

Boundaries and property rights: The transformation of a common-pool resource*

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Abstract

This article examines how a common-property regime evolved within the context of property rights reforms, using empirical data from a Swedish parish over three centuries, from the sixteenth to the nineteenth. By adopting a transaction-cost approach, I argue that the standard depiction of how collective rights were transformed into individual rights has been oversimplified. One of the features that made the common-property regime successful was the interplay between *de jure* and *de facto* property rights. The land consolidation reforms of the early nineteenth century were costly for almost all landowners in the region, and required the adaptation of a well-established common-property regime to individually owned forestland.

The dramatic changes in Western European societies between the sixteenth and nineteenth centuries had a profound effect on agriculture. An agricultural revolution that started in England included technological innovations, changes in cropping systems, and a significant increase in land productivity. Changes in property rights were also very important during this time. Land tenure became more clearly defined, and a redistribution of arable land and meadows took place. Open fields were abandoned, and scattered strips of land were merged into large fields and assigned to individuals. Many commons were divided into individually owned parcels.

Explanations for this development have differed, but the aim of this article is not to discuss what drove change. Rather, it is to focus on the importance of property rights and discuss how changes in property rights affected the economy of peasants or small farmers who depended on land held collectively for agriculture. The article contributes to the discussion about private versus common property rights, and their changing importance for agriculture over time. It addresses this question by analysing the development of property rights from the sixteenth century to the mid-nineteenth century in an agricultural area in upland Sweden, where the use of common-pool resources for animal husbandry was important. We will follow the

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transformation of a parish's outlying forested land from open access to a common-property regime and finally to a common-property regime conducted on private property, where the commons were converted to privately owned land but animal husbandry was still conducted as a collective activity. We will discuss how these changes happened and how they affected the peasants who used the forests for grazing their animals.¹

This article focuses on two aspects of the change. First it considers how the property regime for what had originally been open-access land developed from the sixteenth century to the mid-nineteenth century. This is very much the story of how the peasants, with support from the local court, developed an efficient common-property regime. Second, it asks what happened to this common-property regime after a land reform designed to consolidate holdings transformed the commons into privately and individually owned strips?²

Was the development of an evolutionary road to private property a response to increasing demand for scarce natural resources as the population grew and more peasants used the forest for grazing?³ Or was division of the commons into private strips of land a break from the way the peasants used the forest? If so, how did the peasants manage the new conditions and what implications did the latter have on the way the peasants practised their animal husbandry? To address these broader questions, one must look into how the peasants acted to protect their land from overuse. The question of how the boundaries changed is of particular interest since enforcement of the boundaries of a resource unit is a way to exclude other users.⁴ It is also important to study the interplay between the peasants and the local authority and how this interplay changed over time.

The purpose here is not to discuss whether or not land privatization was successful or who gained and who lost from the land reforms in more general terms. The focus, instead, is on how a common-property regime evolved. By adopting a transaction-cost approach, I will argue that the standard depiction of collective rights transformed to individual rights has been oversimplified. Indeed, land privatization was expensive for almost all landowners in the region, and required adaptation of a well-established common-property regime to individually owned forestland.

¹ I use the word *peasant* to mean the user and owner of land in the study area. There were no large-scale landowners. The Swedish word *bonde* (pl. *bönder*) is usually translated to *peasant* for the period before 1870, as people who paid rent to 'a dominant group of rulers'. For the period after 1870, *bonde* is usually translated to *farmer*. However, as Carl-Johan Gadd, 'The agricultural revolution in Sweden, 1700–1870', in J. Myrdal and M. Morell (eds), *The agrarian history of Sweden: from 4000 BC to AD 2000* (2011), p. 122, has pointed out, 'In one important respect the meaning of the word *bonde* in the eighteenth and nineteenth centuries was narrower than "peasant". The *bonde* differed – socially,

economically, and legally – from both people of rank and the rural landless and semi-landless such as crofters, cottagers, and the like.'

² The land reforms in Sweden had two main features: consolidation of arable and meadow strips and parcelization of common land. Both increased private property rights. This article mainly discusses the latter.

³ Harold Demsetz, 'Toward a theory of property rights', *American Economic Rev.*, 57 (1967), pp. 347–59.

⁴ Elinor Ostrom, *Governing the commons: the evolution of institutions for collective action* (1990), pp. 91–2; ead., *Understanding institutional diversity* (2005), pp. 223–6, 260–2.

