestry.

## 6.9. STATISTICS ABOUT LAND CONSOLIDATION CASES

### 6.9.1. Data series and sources

Some statistics about land consolidation cases in Norway regarding the number and kind of cases in different years are included here.

Three series of data, from three different periods of time are available. The first series includes information from 1946 to 1982; the second one from 1982 to 2003, and in the third one, data from 1997 to 2006 is attached. In the third series, figures concerning the average duration of the land consolidation cases and the evolution in the number of land consolidation employees are included, too.

According with the data available, the first data series can be considered as a long term one, where the evolution in the number of cases during 36 years can be observed. In the second and third ones, changes in the course of the last 25 years can be analyzed.

In the three series the cases are classified by type. Because of the wide range of land consolidation cases, the categories in which the cases are included vary among the series.

The data source of these statistics is the annual reports elaborated in all the land consolidation offices, compiling information regarding number and kind of cases, length of the cases, etc.

#### 6.9.2. Data series from 1946-1982

Two figures in which the number of finished cases and new cases, from 1946 to 1982 are shown below. Four kinds of cases can be differentiated according with the graphics:

- Boundary disputes (Nor. *grensegang*)
- Reallocation of plots, prescribing of rules, organizing joint measures, etc (activities included in §2 of the Land Consolidation Act, 1979; Nor. *jordskifte*)
- Other kind of cases (Nor. *andre saker*)

In the graphic which the number of finished cases is shown, the total number of withdrawn claims (Nor. *tilbaketrekte saker*) is also shown. In both figures, the total number of cases during the period considered is shown, too.

Figure 25. New land consolidation cases from 1946 to 1982, distributed by kind of case

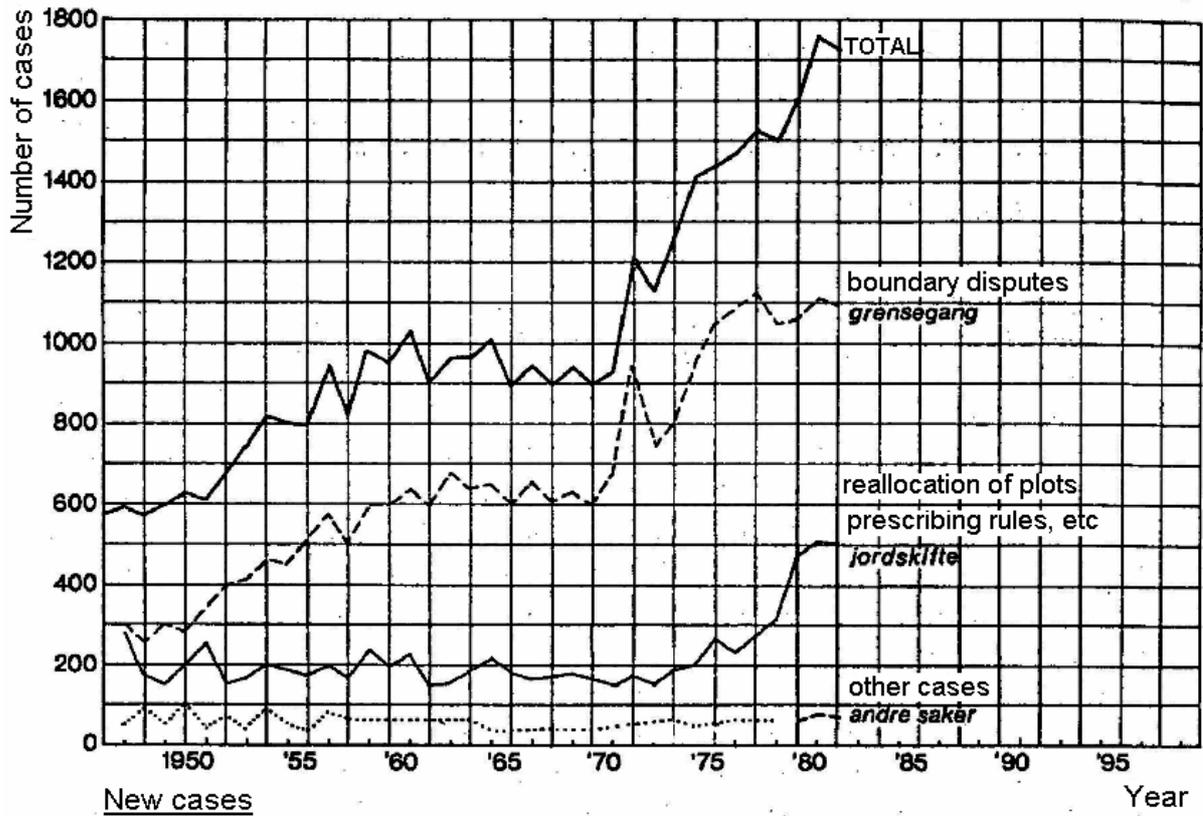
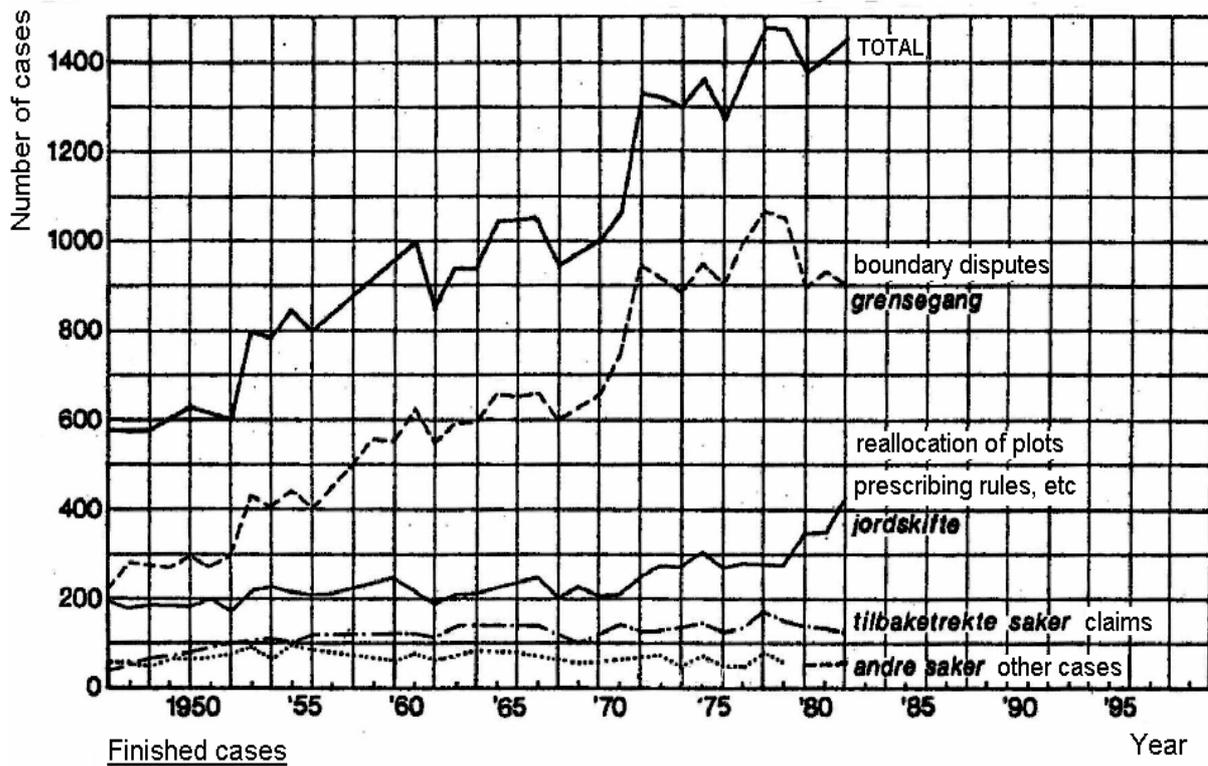


Figure 26. Finished land consolidation cases from 1946 to 1982, distributed by kind of case



In figure 25, the number of cases which were initiated from 1946 to 1982 is shown, and in figure number 26, the number of cases finished in each year of this period is presented.

According with figure 25, three phases can be differentiated in the evolution of the total number of new cases registered:

- First phase (from appr. 1950 to 1960): an increase in the number of land consolidation cases was produced in this period, from 600 to 950 cases approximately.
- Second phase (from 1960 to appr. 1970): a certain stabilization can be observed in this period, where the number of cases ranges from 900 to 1000.
- Third phase (from 1970 to 1982): a new increase in the total number of cases was produced, being 1700 the number of total cases at the end of this period.

It can be observed that the cases related to boundary disputes are the ones which increased the most during all the period studied. The highest increase in the number of this type of cases was produced around 1970's.

Regarding the *jordskifte* cases, it can be noticed that the number of cases remain almost stable during all the period considered. Just in the end of the period, from appr. 1975 to 1980, the number of cases increase remarkably.

The explanation for the increase in the number of land consolidation cases lies on measures taken by the government at that time. With the aim of trying to improve the economic situation of the farmers, a great increase in investments was done from 1960's in infrastructures, reclamation of land, and diverse subsidies and aids (Nor. *Opptrappins-vedtaket*).

Another measure of the agrarian policy was to promote the afforestation of land in the western part of Norway from the middle of the 1950's. The objective was to develop productive forests for timber production. All the costs derived from the plantation were subsidized by the government.

All these facts, then, implied a lot of land consolidation works, especially in matters like clarification of boundaries. Land consolidation is linked with land policies, so what can be seen here indicates that increased agricultural and forestry activities demands the services of the land consolidation court.

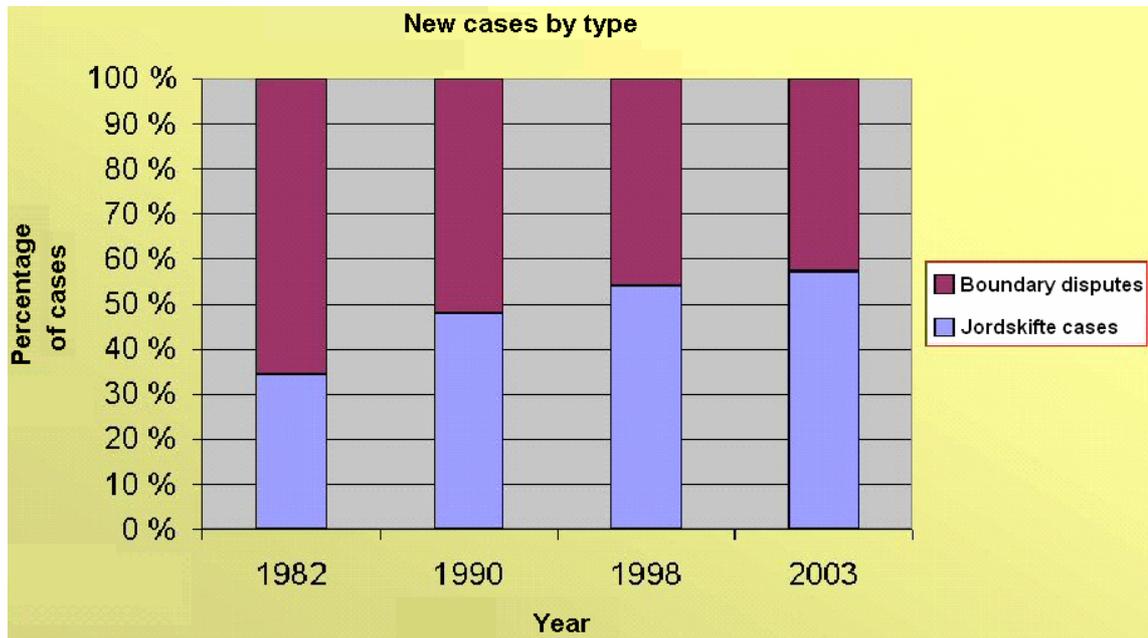
It has to be mentioned here also that, after the World War II, the process of reconstruction of the destroyed cities demanded much labour, being produced a migration of the population from the rural areas to the cities for this reason. After the re-development of the cities, it was the turn of the rural areas to develop, which occur from 1960's – 1970's. As consequence of that, the number of land consolidation cases increased according with the increase of the agrarian activities.

The finished land consolidation cases are shown in figure 26. The number of finished cases from the different types is of course in relationship with the number of new cases initiated of each type. Because of the variety in characteristics and complexity of the cases, their duration is different, so the cases which are finalized vary from year to year.

In this graphic the withdrawn claims are included, too. It can be observed that, in spite of the increases in the number of cases, the number of claims remains more or less constant in this period.

### 6.9.3. Data series from 1982-2003

**Figure 27. New cases by type from 1982 to 2003**

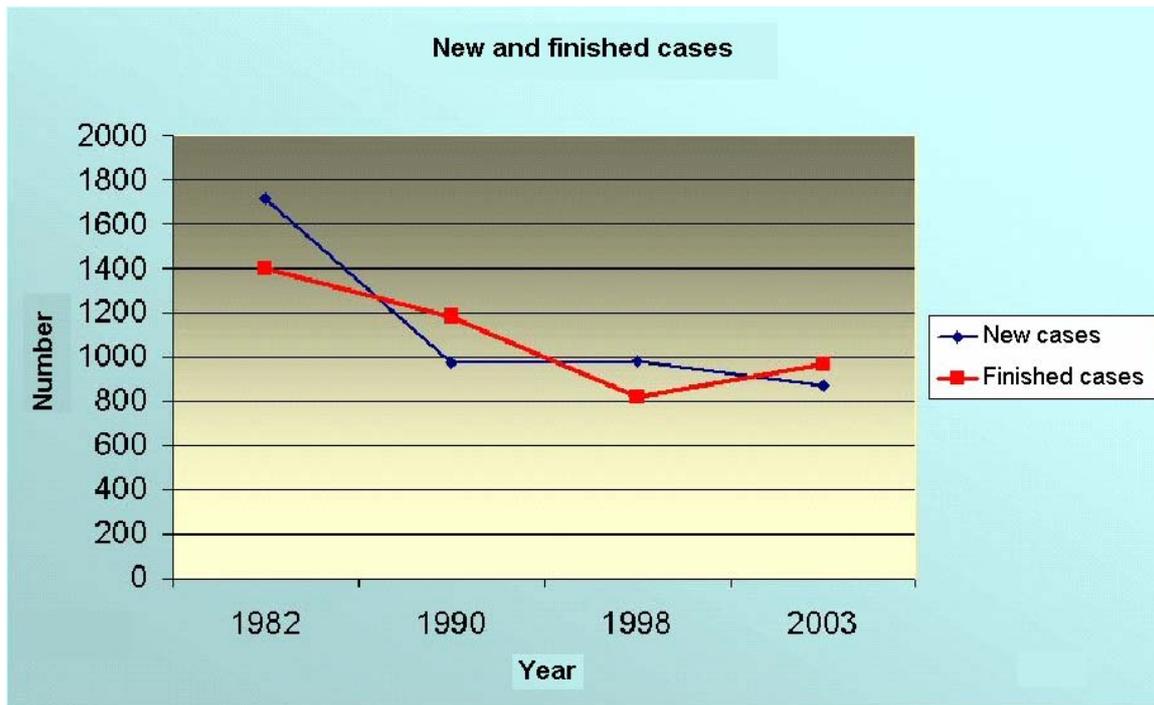


In this figure, the percentage of new cases in 1982, 1990, 1998 and 2003 is shown. Two main kinds of cases are differentiated:

- boundary disputes
- *jordskifte* cases (comprising mainly rearrangement of plots, prescribing of rules and organizing joint measures)

According with the data, it can be noticed the decrease of the cases related with boundary disputes, from appr. 65 % in 1982 to 40 % in 2003. The increase in the number of *jordskifte* cases is explained through the increase in the number of cases related with the prescribing of rules and organizing joint measures, because physical rearrangement of plots are no longer the main kind of cases in the land consolidation courts.