I

(a) Property systems

The conventional typology of property systems, stemming from Roman law, divides them into four basic property regimes: state property, private property, common property, and non-property.⁵ As Daniel Cole points out, 'One major problem with this conventional typology of property regimes is that it simply does not fit many real-world circumstances'.⁶ This was certainly true for property rights in medieval and early modern Western Europe, where the three main categories of land for agricultural purposes were arable fields for cultivating crops, meadows for harvesting winter fodder, and outlying land for grazing animals and collecting firewood, peat, timber, etc. In a very general view, the arable fields and meadows were private property and the outlying land was common property. But if one looks more closely at the notion of arable land and meadows as private property during this time, one will realize that ownership rights for private property were much more limited compared to the more 'universal' rights most owners of fields and meadows have in Western society today. In particular, rights of alienation, exclusion, and use were all circumscribed.

In a similar way to many other peasantries around the world, for centuries peasants in Western Europe had used different property systems for different ecologies. Robert Netting identified five key variables that he considered the most important in differentiating common-property rights from individual rights in land, based on the nature of land use.⁷ If (1) the value of production per unit area is low, (2) the frequency and dependability of use or yield is low, (3) the possibility of improvement or intensification is low, (4) the area required for effective use is large, and (5) the labour- and capital-investment group is large, common property is more likely to develop and be sustained. If, on the other hand, variables 1–3 are high and variables 4 and 5 are small, peasants will be more likely to develop private property. However, different ecologies were not the only aspects that mattered. Peasants also used different property systems according to agricultural seasons and uses of the land: what was private land during the growing season was used as commons for grazing after the harvest and when it was fallow. The peasants used different property rights as a means to achieve different goals in the management of natural resources. Establishing property rights can be viewed as an action to achieve these goals and was very far from giving universal rights to property in a Blackstonian sense.⁸

That the same piece of land could be used by different sets of property rights to achieve these goals is clearly shown in the management of arable fields. Arable fields were managed in open-field systems, i.e. a village's arable land consisted largely of a few large, fenced blocks

⁵ Daniel W. Bromley, *Environment and economy, property rights and public policy* (1991), pp. 21–31; Daniel H. Cole and Elinor Ostrom, 'The variety of property systems and rights in natural resources', in Daniel H. Cole and Elinor Ostrom (eds), *Property in land and other resources* (2012), pp. 41–2.

⁶ Daniel H. Cole, *Pollution and property: comparing ownership institutions for environmental protection*

(2002), p. 6.

⁷ Robert McC. Netting, 'What alpine peasants have in common: observations on communal tenure in a Swiss village', *Human Ecology* 4 (1976), pp. 135–46.

⁸ William Blackstone, *Commentaries on the laws of England* (4 vols, sec. edn, 1766–9), II, p. 2.

of land in which individual peasants held numerous scattered unfenced strips.⁹ Although the harvest from an individually owned strip belonged to the individual peasant, much of the work in the open field had to be synchronized with the owners of the other strips. After the harvest, the field was open for all individuals who owned strips to graze their animals. Thus the grazing fodder resource from the privately owned strips of arable land belonged to all landowners in common in proportion to their landholding in the field. The same was true when the field was fallow.¹⁰ The logic behind the open-field system has been extensively debated and numerous explanations for it have been proposed, such as reducing the risk of crop failure, extension of the growing season due to different microclimates, population pressure, ideology, and technical reasons. Two researchers who have published extensively on the subject are McCloskey and Fenoaltea. McCloskey, who views the open-field system as inefficient, has argued that the key to understanding the scattered strips was that peasants were prudent and tried to avoid risk.¹¹ Fenoaltea, on the other hand, stressed that the open fields must have been justified by the maximization of productivity in cultivation and that the open-field system allowed combining the advantages of the large estate with the family farm (large-scale production and small-scale farming).¹² Despite the fact that the arable land was privately owned, its uses, individual and common, depended on collective agreements within the village community. Even though this article focuses on outlying land, it is essential to include the open-field system in the background. First, arable land, meadows, and outlying land were part of the same agricultural system as mixed farming, and changes in one part affected the others. Lynn White Jun. has concluded that one of the chief functions of the open-field system was to create a balanced system of animal and cereal production. When tillage spread at the expense of outlying land, the fallow fields in an open-field system were used for grazing. It provided good protection of crops against cattle and at the same time minimized the fencing for each farmer, and manure was deposited on the next year's arable land.¹³ Dahlman argues that collective property rights were preferred to private ownership of the communal grazing grounds, on the fallow open field or on the commons. Livestock production was subject to important economies of scale, and owning the grazing grounds collectively lowered the transaction costs between the farmers involved.¹⁴ Second, the end of the open fields was connected to the dissolution of the commons. It was caused by changes in agricultural practice as well as ideological change, where changes in property rights were essential. The debate over common versus private property rights in agriculture and the almost universal choice by states to create private property, even in the face of peasant opposition, had a great impact on agriculture practice, even in remote areas of Europe.

⁹ Donald N. McCloskey, 'The persistence of English common fields', in William N. Parker and Eric L. Jones (eds), *European peasants and their markets: essays in agrarian economic history* (1975), pp. 76–8; Stefano Fenoaltea, 'Transaction costs, Whig history, and the common fields', *Politics and Society* 16 (1988), p. 177.

¹⁰ W. A. Ault, *Open-field farming in Medieval England: a study of English by-laws* (1972), pp. 16–17; McCloskey, 'Persistence', p. 83; Fenoaltea, 'Transaction costs', p. 177; Gadd, 'Agricultural revolution', p. 124.

¹¹ McCloskey, 'Persistence', pp. 88, 113–19; id., 'The

open fields of England', in David W. Galenson (ed.), *Markets in history, economic studies of the past* (1989), pp. 34–46; id., 'The prudent peasant: new findings on open fields', *J. Economic Hist.* 51 (1991), pp. 344, 348, 355.

¹² Fenoaltea, 'Transaction costs', pp. 174, 215.

¹³ Lynn White Jun., *Medieval technology and social change* (1962), pp. 55–6.

¹⁴ Carl J. Dahlman, *The open field system and beyond: a property rights analysis of an economic institution* (1980), pp. 111–21.

(b) *Outlying land and property rights in the Swedish context*

The peasants' use of outlying forest as pasture and common was slightly different from the arable land use described above. The right to use a common land area was, as in many parts of Western Europe, based on being a landowner and having a homestead in a village.¹⁵ An individual farm's share in the common was proportional to the farm's share in the village.¹⁶ Thus, it was not possible to sell one's use of a common without selling the farmstead, or a part of it, with its arable land. The right to sell outlying land came only after the land consolidation reform, when many commons were divided into individually owned parcels.

The outlying forest did not only serve as pasture.¹⁷ Many important resources used for subsistence in the peasants' households were collected there, such as timber for buildings, firewood, wood for fences, leaves for fodder, and birch bark for roofing.¹⁸ Also, peasants in many areas had to deliver large amounts of firewood and charcoal from the commons to mines and iron works as tax payments.¹⁹

The peasants' involvement in the changes in property rights in Sweden has been extensively discussed. Research conducted before the 1970s stressed an almost invariable joint-property system on outlying land – i.e. the outlying lands were common-pool resources – and outlined how this was changed by judicial decisions in a series of land reforms between 1749 and 1827. The land reforms were seen as an external force destroying a world of collective action.²⁰ Long-term development of property rights in agrarian societies has often been described as a unilinear development from collective to individual rights to land.²¹ Since the 1970s, an important approach to understanding the development of property rights in Sweden has been to investigate the struggle between different groups for more exclusive control of natural resources. The control of woodlands, which were to a large degree commons prior to the land reforms, has been emphasized as an important part of this struggle.²² More recent research from other parts of Sweden has stressed the view that peasants were involved in the process and that they supported and even initiated the land consolidation reforms at the local level.²³

¹⁵ In northern Sweden, common land also consisted of large areas to which neither communities nor individuals could assert property rights. The Swedish Crown claimed these areas. Kerstin Sundberg, 'Nordic common lands and common rights: some interpretations of Swedish cases and debates', in Martina De Moor, Leigh Shaw-Taylor, and Paul Warde (eds), *The management of common land in north-west Europe, c. 1500–1850* (2002), pp. 178, 182.

¹⁶ *Ibid.*, p. 184.

¹⁷ In the plains of Sweden, with less woodland, pastures at the infields were more important than pastures in the outlying land (commons), Wolter Ehn, *Mötet mellan centralt och lokalt: studier i uppländska byordningar* [The meeting of central and local authorities: studies on village by-laws in Uppland] (1991), pp. 66–7. The same is true for many fully developed open-field villages in England, McCloskey, 'Persistence', p. 85.

¹⁸ *Sveriges Rikes Lag Gillad och antagen på Riksdagen*

år 1734 [Sweden's Law, approved and passed by the Parliament in 1734] ([1780] 1984), pp. 71, 80; Sundberg, 'Nordic common lands', p. 184.

¹⁹ Lars Ersgård, *Det starka landskapet: en arkeologisk studie av Leksandsbygden i Dalarna från yngre järnåldern till nyare tid*, [The powerful landscape: an archaeological study of the Leksand district in Dalarna from the late Iron Age up to modern times] (1997), pp. 94–5.