**Figure 28. New and finished cases from 1982 to 2003**



In this figure, the number of new and finished cases from 1982 to 2003 is enclosed. It can be stressed the great reduction in the number of new cases in the period 1982-1990; from 1700 to 1000 cases approximately. After 1990, the number of cases applied was kept stable until 2003, where a slight decrease is observed.

The number of finished cases also went down in all the period studied except from 1998-2003. The reduction in the number of new cases in the land consolidation courts should imply the increase in the number of finished cases, because neither much work nor time is needed for the new cases. The high decrease in the number of new cases produced from 1982 to 1990 caused the reduction of the volume of work in the land consolidation courts; so a increase in the number of finished cases is observed from 1998.

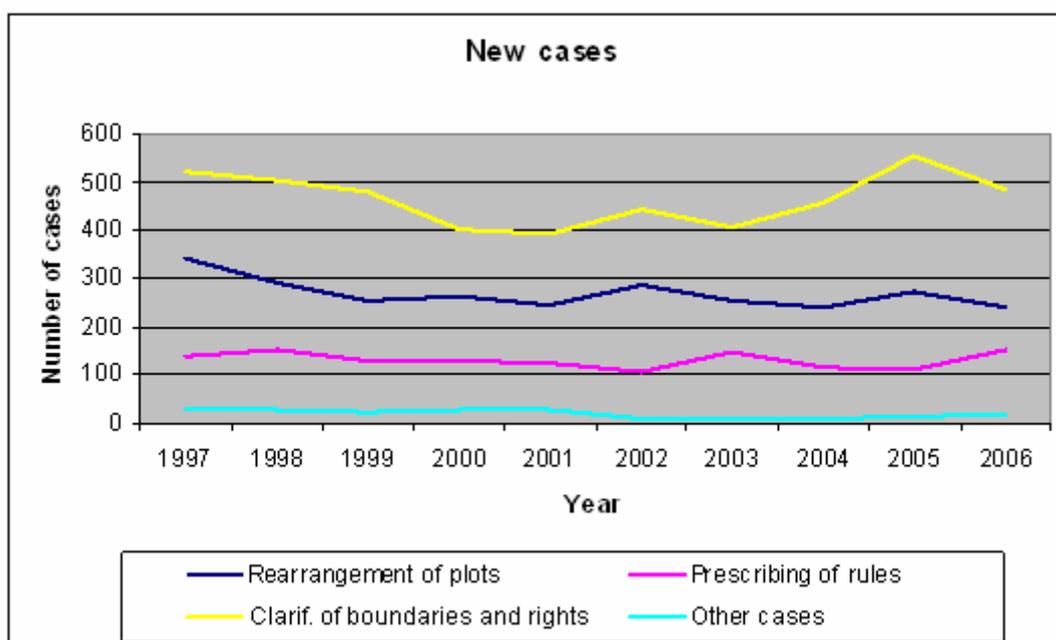
#### 6.9.4. Data series from 1997-2006

The three next figures correspond with the number of new cases, finished cases and total number of land consolidation cases from 1997 to 2006.

Four kinds of cases can be differentiated according with the graphics:

- Rearrangement of plots (Nor. *omarrondering*). In this category are included the cases which involve physical reallocation of plots.
- Prescribing of rules (Nor. *bruksordninger og felles tiltak*). Cases related with the prescription of rules and organizing joint measures are considered here.
- Clarification of boundaries and rights (Nor. *rettsfastsetting*). This kind of cases involves disputes concerning the clarification of boundaries and the clarification of rights on the real estates.
- Other kind of cases (Nor. *andre saker/skjønn*). In this category cases which do not fit in the other categories are included, but also cases which involve physical reallocation of plots together with the prescribing of rules in a certain area (Nor. *skjønn*).

**Figure 29. New land consolidation cases from 1997 to 2006, distributed by kind of case**



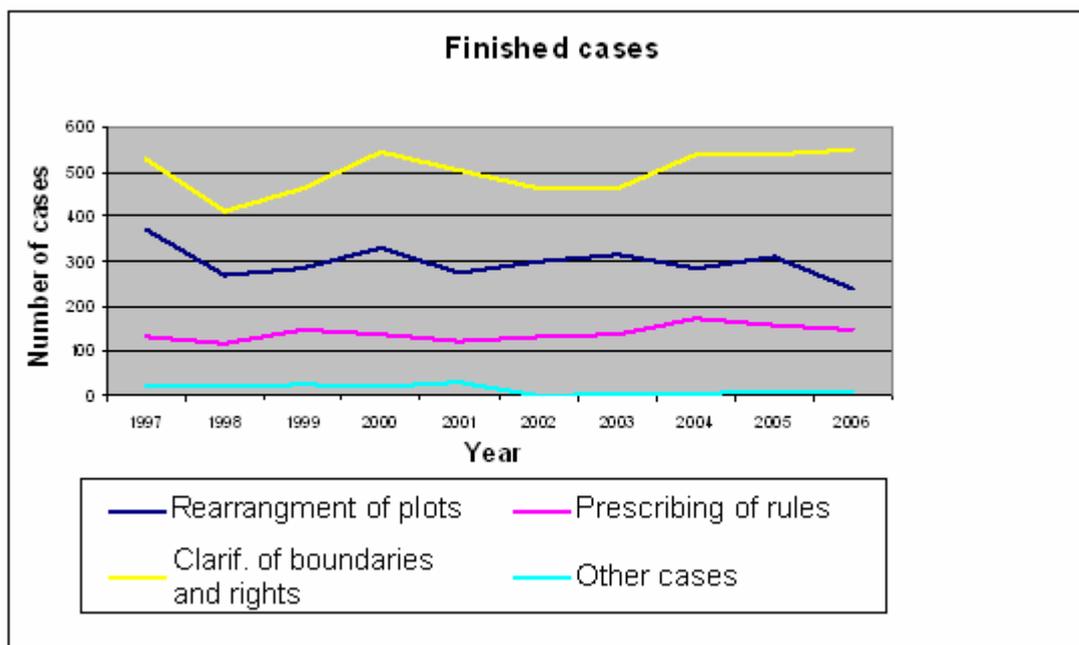
In this figure, cases which were applied in each of the years from 1997 to 2006 are included. It can be seen that the most part of the cases handled by the land consolidation courts are related to the clarification of boundaries and rights, followed by cases which involves the rearrangement of plots.

Regarding the clarification of boundaries and rights, variations in the number of new cases can be observed during this period. A decrease in the number of cases was produced from 1997 to 2000. After certain stabilization in the number of this kind of cases during the next four years, an increase was produced. In 2005, about 550 cases were applied. After this date, the number of cases decreased again.

It can be observed that the number of cases related with the rearrangement of plots and the prescribing of rules is more or less stable in the course of these years. A slightly decrease in the number of cases related with the rearrangement of plots is observed from 1997 (appr. 350 cases) to 2006 (appr. 250 cases).

No notorious changes in the number of other cases (not included in the previous categories) are observed during this period.

**Figure 30. Finished land consolidation cases from 1997 to 2006, distributed by kind of case**



In this figure, cases which were finished in each of the years from 1997 to 2006 are shown.

At the end of 2006, a total of 949 cases were finished, involving 1102 disputes. A total of 19.585 Ha were rearranged, and the area where rules were prescribed involved 677 km<sup>2</sup>. Regarding the boundary disputes, 1749 km were measured and marked. 529 km of roads were involved both in the prescription of rules (private roads, where rules for their use maintenance were needed) and the application for their building (new ones). A total of 8014 parties were involved in the cases in 2006, and the average number of parties per case was 8-9.

The finished cases of each kind finished in each of the years of this period are of course in relation with the cases initiated in the previous years. Because of their different characteristics, their duration can vary remarkably.

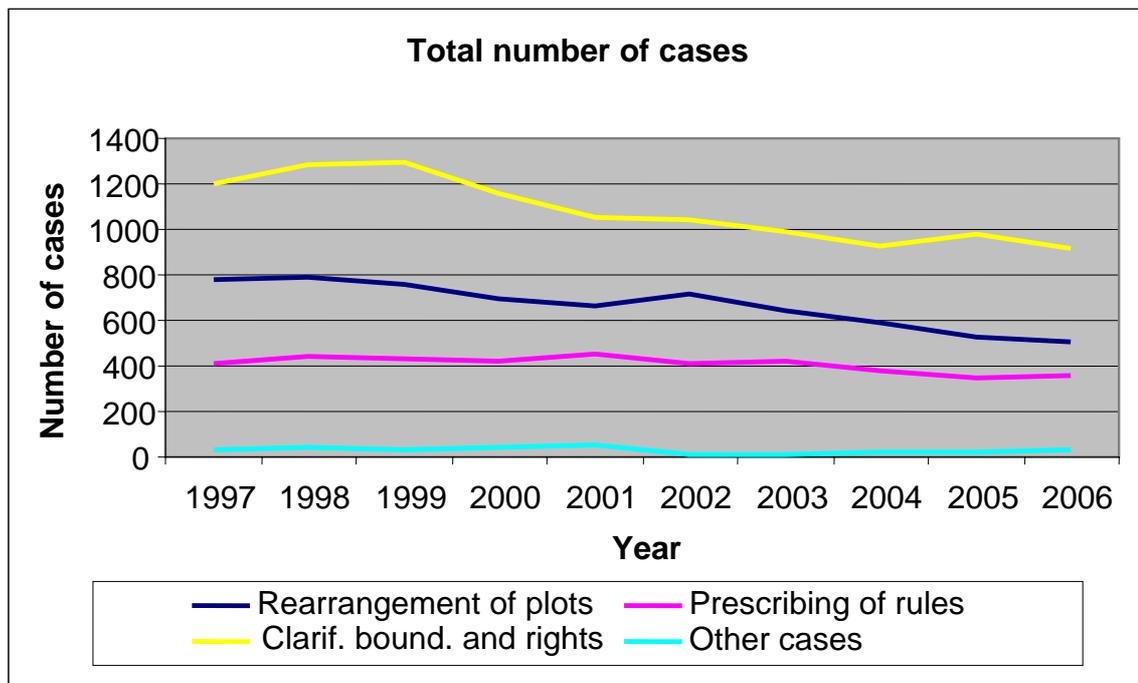
In 1983 a total of 3919 cases were still in process, being this number reduced to 2558 in 1998. In the end of 2006, a total of 1803 cases were not finished yet.

According with the figure, the cases related to boundary disputes which are finished each year are the ones which vary the most. The increase in the number of finished cases of this type in 2000 is in relationship with the decrease in the application of new cases of this kind from 1998 (see previous figure).

After a decrease in the number of finished cases related to rearrangement of plots from 1997 to 1998; this number was kept more or less stable during the next years until 2006, where a decrease was produced.

Regarding the cases which involve the prescribing of rules, the number of finished cases is kept more or less stable in the course of the period studied.

**Figure 31. Total number of cases from 1997 to 2006, distributed by kind of case**



Total number of cases of the different types (including new cases and cases still in process) which were handled by the land consolidation courts is shown in this figure.

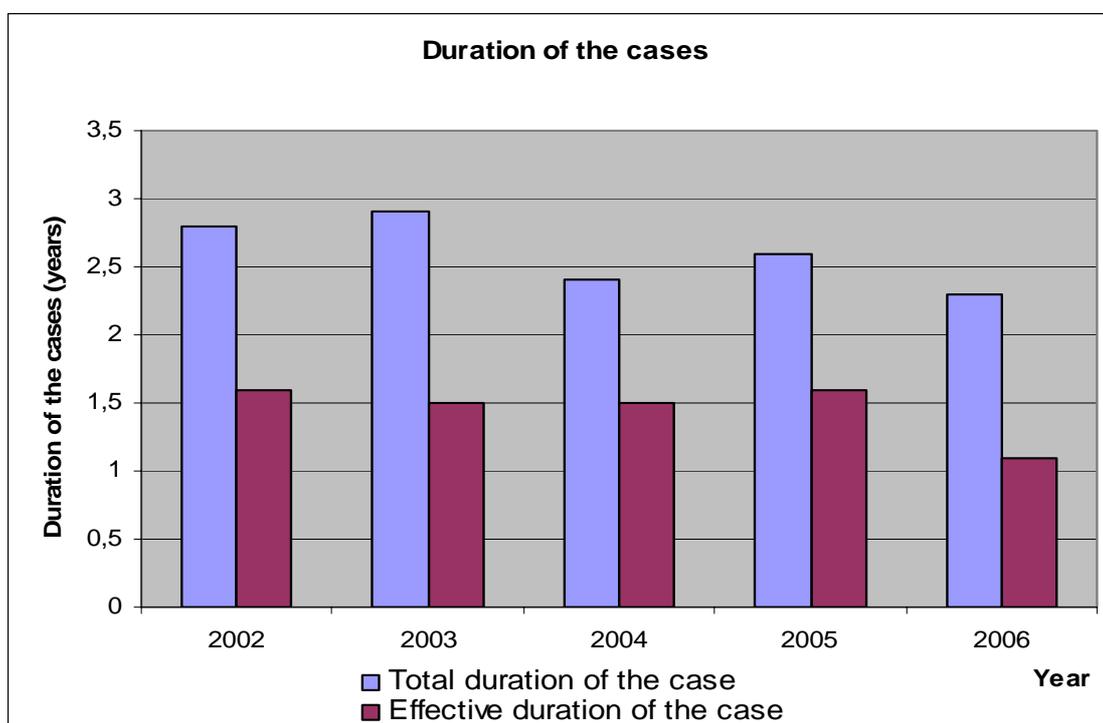
A general decrease can be seen in the number of total cases, but differences in this tendency among the four kind of cases considered can be noticed.

An important decrease in the number of cases related to boundary disputes was produced; from appr. 1200 cases handled in 1997, to 900 cases in 2006. The same occurs with the cases which involve the rearrangement of plots. The decrease in the number of cases during this period was about 300 cases.

However, the number of total cases related to the prescribing of rules and other kinds of cases were kept stable.

#### 6.9.5. Other figures.

**Figure 32. Average duration of the land consolidation cases from 2002 to 2006**



The average duration of the land consolidation cases from 2002 to 2006 is shown in this figure. Two data are available for each of the years studied: the total and the effective duration of the cases.

The total duration of the case makes reference to the period of time passed from the application of the case to their conclusion. Apart of the time required for the land consolidation staff to solve the case, waits due to administrative procedures, etc. are considered, too.

The effective duration of the cases refers just to the time the land consolidation staff devotes in the solving process of the case.

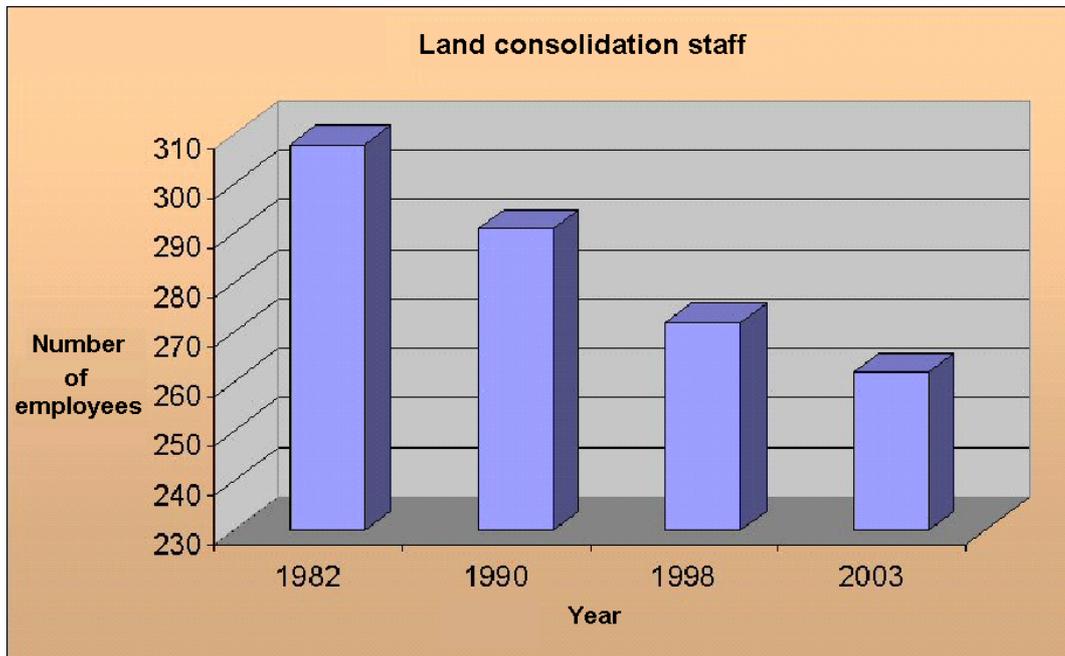
It can be stressed from the graphic that the difference between the effective and total time used is around one year, except in 2003 and 2006, where the difference was higher, around one year and a half.

The average total duration of the cases is higher than two and a half years in 2002 and 2003, being slightly reduced in the next two years. In 2006, the total duration of the cases is the lowest of the period studied.

The average effective duration of the cases from 2002 to 2005 is around one and half years. The effective duration of the cases was also reduced in 2006.

After successive years where the duration of the cases was kept without remarkable changes, it was observed the important decrease in the average time devoted to the land consolidation cases in 2006. This can be explained according with the reduction in the number of cases in the same period.

**Figure 33. Land consolidation staff in different years from 1982 to 2003**



In this figure the land consolidation staff in 1982, 1990, 1998 and 2003 is enclosed. It can be remarked the noticeable reduction in the number of employees, from appr. 300 in 1982 to 260 in 2003. The explanation for this fact lies mainly in the introduction of modern technologies for the surveying tasks, which do not require as much staff as the old instruments.

#### 6.10. FINAL REMARKS

Norwegian land consolidation court can be defined as a specialized court on land disputes, a body which combines skills in diverse fields: law, mapping, surveying, agronomy, economy, etc, and which has court power, and is encouraged to mediate decisions.

A very long list of problems related with land issues between owners/right holders can be handled and “solved” through land consolidation. They have been grouped in physical, legal and organizational rearrangements, and clarification of rights. In addition there is a miscellaneous group comprising assessments of compensations, buying and selling of land, etc.

“Multifunctionality” is an attribute which can describe the land consolidation activities since the establishment of the Land Consolidation Service in 1860, but which really took off in 1936 with the introduction of clarification of boundaries as a task in itself.

More activities were included in the jurisdiction of the land consolidation courts according to the enactment from 1979, and since then, new amendments in the law were made, the last one in January 2007. All the successive modifications gave rise to a complex and sometimes confuse legal framework, even for the experts in the matter.

Anyway, the changes in the law are the response to the new circumstances and tasks which the land consolidation court has to deal with, stating the dynamism regarding land uses.

The statistics regarding the land consolidation cases are very useful to illustrate their evolution in the course of time. What can be observed according with the data is the decrease in the number of cases handled by the land consolidation courts from the previous decades to the present times. This fact is related with the decrease of the importance of the agricultural activities.

Nowadays, the most part of the cases carried out in the land consolidation courts are related with the clarifying of boundaries and rights. Mistakes or imprecisions in the cadastral information can partly explain this fact. In spite of the regression produced in the agricultural sector, the rearrangement of plots is still one important activity developed by the land consolidation courts.

## 7. LAND CONSOLIDATION CASES

### 7.1. INTRODUCTION

Six main cases are going to be studied by means of the realization of the interviews with the personal involved in each of them. In some of the cases, the interviews have been carried out just with the land consolidation staff or the landowners involved; in other cases the interviews have been carried out with both parties. A questionnaire was previously designed (see appendix), distinguishing two interview models: one directed to the landowners and other directed to the professionals (land consolidation staff, lawyers, etc). The land consolidation cases that are going to be studied are the next ones:

	<b>Name of the case</b>	<b>Content / kind of land dispute</b>
1	Byrkjelo	Clarification of waterfall rights in a river before the building of a private hydropower plant
2	Stryn	Clarification of ownership and registration of cabins
3	Bunæs	Rearrangement of plots, modification of the route of a private road
4	Daler	Rearrangement of plots, establishing rules for the maintenance of a private road
5	Nykirke	Prescribing of rules (pasture rights, maintenance of fences, hunting rights)
6	Ulland	Clarification of water rights in a lake, building of a new private road

Figure 34. Land consolidation cases which are going to be studied.

Besides these cases, two urban cases handled by the land consolidation court are included, too. These cases are not studied in detail as the other ones; they have to be considered as examples of the kinds of cases which are faced by the land consolidation courts in urban settings. They have come to my knowledge in the final stage of my work (July 2007), and no interviews neither with the owners nor the land consolidation staff were carried out. A brief explanation of the background and the conflicts will be included of each of them.

The land consolidation cases studied are from different parts of Norway, belonging to three different land consolidation (LC) offices (Nor. *Jordskifterettene*). The two first cases (Byrkjelo, Stryn) were managed by the Nordfjord LC office; the case Bunæs, by the Akershus and Oslo LC Office; and the last ones (Daler, Nykirke, Ulland) by the Nedre Buskerud LC office. The urban cases were handled by the Akershus and Oslo LC office.

In the case Byrkjelo the judge in charge and one of the landowners involved were interviewed. In the case Stryn one of the landowners involved was interviewed, as well as in Ulland case. In the rest of the cases the judges responsible of the cases were interviewed.

The cases are handled in a different way depending on the court and the judge in charge, but a common procedure is followed in mostly of the cases in their resolution process. After receiving the application for a land consolidation case in the land

consolidation office, the land consolidation staff has to decide that the case shall proceed according with the law. One this is done, a preliminary meeting with the parties involved is arranged. After that, successive meetings are arranged during the development of the case, with or without the parties present.

In the first meeting the parties involved express their position, wishes and complains regarding the matter of the case and objectives desirable to reach for each of them. Different relevant documents for the case (involving land titles, letters, maps, etc) are given by the landowners during the meetings. In successive meetings more documents can be added.

After this first step, the land consolidation staff studies the case and the situation of the different parties, and later on successive meetings with the parties will be arranged for making progresses in the resolution of the case. The land consolidation staff can decide to arrange meetings with part of the landowners involved in the case, if they have a common problem within the broad case. In some of the court meetings just the land consolidation staff is present. In this kind of meetings, discussions about how to proceed with the case and decisions on it are carried out.

During all the stages of the process, a formal record about the proceedings of each of the meetings is written up. At the end of the case all the records of the successive meetings are compiled, shaping a final document. This document, called *Rettsbok* in Norwegian, does not contain all the information related with the case, but provides a “narrative” of it. Together with other documents filed, it is a comprehensive information source of the cases.

The structure of the court meeting records can vary from one land consolidation office to another, but two main parts can be distinguished:

1) Data regarding the court meeting, involving:

- date and place of the meeting
- president of the court (judge in charge of the case), lay judges and trainee judge (if there is any)
- case number and case name
- parties present in the court meeting
- documents given by the parties

2) Content of the court meetings: discussions on different subjects of the case, decisions made, comments of the parties involved, etc

Apart of the information coming from the interviews, where the parties explain the situation from their point of view, the records of each of the meetings are very useful because they show the steps followed during the process in a temporary sequence. Maps arise as a main tool for the better understanding of the case. With this information available, the development of the cases can be followed; this is precisely what has been done for the case study.

One of the cases studied (Nykirke) is still in process, being the final record not finished yet, so the case is explained taking into account the information of the interview, where the steps done by the moment are clarified. For other two cases (Stryn, Ulland), the same source of information was used, because, in spite of these two cases are already finished, their records was not available. For the rest of the cases studied, the record and the interview were used as sources of information.

During all the interviews, maps were used as a graphic tool on which the interviewed explained the land dispute from his/her point of view in each of the cases. Some of these maps are included together with the explanation of the cases. Most of them are available in paper, so they do not keep their scale because of the distortions produced in the digitalization process. They have to be used as a source of graphic information about the cases, which help in their understanding.

## 7.2. BYRKJELO

### 7.2.1. General information about the case

This case can be considered as a large one within land consolidation activities in Norway, because of the number of parties involved (46). The case is about the clarification of the waterfall rights in a river before the building of a private hydropower plant.

This case was handled by the Nordfjord Land Consolidation Office. It is already finished; it started in April 2002 and it was finished in February 2004. One judge and two lay men were in charge of this case.

Both the judge in charge of the case (Vidar Bergtun) and one of the landowners (Anders Bjørnereim) were interviewed on 4<sup>th</sup> December 2006. The record of the case and a map of the area are available as sources of information, together with the interviews.

### 7.2.2. Background: waterfall rights (Nor. *fallrettigheter*)

The energy of the Norwegian waterfalls has been utilized to turn millwheels from as far back as the early Middle Ages. The advent of electrification towards the end of the 1800s made it possible to harness the abundance of waterways to provide power to factories located further away from the water source. Thus, hydropower laid the foundation for the industrialization of Norway.

In the early 1900s, hydropower facilitated the build-up of power-intensive industry by companies. Following World War II, power-intensive industries such as aluminium production and the electrochemical and electro-metallurgical industries were widely expanded in Norway as part of reconstruction of Europe. The most intensive phases of development of the hydropower industry took place from 1910-1925 and 1960-1985. In those dates, the construction of the power stations was carried out by the Government, but, in the last years, more private power stations have been built and more are wanted to be built, too. The increase in the electricity prices, traditionally very low in Norway, and the possibility of selling the electricity produced, are two main factors which explain this tendency.

The production of electricity by means of hydropower stations is linked with the waterfall rights (Nor. *fallrettigheter*) in a course of water. These rights are associated with the ownership of the plots which border on the river, but these rights can be sold or rented apart of the land property.

The waterfall rights area is defined by the plot-river boundary; and out to the central axis of the river. They are measured in terms of “difference in height” (meters) between the most upstream and downstream points along the boundary plot-river. This difference in height is the one which will determine the amount of electricity generated.

According with the Act No.82 of 24 November 2000 relating to river systems and groundwater (Water Resources Act):

“A river system belongs to the owner of the land it covers, unless otherwise dictated by special legal status. When all or part of a river system is located on common hold property, the rules in Act No. 6 of 18 June 1965 relating to jointly-owned property apply to the relationship between the joint-owners.

The owners on each side of the river system have equal rights to exploiting its hydropower, unless special legal grounds dictate otherwise.

The landowner may oppose others exercising rights to a river system belonging to him without special legal grounds. Within the framework set by the legislation the landowner himself may control the river system provided no special rights are an obstacle to this.”

### 7.2.3. Case content and development of the case.

The clarification of the waterfall rights along a certain part of the river was the main objective for the landowners in this case. Their aim was to build a private hydroelectric power station, so it was important to know whom the waterfall rights belonged.

The problem arose because in many land transaction carried out years ago it was not clearly specified if the waterfall rights had also been sold together with the land, or not. So it was not clear if the rights belonged to the previous landowner or to the new one.

In this case the landowners decided to create their own enterprise for the building of the hydroelectric power station and for the sale of the electricity generated. The building of hydroelectric power stations requires permission from the Government, which decides how much water can be used for this purpose, for guaranteeing the perfect maintenance of the river and its ecosystem.

One of the landowners applied for the land consolidation case, and the rest agreed with the intervention of the land consolidation authorities in the case, because of its complexity and the number of parties involved.