²⁰ Werner Rösener, *The peasantry of Europe* (1994), p. 2.

²¹ Demsetz, 'Toward a theory'.

²² Ronny Pettersson, 'Äganderätten, laga skifte och skogarnas avtagande' [Property rights, enclosure and the preservation of forests], in Mats Widgren (ed.), *Äganderätten i lantbrukets historia* [Ownership in agriculture history] (1995), p. 130.

²³ Gadd, 'Agricultural Revolution', p. 151; Staffan Granér, *Samhåvd och rågång: om egendomsrelationer*,

However, these studies have focused on the transition to private property and have not taken into account the fact that common-property regimes could evolve, be efficient, and serve the participants' needs well.²⁴

Research has also emphasized that change in property rights started as early as the seventeenth century. At that time it was a 'bottom-up' process and not one initiated by the government. The important actors were often large-scale landowners, but scholars have stressed that the development was also driven and supported by many peasants.²⁵ The transformation of the commons into smaller units with clear boundaries managed by defined user groups has been interpreted as an evolutionary process towards privately owned land. The development had an evolutionary character and was not a sudden transition from one type of property right to another.²⁶ The dissolution of village communities during the eighteenth and nineteenth centuries has been seen as the final stage of this process. However, as discussed earlier, the idea of a linear transition from collective to individual rights is oversimplified. One can instead argue that collective rights are connected to individual rights and that peasants used a mixture of property rights. Individual ownership in the village was a prerequisite for peasants to be co-owners of the commons and to be members of collective action in the agrarian society. Collective rights could not exist without individual property rights.²⁷

Instead of considering common-property regimes as a stage in an evolutionary process to private property, it is better to consider them as a form of property right with its own logic. A developed common-property regime indeed has some features that are similar to private property, with the most important being the exclusion of outsiders. However, a common-property regime is a way of privatizing rights to goods without dividing the goods themselves.²⁸ With private property, the goods are divided up. Any property regime is costly to enforce: peasants had to invest time and labour in its defence.²⁹ Investigating these costs is a way to determine if the transition from common property to private property happened gradually or was a sudden break. Looking at how the change affected peasant animal husbandry will also provide insights into the transition.

Note 23 continued

ägaskiften och marknadsintegration i en värmländsk skogsbygd 1630–1750 [Thy neighbours' property: property relations, enclosures and market integration in a forest district of central Sweden 1630–1750] (2002), p. 286; Birgitta Olai, *Storskiftet i Ekebyborna, Svensk jordbruk-sutveckling avspeglad i en Östgötasocken* [The first phase of the Swedish enclosure movement – the storskifte: Swedish agricultural development as reflected in a parish in Östergötland] (1983), p. 99.

²⁴ Cole and Ostrom, 'Variety of property', pp. 50–2; Ostrom, *Governing*, pp. 58–61; Ostrom, *Understanding*, pp. 255–8.

²⁵ Maria Ågren, *Jord och Gäld, Social skiktning och rättslig konflikt i södra Dalarna ca 1650–1850* [Land and debt: social differentiation and legal conflict in southern Dalecarlia, c.1650–1850], p. 263; Granér *Samhäv*

pp. 299–300.

²⁶ Granér *Samhäv*, p. 302; Staffan Granér, *Thy neighbour's property: communal property rights and institutional change in an iron producing forest district of Sweden 1630–1750* (2005), p. 17.

²⁷ Cole and Ostrom, 'The variety of property', pp. 43–4; Mats Widgren, 'Individuellt eller kollektivt ägande i bondesamhället?' [Individual or communal property in agrarian societies?] in Mats Widgren (ed.), *Åganderätten i lantbrukets historia* (1995), p. 9.

²⁸ Margaret A. McKean, 'Common property: what is it, what is it good for, and what makes it work?', in Clark C. Gibson, Margaret A. McKean, and Elinor Ostrom (eds), *People and forests: communities, institutions, and governance* (2000), p. 36.

²⁹ Ronald H. Coase, 'The problem of social cost', *J. Law & Economics* 3 (1960), pp. 1–44.