Within the area involved in the case, two main areas can be differentiated: the northern and the southern sides of the river (see map). The land in the southern side is hold in common among several landowners, and the land in the northern part is private, i.e. individualized in several plots which belong to different owners.

Because of the great number of landowners involved in the case, three groups were made to facilitate the development of the case: one group composed by the landowners of the southern side of the river, and the other two groups were composed by the landowners of the northern side. One representative of each group was designated.

Different meetings were arranged with the three groups of owners during the development of the case. At the beginning, a preliminary meeting with all the parties was held, but later on, independent meetings with each of the groups of landowners were carried out.

During these meetings, the parties contributed documents which could be relevant for the clarifying of the rights. The land consolidation staff, according with the information available, had to make decisions on whom the rights belong in the present time.

Finally the distribution of the waterfall rights was made as follows:

- a) Southern part (common land): the waterfall rights were distributed equitably among all the landowners of the area.

- b) Northern (individualized plots): the calculation of the waterfall rights in this case was made for each one of the plots which borders with the river. The measurement was made in terms of “difference in height” (meters) between the most upstream and downstream points along the boundary plot-river. Waterfall rights are referenced in % of the total difference in height from the initial to the final points of the stretch of river involved in the case.

Apart from the building of the hydroelectric power station itself, a dam had to be built, together with the pipe network for transporting the water from the dam to the power station placed in Byrkjelo. Compensation for the landowners affected by the course of the pipelines was decided by the land consolidation court, too.

The final decision on the distribution of the waterfall rights was accepted by all the landowners involved in the case. The costs of the process were distributed according with the proportion of income which each of the landowners will get from the production of electricity in the hydroelectric power station.

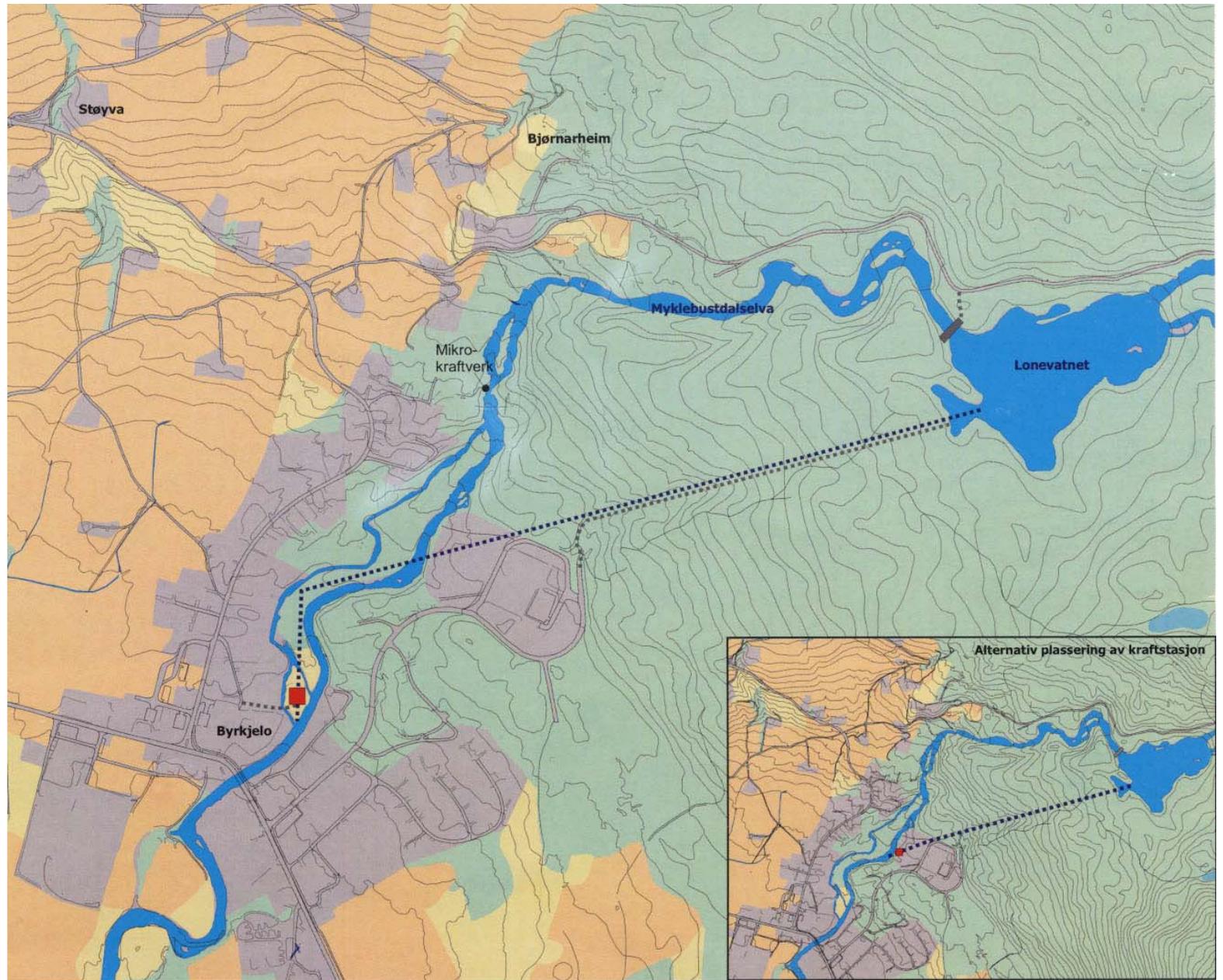


Figure 35. Case Byrkjelo, map of the case area.

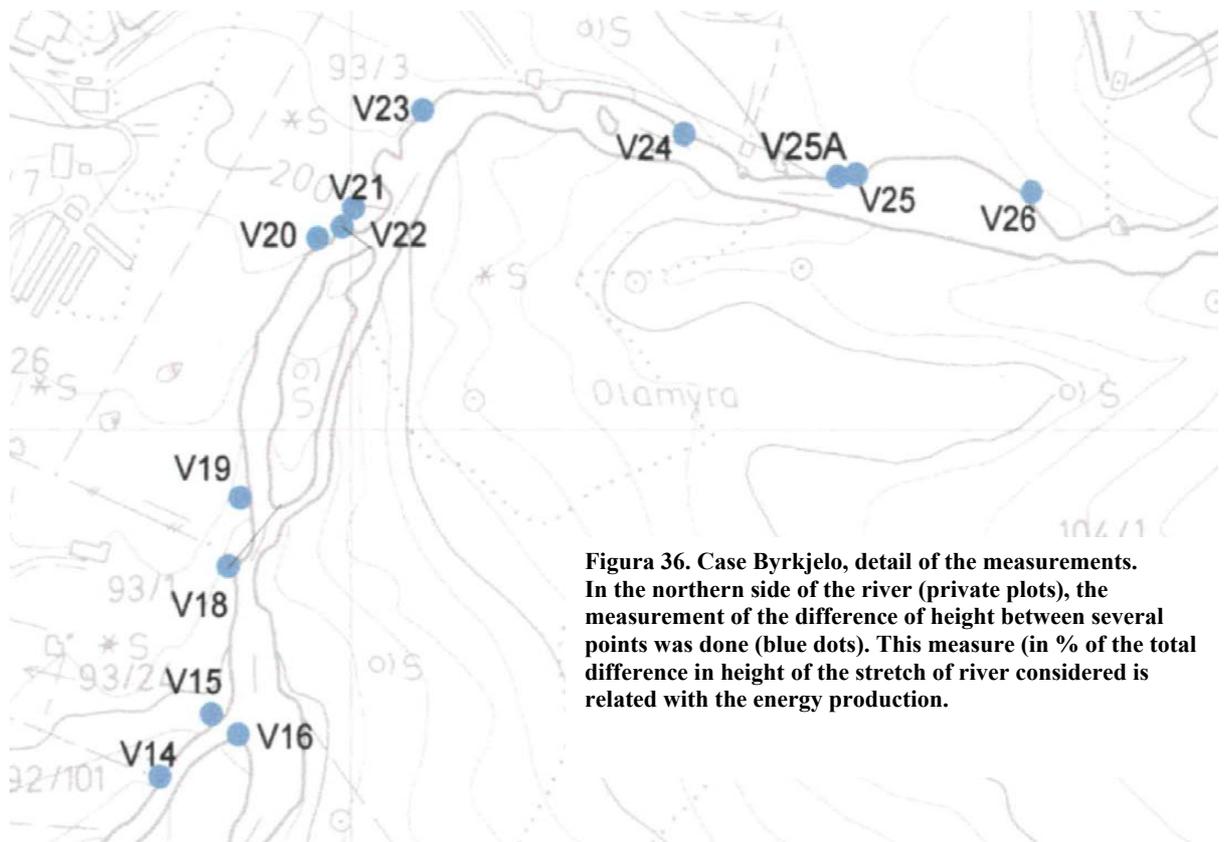


Figura 36. Case Byrkjelo, detail of the measurements. In the northern side of the river (private plots), the measurement of the difference of height between several points was done (blue dots). This measure (in % of the total difference in height of the stretch of river considered is related with the energy production.

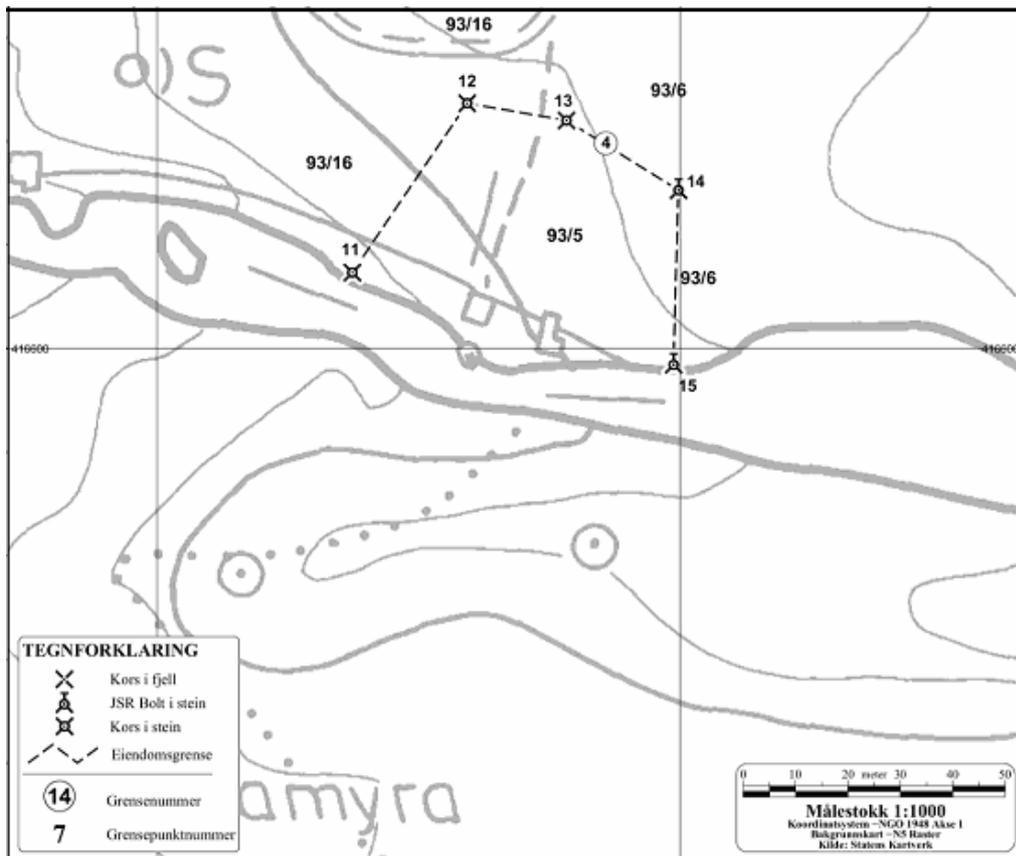


Figura 37. Case Byrkjelo, clarification of boundaries. During the cases it was also required to clarify several boundaries.

NORDEFJORD JORDSKIFTERETT  
 Jordskiftekart over  
**STØYVA MFL.**  
 i Gloppen kommune



SAK NR. 1/2002  
 Avsluttet 27.02.2004  
 Kartarkivnr. 143396  
 Blad 3 av 3  
 Berørte gnr. -92, 93  
 Teknisk saksbehandler -  
 Avdelingsingeniør Odd-Harald Heggen

### 7.3. STRYN

#### 7.3.1. General information about the case

This case can be considered as a large size one within land consolidation activities in Norway, because of the number of parties and area involved. This case is related to the building of cabins, registration of cabins already built, and prescribing of rules regarding the joint use of an area.

This case was handled by the Nordfjord Land Consolidation Office. It is already finished; it started in February 2000 and finished in December 2003. One judge was in charge of this case. One of the landowners involved in the case (Knut Jacobsen) was interviewed on 5<sup>th</sup> December 2006. The record of the case and maps are available as sources of information, together with the interviews.

#### 7.3.2. Background: changes in land use.

In the last decades a profound reduction in the number of active farms has taken place. In 1950 there were 200.000 farms in Norway, many very small, and offering only a part-time livelihood in agriculture, forestry, and related rural occupations. Today there are slightly over 50.000 active farms, many of which offer only part-time livelihoods.

Due to this great decrease in the number of active farms, in many cases land use changes have been produced in the agricultural areas. In this case, a common pasture area for the cattle was developed to a recreational area, where cabins were built.

#### 7.3.3. Case content and development of the case

Tonning and Vik are the names of two “farms” which hold an area of 700 ha in joint ownership. Joint pasture rights exist in the area, too. A total of 22 landowners are members of the joint ownership. There are a few right holders who do not belong to any of the farms, but have pasture rights for their cattle in the area in question.

From 1962 the building of the cabins with recreational purposes started in the area. At that time several agreements were made between those interested in building a cabin and the landowners. The agreements were not-written, and in most of the cases the users did not pay for the right to use a cabin, i.e. for the building site.

During the last decades the number of active farms decreased, and nowadays any of them is active anymore. No cattle is present in the area either. At the same time, increasing interest for the building of cabins in this area has been stated.

Under this situation, the landowners wanted to develop the area with recreational purposes with the building of more cabins. Existing cabins are wanted to be registered and legalized, too. A landowner association is wanted to be created, too.

The development of the area implies its subdivision (individualization) in several plots where the new cabins will be placed. As consequence of the development of area, elimination of the pasture rights is needed, too.

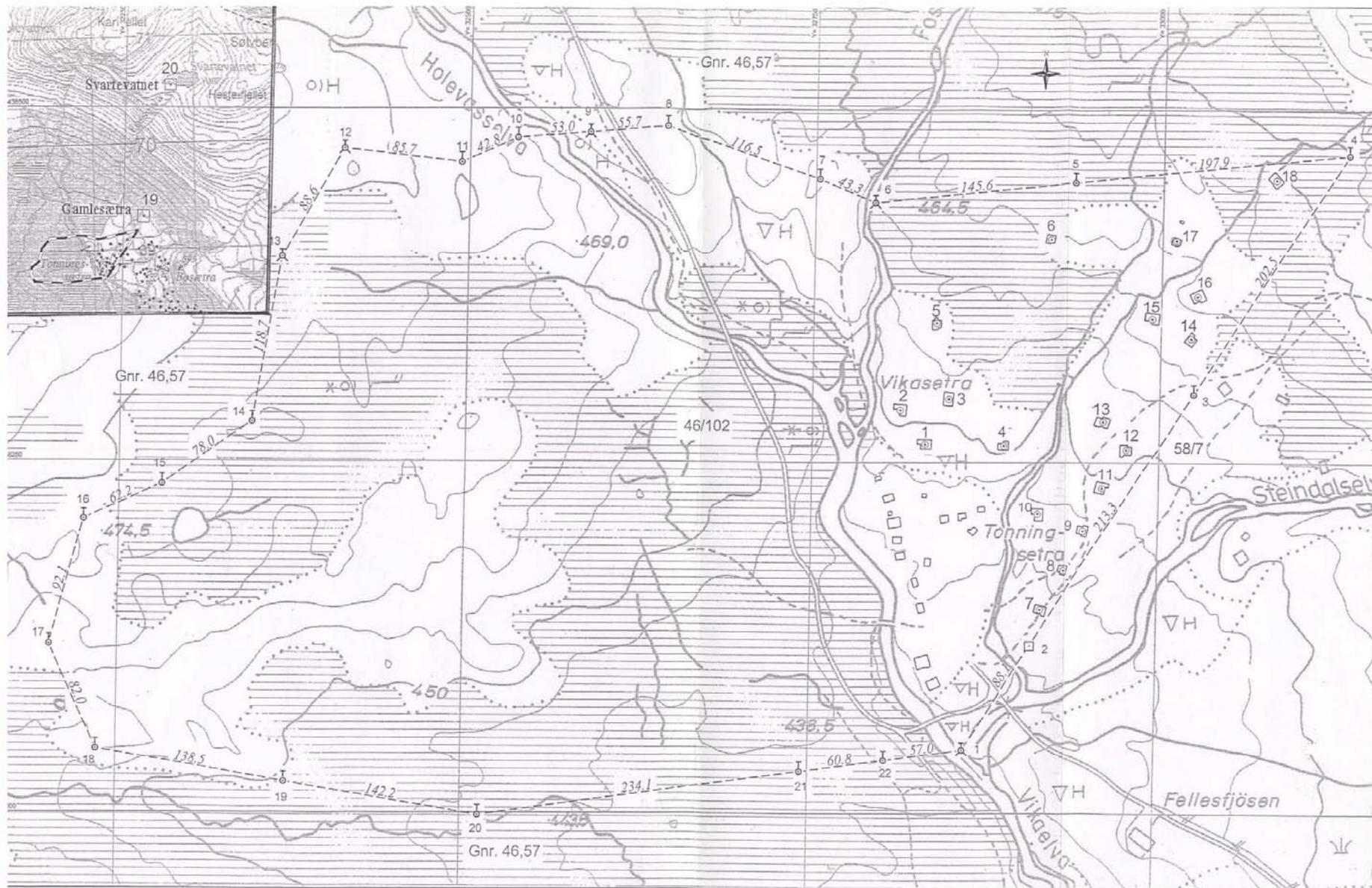
The different aspects of the case were handled as follows:

- Registration and legalization process for the existing cabins implied the establishment of certain price to be paid for the users for the right of using the cabin.
- Development of the area. The building of new cabins is regulated by Master Plans designed by the municipality, so building permission is needed. Anyway,

in this case the land consolidation court designed a sort of Land Uses Plan in the area, where areas to build new cabins, roads, etc, were defined.

- The elimination of the pasture rights demanded the establishment of compensations for the right holders in the area, but not for all of them. The rights were removed, but just the right holders who had rights in the areas where it was planned to be developed received a compensation for the loss of these rights.
- Rules for the operation of the landowners association were prescribed.

The solving process of the case, as usual, was based in successive meetings with the landowners. Before the final decision of the court, a proposal was written up and sent to the landowners, who could make remarks on it. Taking these comments into consideration, the final decision concerning all the previous matters was made. All the landowners involved agreed with the final solution.



**NORDEFJORD JORDSKIFTERETT**

Jordskiftekart over  
**VIK OG TONNING**

I STRYN kommune

SAK NR. 8/1998  
Slutta 18.12.2003  
Kartarkivnr. 143390

Blad 1 av 2  
Saka gjeld gnr. - 46,57  
Kartbladnr. AT 092 3  
Teknisk sakshandsamar -  
Avd.Inz. Ørian Haueland

**TEIKNFØRKLARING**

- Grensestein
- JSR Jordmerke
- JSR Bolt i stein
- Eigedomsgrense

0 25 50 75 100 125

**MÅLESTOKK 1:2500**  
Koordinatystem - NGS 1948 Alas 1  
Bakgrunnskart - N5 Ramer  
Kilde: Sagens Kartverk

Figure 38. Case Stryn, map of the case area.

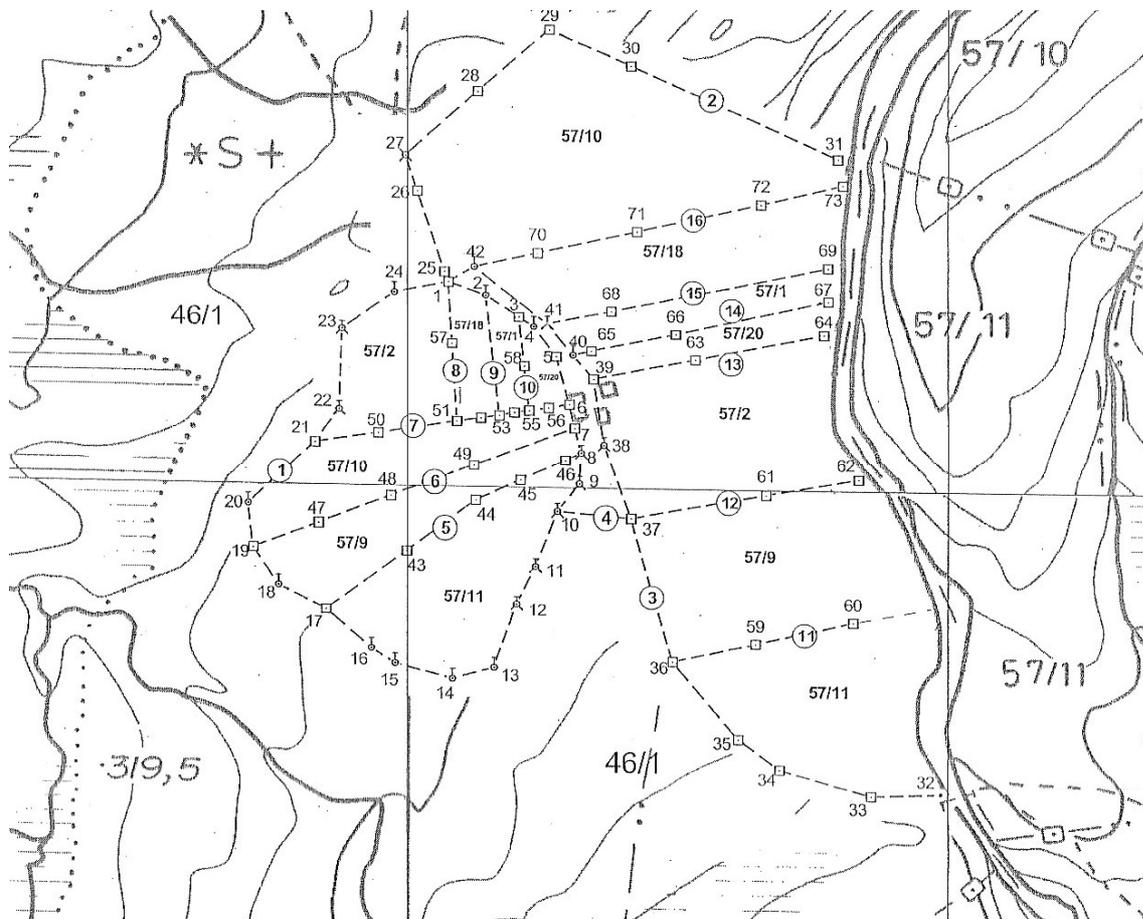


Figura 39. Case Stryn, map where the subdivision of the common area in several private plots is shown.

## 7.4. BUNÆS

### 7.4.1. General information about the case

This case can be considered a small size case within land consolidation activities in Norway, because of the number of parties (three) and land area involved. The case was initiated at first because of the existing conflict between two landowners; one of them wanted to re-build an old house next to the other's property. Finally the case also involved the rearrangement of plots.

This case was handled by the Akershus and Oslo Land Consolidation Office. The case is already finished; it started in November 2001 and finished in February 2004. One judge and one trainee judge were in charge of this case.

The trainee judge at that time, Øystein J. Bjerva, was interviewed on 23<sup>rd</sup> February 2007. The record of the case and maps of the area are available as sources of information, together with the interview.

### 7.4.2. Case content and development of the case

The solving process of the case will be explained according to the *Rettsbok*, where the different steps followed are shown:

#### 1) Preliminary meeting with the parties. Date: 20.11.01

This was the first meeting in the case, where all the parties were present and they exposed their positions regarding the case. There are 3 parties involved (according with the map, each of the parties corresponds with one of the colours):

- Part A (Lillian Synnøve and Leif Kopperud): green one. No active farmer.
- Part B (Marit E. Velund Bunæs): purple one. Active farmer.
- Part C (Sameiet Bunes): pink one. Joint ownership. No farming activity in the area, but they rent their farmland to other farmers.

Part B is the party who applied for the land consolidation case. The main area of conflict is parcel number 1 (pink one; see map below), which is close to B property.

Part C wanted to re-build an old house placed in this small piece of land. Concerning this matter, part B argued that the parcel was too small, and suggested the building of the house in the parcel placed in the other side of the road (parcel number 2; see map). Part B also applied for the rearrangement of plots placed in the left side of the road.

Part A agreed with the development of the land consolidation case; and also agreed with the rearrange of the properties.

Part C consists of 4 landowners, who hold the land in joint ownership. The representative of the joint ownership stated his disagreement regarding the development of the land consolidation case, but not all the members of the joint ownership agreed with him. Some of them wanted the case to proceed, but they did not state their position in a formal way, playing a passive role during the course of the case.

2) Judge office, court meeting (no parties present). Date: 11.04.02.

After listening to all the parties in the first meeting and studying the conflict, the judge had to decide if the case will proceed or not. In this sense, a preliminary decision was made before the final one was made in 10.05.02; so the case proceeded.

3) Judge office, court meeting (no parties present). Date: 14.09.02.

In this stage of the case, the valuation of the parcels involved in the case was done.

Two proposals were made to the parties for the resolution of the conflict. The first one focused just on the rearrangement of the plots placed in the left side of the road. In the second proposal, forest land placed in the right side of the road is wanted to be included in the rearrangement, too.

Information regarding the two proposals composed of maps and comments were sent to all the parties by post.

4) Meeting with the parties. Date: 24.01.03.

In this meeting the parties, after receiving the information regarding the two proposals, exposed their opinions, complains and remarks about them. The parties agreed in choosing the proposal number one, in which just the agricultural area was wanted to be rearrange,

Forest land in the right side of the road is kept apart of the rearrangement process, excepting parcel number 3 (purple), which is included because of its small size and its location apart from the rest of the purple's properties.

The different opinions of the parties about the proposal number one were:

- Part A (green one): they agreed with the proposal for the rearrangement of the properties.
- Part B (purple one) also agreed with the proposal, but they also proposed to move the small road next to the farm. They argued that it was difficult for the trucks which supply food for the animals to circulate in that stretch.
- Part C (pink one) disagreed with all related to the development of the case.

In this stage, municipality regulations which affect the building conditions in parcel number one (pink one) are checked, too. According to them, a strip of land is needed to keep free next to the road, so the useful building surface in the parcel is reduced. The minimum surface required for building is also established by the municipalities.

Useful building surface in parcel number 1 is checked. Taking the previous regulations into consideration, the parcel is considered too small for the building of the house. It was concluded that it was forbidden to re-build the old house in the parcel.

5) Judge office, court meeting (no parties present). Date: 18.11.03.

The remarks done by the parties were studied and some modifications were made in the first proposal, getting a second proposal, which was sent again to the parties.

Regarding the change in the route of the road, suggested by part B, the task was left apart from this case, being started a new case specifically to deal with it. Changes in roads require

permission from the Road Authorities, so the case could extend much more. This is the reason why this new task was kept apart from the initial case.

6) Judge office, court meeting (no parties present). Date: 02.02.04.

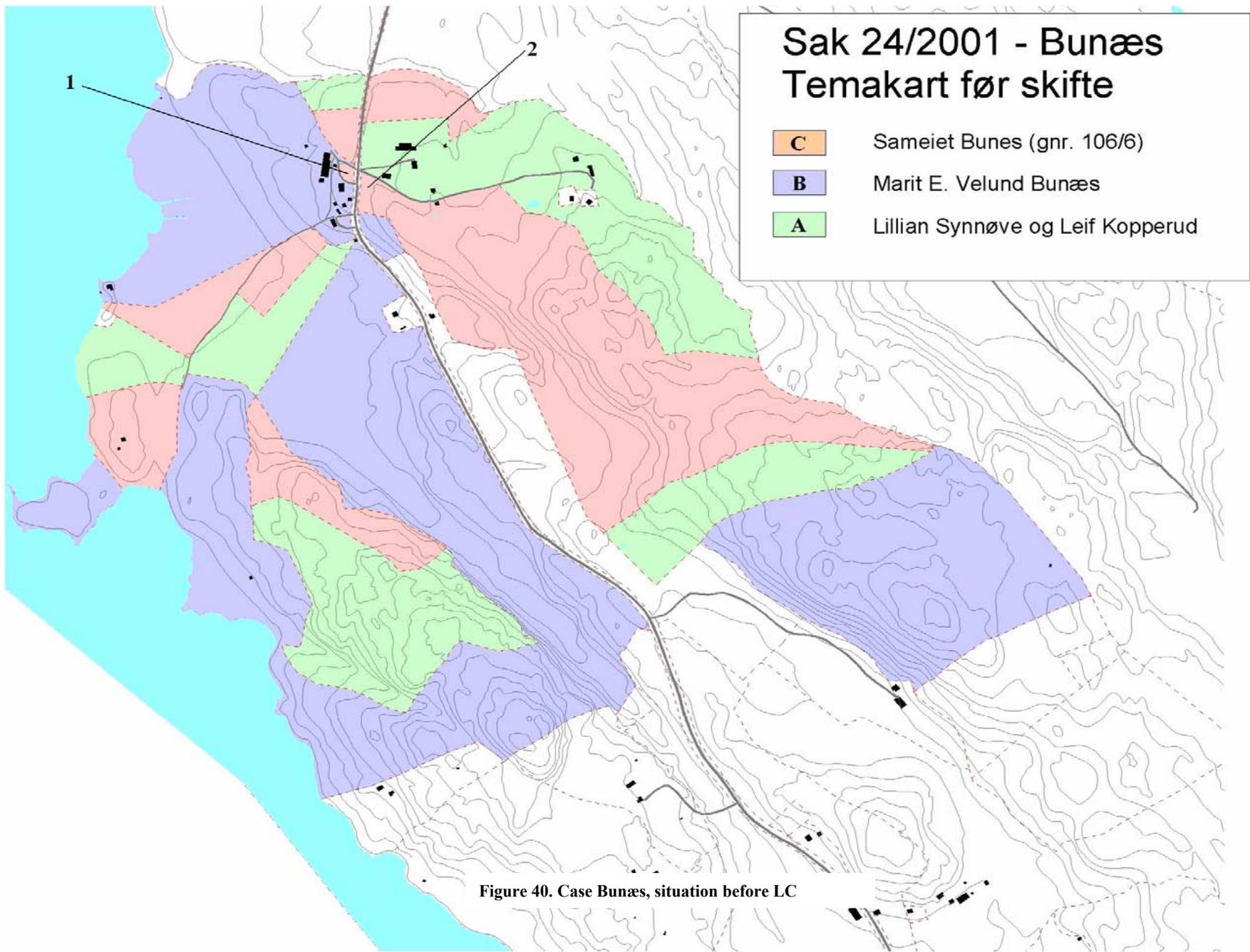
After few changes were made in the second proposal according to the remarks of the parties; the final proposal was written and sent to all the parties by post.

The costs of the process were shared among all the parties according to the increase of income that they will get with the new situation after the land consolidation process.

Checking the final layout of the plots after the reallocation process, it was proved that part B received slightly more land than the other parties. For this reason, he had to pay a certain amount of money to the others as compensation.

A few remarks have to be done about the case:

- During all the phases of the case different documents were contributed by the parties, and also municipal regulations (for instance, building regulations), etc, were checked.
- During the process, a continuous updating of the data concerning the parties involved was done (investigation of inheritances and heirs of the different properties, for instance)
- The case was appealed by part C (pink one) to the land consolidation court of appeal.
- The case concerning the rearrangement of the road is already finished.



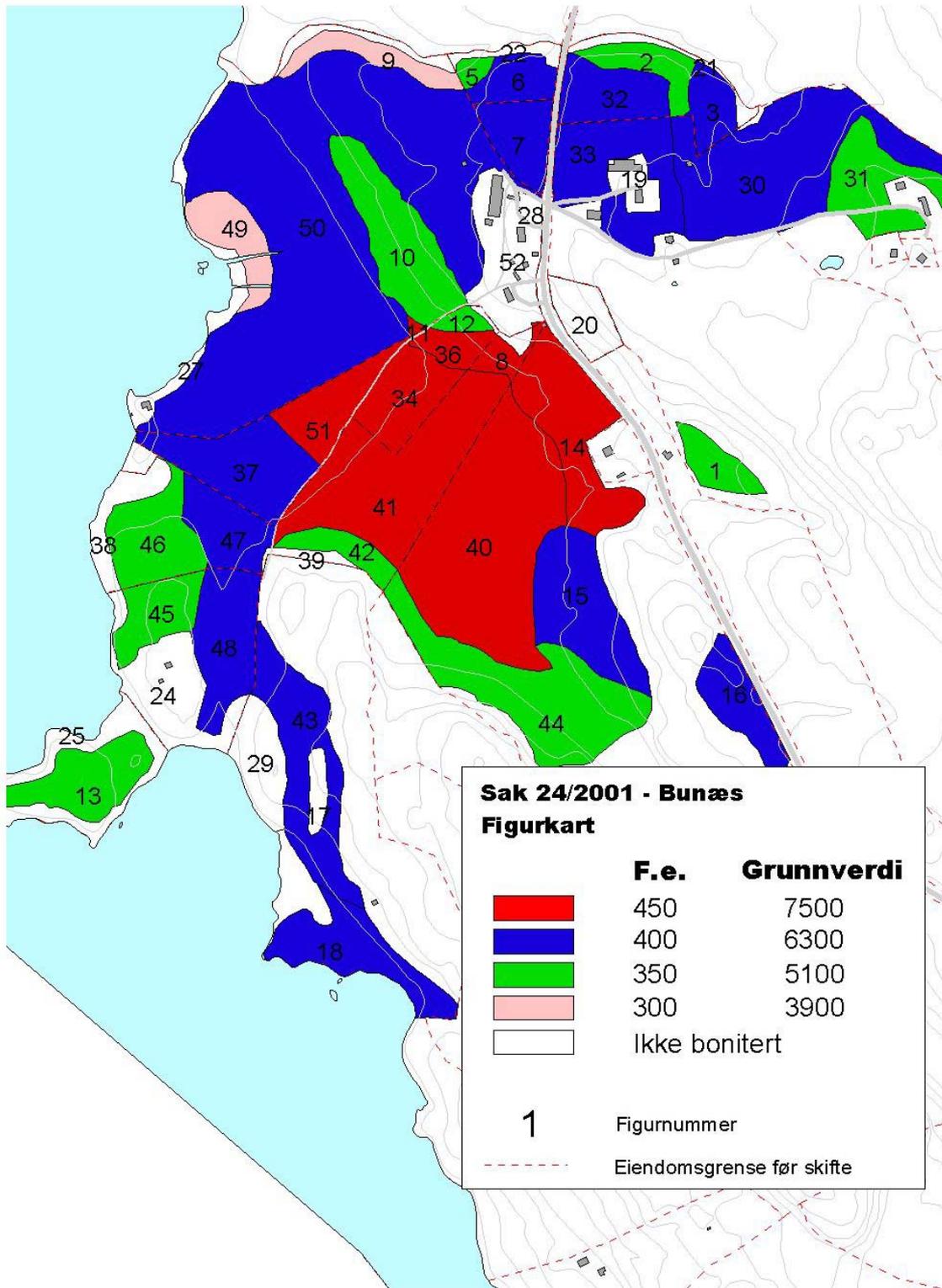
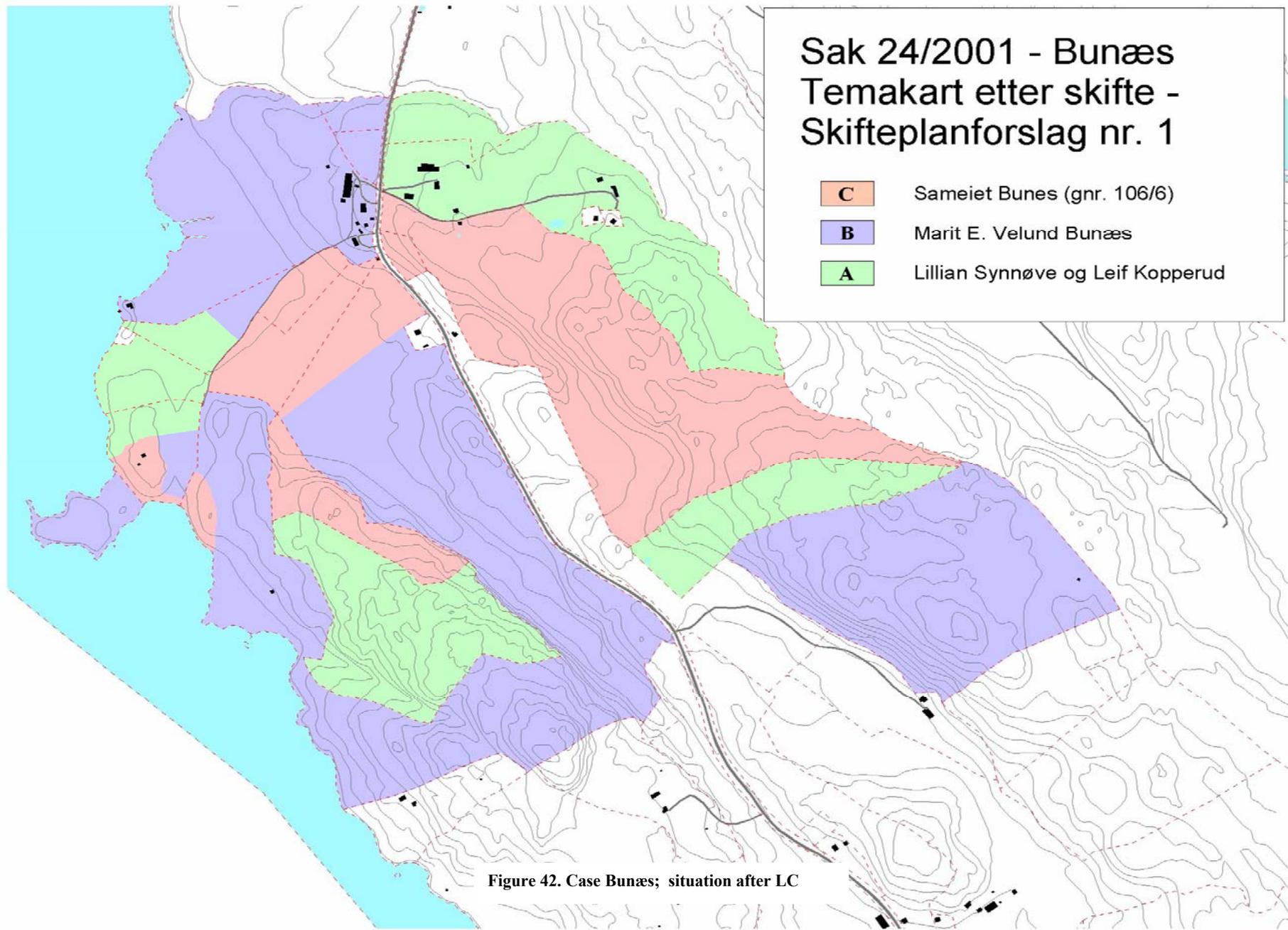


Figure 41. Case Bunæs, land valuation.

A classification in terms of productivity is designed to classify the plots involved in the rearrangement process. Considering the income coming from the harvest (*f.e.*: kg wheat/1000 m<sup>2</sup>) and the costs, the ground value for each plot is calculated (Nor *grunnverdi*: NoK / 1000 m<sup>2</sup>). According with these values, the reallocation of plots will be done.



## 7.5. DALER

### 7.5.1. General information about the case

This case can be considered a large size case within land consolidation activities in Norway, because of the number of parties (32) involved. The case was initiated after the decision of the Railway Authorities of closing several railway crossings. As consequence of that, the prescribing of rules for the road which provides access to the plots was needed. Afterwards, the rearrangement of these plots was another action included in the case.

This case was handled by the Nedre Buskerud Land Consolidation Office. The case is already finished; it started in October 2001 and finished in March 2004. One judge and two lay judges were in charge of this case.

The judge in charge of the case (Gunnar E. Sauve) was interviewed on 23<sup>rd</sup> March 2007. The record of the case and maps of the area are available as sources of information, together with the interview.

### 7.5.2. Case content and development of the case.

The area of the case involves agricultural land. Thirty two 32 different landowners took part in the case.

The case began because of the decision of the Railway Authorities of closing several railway crossings, which let the landowners accede to their properties from one side of the line to the other.

After closing the different crossings, the landowners had to go further to cross the line, so they needed to be compensated. The Railway Authorities reached a compensation agreement with almost all the landowners affected, but not with all of them. Then the Railway Authorities applied for a land consolidation case, so the land consolidation staff could mediate between the two parties to reach an agreement regarding the compensations.

Once the land consolidation staff was involved, the landowners applied also for the reallocation of their plots in the same area.

The initial phases in the development of the case were the habitual ones: after receiving the application form for the case, a preliminary meeting was held with all the parties involved. After studying the case and listening all the parties, the court had to decide if the case shall proceed, which finally did. Later on, the land consolidation staff visited the area.

Besides the economic compensations after the closing of the crossings of the line, rules concerning the use and maintenance of the road which provides access to the plots (in the other side of the line) were needed to be established, too. These rules included the organization of the maintenance works in the road (who was the responsible of this task, requirements, etc). The different landowners had to cover more or less distance up to their properties in the other side of the line. According to that, differences in the use of road can be established among them. So, taking this into consideration, maintenance tasks are distributed and arranged. Improvements in this road were made, too (building of a tunnel to cross the line).

Regarding the rearrangement of the plots, the process followed the next steps:

- investigation of the property and boundaries of the plots
- valuation of the land
- rearrangement of the plots
- establishment of new boundaries

According to the next maps, which show the situation of the area before and after the reallocation process, it can be noticed that the new plots are maintained as strips (as before the reallocation process) which still cross the railway line. This structure was maintained because of the topography of the terrain. From up the mountains to the river there is a great difference regarding soil conditions and sun exposure; so the “fairest” way of dividing the land is by means of strips.

The case was appealed to the land consolidation court of appeal because one of the landowners disagreed with the new situation of one of his parcels. After the appealing, the parcel was restored to its original location.

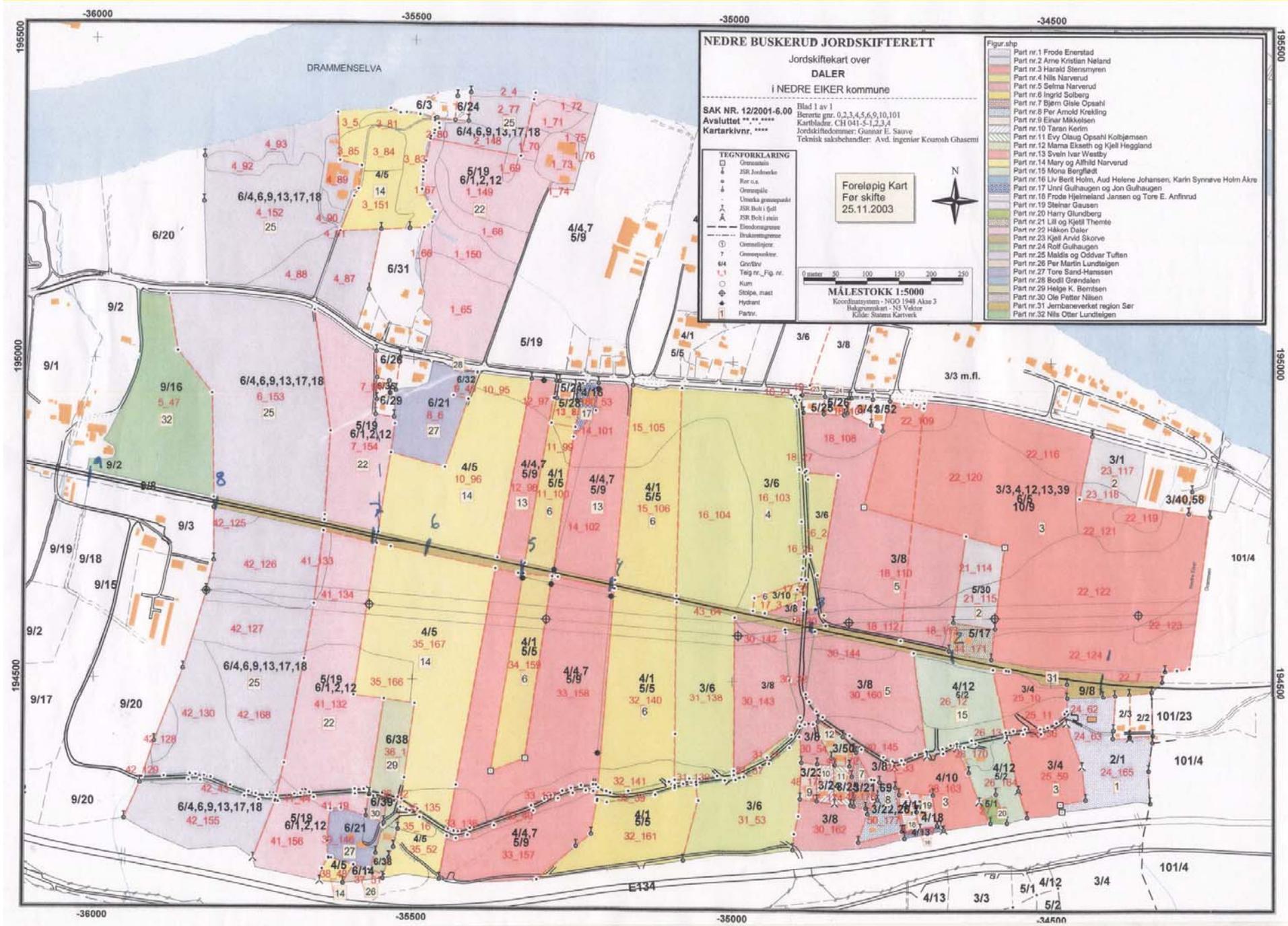


Figure 43. Case Daler, situation before LC



## 7.6. NYKIRKE

### 7.6.1. General information about the case

This case can be considered as a large one within land consolidation activities in Norway, because of the number of parties (167) and land area involved. The case concerns the prescribing of rules to regulate the different land uses going on the same area, and the establishment of rules for two landowners associations.

This case was handled by the Nedre Buskerud Land Consolidation Office. The case began in 1995 and it is not finished yet. One judge and two lay judges are in charge of the case.

The judge in charge of the case (Knut Klev) was interviewed on 23<sup>rd</sup> March 2007. Maps of the area are available. Because of the case is still in process, the record of the case is not available yet.

### 7.6.2. Case content and development of the case

The land area of the case is about 50 km<sup>2</sup>, and involves forest and pasture land. There are 167 landowners involved in the case, being 10 of them cattle holders (cows and sheep).

The land is individualized in several private plots, but the pasture rights for the cattle are held in common among all the landowners. This fact means that, in spite of the different plots belong to different owners, the grazing in any part of the pasture area is common.

There are two holder organizations, one of them composed of all the landowners in the area (167 members), and the other composed of just the cattle owners (10 members).

The cattle holders are the ones who applied for land consolidation case, after receiving the claims from the landowners without cattle in the area. These ones claimed for the damages caused by the animals in the forest area, and for the condition of the fences which surround the area, really damaged.

Besides these problems, several other conflicts arose because of the different uses of the land area and the different interests of the landowners. These were the following:

- 1) Maintenance of the fences. The area involved in the case is delimited by a fence. Its maintenance is the responsibility of the different plots owners where the fence is placed. Each owner is responsible for the maintenance of the stretch of fence which lies on his/her property. Just a few owners have cattle nowadays; so not all the landowners have much interest in maintaining the fences in good condition if they do not have animals anymore. As consequence of the deterioration of the fences, the cattle could escape from the pasture area.
- 2) Cattle pressure on the pasture area. It is needed to control the number of cattle grazing in the area to guarantee their proper feeding and the maintenance of the pasture area in good condition.
- 3) Damages in forests. The cattle, which can move freely within the fenced area, have also access to the forest area because there is not physical division between meadow and forest areas. Sheep and traditional Norwegian cows do not cause any damage to the young forest plants, but the problem arises today with the

introduction of new breeds and more productive cattle in the area. They do damage the plants; which cause a conflict among cattle holders and forest holders.

- 4) Hunting. As it was mentioned before, the cattle have access to forests, where, apart of the damages they can cause, disturb the wild animals (elks, reindeers, etc), causing their exodus towards other areas. The importance of this fact lies in the hunting activities which could be developed in the area. Conflicts arise between hunters and cattle holders, then. Another remark that has to be mentioned here is that large forested areas are needed to be held in common with hunting purposes. According to that, rules regarding hunting rights for the landowners are needed to be established, too.

This case is not finished yet, but some progresses have already been made. Due to the large number of landowners involved in the case, the development of the case was based on many successive meetings with the parties for solving, step by step, all the conflicts. The main task of the land consolidation court in this case is to prescribe rules to regulate the different activities which are developed in the area (cattle farming, fences maintenance, damages in the forest, hunting), and to establish mechanisms of resolution of problems if it proceeds. According with §23 of the Land Consolidation Act: *“During the period the land consolidation lasts, the land consolidation court may prescribe rules for the use or impose such restrictions on the use of the consolidation area as the court finds necessary with regard to the land consolidation.”*

The progresses which have been made by the moment regarding the different conflicts are:

- 1) Maintenance of the fences.

About this matter, it was required to prescribe rules concerning how the maintenance of the fences has to be done and who is the responsible for it. It was decided that this task should be shared among the owners of the plots where the fence is placed; being each of them responsible for the stretch of fence which lies in his/her property. Even if they do not have animals, they must maintain the fence in good condition in their property boundary.

The fencing expenses will be covered with a certain fee paid by the cattle holders, in function of the number of animals they have. In this case, part of these expenses were covered by the Government, as a subsidy within the measures included in the agricultural policy for the preservation of agrarian activities.

- 2) Cattle pressure on the pasture area.

Some decades ago, all the owners had cattle in the area. Even if the land was individualized in private plots, common pasture rights existed in the area, so it was held in common for cattle grazing.

Nowadays just a few owners have cattle, and they have increased their stock. Strictly, this means that they are, some sort, “using” the pasture rights of the owners who does not have animals in the area anymore. In spite of the other owners neither have cattle nor interest in keeping their pasture rights in the area, they have to be compensated for the loss of their rights. The solution proposed in this case was to introduce a fee to be paid by the cattle holders to the rest of the landowners. This fee

(paid per animal held in the area) is defined in the rules prescribed for the cattle holders association (see below).

The calculation of the total number of animals which can graze in the area guaranteeing their proper feeding and the maintenance of the pasture area in good condition was entrusted to the NIJOS (Nor. *Norsk institutt for skog og landskap*; Norwegian Forest and Landscape Institute). This theoretical calculation is done taking into consideration the characteristics of the pasture, the nutritional needs of the animals, etc.

### 3) Damages in forests.

No formal rules have been prescribed regarding this matter yet. Possible measures to be taken to avoid or minimize the damages in the forests are related with the handling of the cattle in the area (like keeping the animals away of the forested areas, etc).

### 4) Hunting.

To avoid the exodus of the elks of the forests before the starting of the hunting season, it would be needed to remove out the cattle from the area some weeks before the hunting season starts. No formal rules have been prescribed regarding this subject yet.

### 5) Landowners and cattle holders associations.

Landowners (167 members) and cattle holders associations (10 members) require the establishment of statutes (rules) on which the operation of the organizations will be based on, and where the regulations concerning all the tasks mentioned before are defined.

The land consolidation court has the authority to prescribe rules for the establishment and operation of associations, too. By the moment a rough copy of these statutes has been written up.

The general contents of the statutes are:

1. Identification of the area which the associations are responsible.
2. Objectives of the organization.
3. Membership requirements.
4. Annual meeting (constitution of the meeting, decision system, voting system, kind of decisions which can be made, annual fee for the members, administration and finances of the organizations, conditions for the establishment of an extraordinary meeting, etc)
5. Arbitration systems in case of disputes concerning the implementation of the rules.

The specific matters for these two organizations comprise rules regarding:

1. Hunting rights
2. Grazing rights
3. Maintenance of the fences

In this set of rules it has to be defined also the fee which the cattle holders have to pay and the method to calculate the maximum number of animals which can be held in the area (task carried out by NIJOS). This set of rules is not finished yet, so changes can be introduced afterwards.

## 7.7. ULLAND

### 7.7.1. General information about the case

This case can be considered a very small size case within land consolidation activities in Norway, because of the number of parties (two) and land area involved. The case involves clarifying of water rights in a lake, and decision whether a new road has to be build to provide access to a private cabin.

This case was handled by the Akershus and Oslo Land Consolidation Office. The case is already finished; it started in June 2004 and finished in October 2004. There was one judge and two lay judges working in the case. One of the parties hired a lawyer for the case. One of the landowners involved in the case (Knut Klev) was interviewed on 23<sup>rd</sup> February 2007. The record of the case and maps of the area are available as sources of information, together with the interview.

### 7.7.2. Case content and development of the case

The same as in the case Bunæs, this case will be explained according to the record of the case, where the different steps followed in the process are shown:

Land consolidation case process/steps:

#### 1) Preliminary meeting with the parties. Date: 30.06.04

This was the first meeting in the case, where all the parties were present and they exposed their positions with respect to the case. There are 2 parties involved in the case (see map below):

- Part A: owner of the cabin and the small parcel around it.
- Part B: owner of the rest of land around the cabin and around the lake in both sides.

Part A owns a small parcel next to the lake, so because of that he has water rights (i.e. fishing) in a certain area of the lake next to his property. He is the one who applied for the land consolidation case with the aim of clarifying which is the part of the lake where he has these rights. He applied also because he would like to have access to his cabin by means of a road, suggesting the building of a new private one.

Part B claims that, in spite of part A owns a plot close to the lake, he does not have the right to use the lake, and he disagrees about the possibility of building a new road, which if finally it is built, it would cross his property.

#### 2) Court meeting with parties present. Date: 23.09.04.

After listening to both parties in the first meeting and studying the conflict, the judge decides that the case shall proceed as a land consolidation case.

Part B hired a lawyer who will represent him during the development of the case.

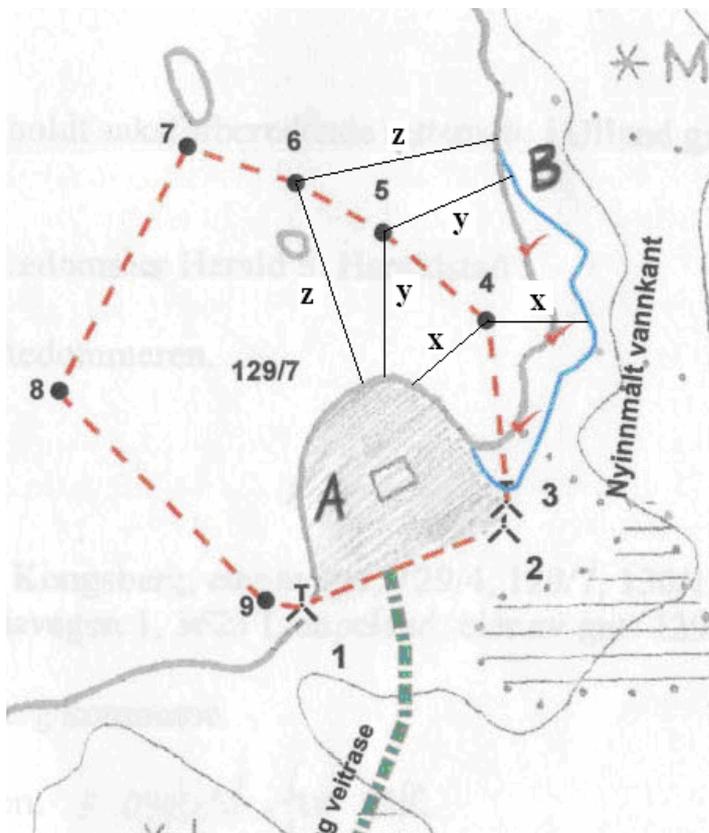
Regarding the clarification of the water rights, both parties agreed about the land consolidation court should define the area in the lake where A had his rights.

About the suggestion made by part A regarding the possibility of building a new road to provide access to his cabin, part B completely disagreed.

3) Court meeting, no parties present. Date: 14.10.04.

Regarding the water rights, in a first step the court had to decide if, according to the law, they had the authority to define the area in the lake where A has his rights. The final decision (Nor. *vedtak*) is that the court had the authority in this matter.

Later on, it was needed to define the exact area where A had his water rights. This was made by means of a formal verdict (Nor. *dom*). The methodology for defining right boundaries in water is described in the Land Consolidation Act. The most common procedure in this matter is that the line which define the border between two areas (where different parties have rights); has to be equidistant from each party's properties next to the lake (see figure below). The line which marks the boundary between the two areas is defined by means of several points in the surface of the lake.



**Figure 45. Definition of two water rights areas in a lake.**

**The red discontinuous line defines the border between the areas where parts A and B had water rights in the lake. This line is equidistant from the border of each party's properties with the lake.**

Regarding the suggestion of building of a new road to provide access to the cabin, the court had decided that the implementation of this road will be beneficial to both parties, so it is decided that it will be built. The next step is to define the road itself, concerning road standards, cost distribution, rules concerning its use and maintenance, etc. The exact location of the road is, however, not a sole decision of the court. Permission from the Road Authorities is needed in this matter. The parties can make suggestions and remarks on this matter, which will be taken into consideration as far as possible before the final decision is made. Building costs of the new road were afforded by part A.

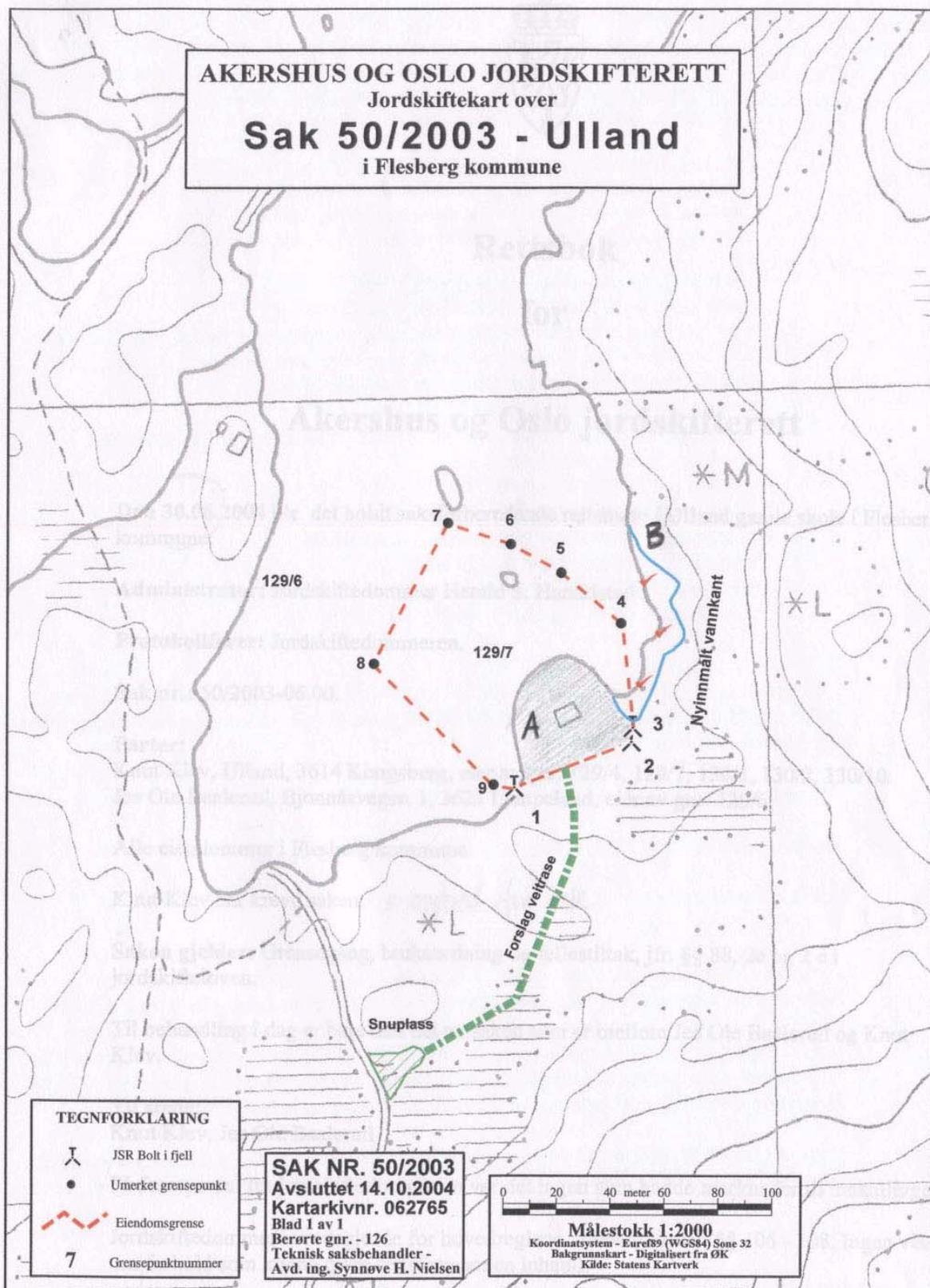


Figure 46. Case Ulland, situation after LC

## 7.8. URBAN CASES

Two urban land consolidation cases are included here. These cases are not studied as in detail as the previous ones, but the interest of including them is to show two examples of the kind of cases which can be found in urban settings. Both cases occurred in Oslo, and they were handled by the Akershus and Oslo Land Consolidation Office (one of them is already finished, the other is in its first stages). No interviews neither with the owners nor the land consolidation staff were carried out, a brief explanation of the background and the conflicts is included here.

### a) Case Kildeveien.

This case involves the prescribing of rules for the common areas in a condominium comprising two flats and two parties. The case is already finished; it started in June 2007 and finished in July 2007. There was one judge in charge of the case. Both parties hired lawyers. The record of the first meeting of the case is available.

Conflicts arose in this case regarding the use of the “joint” common areas of the property. Rules regarding the use and maintenance of the common areas needed to be defined, comprising stairs area, external walls, fences, garage, porch, etc. Rules concerning maintenance works in the property as painting, etc were defined, too.

In spite of the level of conflict was very high, by means of the mediation of the land consolidation staff a negotiated solution with which both parties agreed was finally reached.

### b) Case Løren.

This case involves the prescribing of rules and the assessment of compensations for the removal of rights and servitudes in an area which is going to be developed in Oslo city. The case started in June 2007, and is in its first stages. There is one judge in charge of the case. The record of the first meeting of the case is available.

The case involves a former industrial area which is going to be developed for residential uses, according to the city planning. An underground garage is going to be built, too. Because of the area is going to be developed, its value is very high nowadays.

Selvåbygg AS is the company in charge of the development, and is the one which applied for the case. It owns all the properties in the area involved. There are different rights and servitudes in the area which can not be transferred to the new properties.

The main conflicts in this case comprise:

- the rearrangement of rights
- cadastral issues
- regarding the city planning, the rearrangement of the property conditions for its better implementation in the area in question.

## 7.9. FINAL REMARKS

According to the cases studied, the kinds of conflicts found are related with:

a) Clarification of land issues; comprising the clarification of rights (waterfall and water rights; cases Byrkjelo, Ulland).

b) Prescribing of rules concerning the use and maintenance of roads (cases Daler, Ulland); regulation of different activities which are developed in the same area (Nykirke) or in common areas, even in urban settings (case Kildeveien). Rules to regulate the organization and operation of the landowners associations are included here, too (Nykirke, Stryn).

c) Physical rearrangement of plots (Bunæs, Daler).

d) Other actions: removing of rights (Stryn), register of cabins (Stryn), assessment of compensations (Daler, Stryn)

Multifunctionality regarding land consolidation is shown up with the specific study of the cases. As it was stated, cases content can be very diverse, and also the settings where they occur. This point is made very clear with the examples of the urban cases.

Even if the land consolidation staff has skills in many subjects, with such diversity of matters, the hiring of professionals on specific cases is a normal procedure.

Cases can be handled by the courts in different ways, but the cornerstone of the solving process is the creation of an “arena” where conflicts are exposed and discussed. By means of successive meetings, where mediation and negotiations play a main role, final agreements are reached. But it is important to keep in mind that the land consolidation court has court power, with the authority of making formal legal decisions. In many cases, this fact can be an incentive for the parties to reach a negotiated solution by themselves.

The very basic principle of the development of the land consolidation cases is that if the costs and disadvantages involved exceed the benefits accruing to each individual property, the land consolidation will not be carried out. Taking this into consideration, land consolidation courts have to define “legal” solutions, as well as economic viable.

## 8. CONCLUSIONS

In this final chapter, and according to the information contained in the previous ones, the research questions posed in chapter number one will be answered.

Within the study of land consolidation in Norway the specific research questions which were defined as specific aims of the work are:

- a) What kind of problems can be “solved” through land consolidation?
- b) How, when and why did the multifunctionality developed?
- c) How are the various types of “conflicts” handled in Norwegian Land Consolidation?

Research questions a) and c) were already answered according with the information contained mainly in chapters six and seven. As it was mentioned before, a long list of conflicts regarding land issues can be handled and solved through land consolidation, but three main groups can be differentiated:

- Clarification of legal issues (boundaries, rights, etc)
- Rearrangements (physical, legal, organizational)
- Other activities (assessment of compensation, buying and selling of land, etc)

The handling of the cases is based in the creation of an “arena”, a common space where to deal with the disputes, where rules and operation mechanisms were defined. Within this framework, the land consolidation court plays the role of mediator between the parties involved. The search of the legal and economic solutions for each of the parties is the objective to reach.

The desirable result for a specific case is that final negotiated agreements are reached by the parties themselves, but it is important to remember that the land consolidation court has the authority to made and enforce formal legal decisions.

Regarding research question b), the multifunctionality of the land consolidation activities in Norway can be explained taking into consideration the historic framework and the evolution of the property conditions. It has to be remarked that land policies have much influence on the land consolidation activities. For instance, afforestation programmes along the west coast developed in the 1950’s – 1960’s, and the great increase in investments and subsidies from the 1960’s involved a lot of work concerning clarifying of boundaries and reallocation of plots.

Noticeably changes have been produced from a few decades ago until the present times regarding land uses, which are linked with the kind of cases carried out by the land consolidation courts. Changes in agriculture and forestry, linked with the increase of different actions in the outfields, have been produced. In the last decades, agricultural activities decrease their importance, but, at the same time, interest in recreational activities as hunting, fishing, building of cabins, etc has increased remarkably. Urban areas arise also as a new setting where the land consolidation courts are applied, too.

Specific characteristic of the Norwegian land consolidation court is that it has developed into a permanent public institution within the framework of the judicial system, and it is independent of the administration. It is a specialized court on land disputes, a body which combines skills in diverse fields: law, mapping, surveying,

agronomy, economy, etc, and which has court power, and is encouraged to mediate decisions.

As an institution, the land consolidation court provides the parties the framework where to reach agreements related with different land disputes. Reliability and trustworthiness are two main factors to consider in the process.

The working of the land consolidation court has to be understood in a context of conflict resolution and transaction costs. Most of its work, decisions and transactions could have been done by the parties themselves, if they had had the means and will to agree on negotiated solutions. There are multitude of reasons because of they do not agree. Unclear information, high level of conflict or large number of parties involved could be some of the reasons, but the main one can be summarized in one concept: transaction costs. Land consolidation arises here as a mechanism to reach general simultaneous settlements in land exchanges in which many parties are involved, by means of the reduction of the transaction costs.

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# **APPENDIX**

## **A.2. Case study: interview guide**

### Interview model number 1: for landowners.

#### a) General information about property conditions:

- Property units: location, size, configuration, etc
- Landowner: age, sex, marital status (married / single / children?), occupation (farmer, absentee), future projects on the land?  
Degree of knowledge about LC Court work, legislation, etc. Was he/she involved in any other LC case?
- Property rights: fee simple ownership, renter, etc
- Could he/she be considered as a “typical” owner according with the main economic activities and characteristics of the area?
- Relationship between owner-property (production/use; consumption; speculation; other – status, membership in local community, etc-)

#### b) Information about the LC case and process:

- Ask about his/her point of view about the LC case: main problems, what are his/her main interests in the case.
- Who did apply for LC Court? One or several persons? What are the main advantages of applying for LC Court?  
If he/she was not the person who applied, is he/she agree about that?
- Role of LC Court in the process: opinion on the way of dealing with it, access to the information related with the process, way of spreading the information among the parties involved in the process, communication ways with LC Court staff.

Was he/she active during the development of the LC process?

Were any of the persons involved in the process the representative of a certain group? If he/she was in this situation, what is the relationship he/she has with him/her?

Hiring a lawyer: did he/she think in any moment about it? Why? Degree of satisfaction about his/her job. Opinion of the other parties involved in the process about it, possible influence of this fact on the development or the atmosphere of the process.

- Results: benefits obtained in the process, degree of agreement with the solution reached.

If the person does not agree with the final decision, did he/she decide to appeal it to the LC Court of Appeal? In that case, final results reached, costs, degree of agreement with the last result.

- Costs of the process (time, money, others – worries, etc)
- Would be possible to manage and solve the situation without applying for LC Court?

Interview model number 2: for lawyers, judges, etc (persons supposed to have a deeper knowledge about LC Court, legislation, etc)

a) LC Office staff

- Data concerning the work area of the LC office: population, main economic activities and characteristics of the area, etc.
- Main kinds of cases that are dealt with in the office, kind of people involved, main interests observed among the actors involved.
- Main difficulties found in solving land disputes cases.
- Methods of work in the different LC cases: organization, mediation. Are different techniques used depending of the case?
- Systems of spreading the information and communication ways with the owners.
- Final solution: degree of agreement observed among the parties involved in the process. Was any appeal to LC Court of appeal?
- Presence of lawyers during the process: influence on the atmosphere of the process, possible influence on the final solution reached.
- Costs of the process

b) Lawyers

- Role of the lawyer in the process, who the lawyer is representing and why (does the customer want to reach his/her interests under any price? Is the hiring of a lawyer a way of guaranteeing the achievement of these interests?)
- Degree of knowledge about land disputes, legislation, etc. Is he/she a specialized lawyer on LC cases? Does he/she have much experience on this kind of cases?
- Work methods used in the process.
- Results obtained. Degree of satisfaction of the custom with the result reached. Was considered the possibility of appeal to the LC Court of Appeal? Why?
- Cost

**APPENDIX 1. LAST AMENDMENT OF THE NORWEGIAN LAND CONSOLIDATION ACT**

**APPENDIX 2. CASE STUDY: INTERVIEW GUIDE**

**APPENDIX 3. CASE STUDY: RECORD (*RETTSBOK*) OF A LAND CONSOLIDATION CASE**