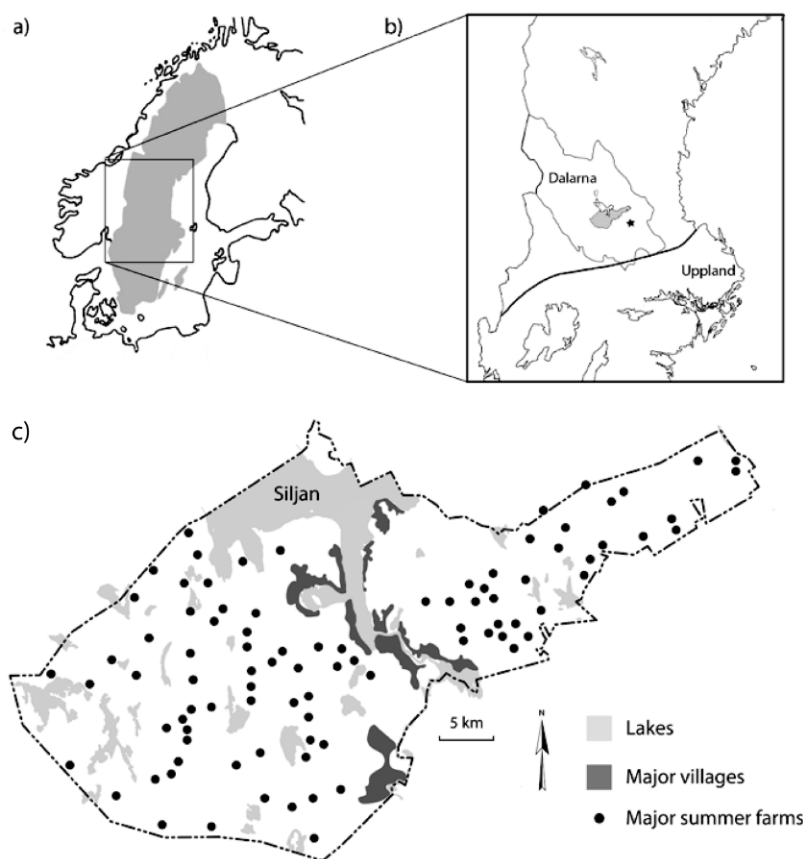


FIGURE 1. (a) Scandinavia with Sweden in grey. (b) The solid line indicates the southern boundary of the summer farms area of Sweden. The parish of Leksand, south of Lake Siljan, is highlighted in grey. The star indicates the location of Great Copper Mountain in Falun. (c) A detail showing the parish of Leksand around 1850.

(c) *The Study Area, Leksand, Sweden*

Leksand parish in Dalarna County in central Sweden encompasses the southern part of Lake Siljan and a stretch of Österdal River (Österdalälven) (Figure 1). From central Leksand, it is about 30 miles (48 km) to Falun, the main city in Dalarna County. During the sixteenth and seventeenth centuries, Falun's Great Copper Mountain, an important copper mine, exerted a huge influence over everyday life in Leksand. It was one of the biggest centres of employment in Europe in the late seventeenth century, and during this time, Falun was the second largest city in Sweden.

Leksand parish includes 274,196 acres (110,963 ha) of land. Population growth in Leksand was quite rapid, especially during four distinct periods: 1650–90, 1718–50 (after the Great Nordic War), the late eighteenth century, and 1830–65 (see Table 1).³⁰ Historians do not know the exact numbers of livestock nor how much they increased specifically between 1571 and 1830, but we know there was a rapid increase in the total number of animals in the region. During that period, cows, goats, and sheep increased 3.7, 5.5, and 10.1 times, respectively; after

³⁰ Lennart Palm, *Folkmängden i Sveriges socknar och kommuner 1571–1997, med särskild hänsyn till perioden 1571–1751* [The population of Sweden's parishes and communes, 1571–1997, with particular reference to the period 1571–1751] (2000), p. 272.

TABLE 1. Population in Leksand, 1571 to 1865

	1571	1620	1699	1718	1735	1751	1805	1830	1865
Population	2693	2626	5724	6852	7725	8394	9637	10,232	13,036

Source: Lennart Palm, *Folkmängden i Sveriges socknar och kommuner 1571–1997, med särskild hänsyn till perioden 1571–1751* [The population of Sweden's Parishes and Communes 1571–1997, with particular reference to the period 1571–1751] (2000), p. 272.

1850, the numbers of goats and sheep decreased sharply, while the number of cows remained the same.³¹

Leksand was not a typical early modern Swedish parish. Leksand and Upper Dalarna differed from other parishes and counties in Sweden during the eighteenth century with regard to inheritance rules, structure of agriculture, dependency on migration of labour, and in other important ways. However, as a community that developed a well-established common-property regime, it is well suited to an investigation of how its property regime evolved and how collective and private property rights affected agriculture.

In Leksand and the surrounding area, partible inheritance was practised and both sons and daughters inherited land. Until 1845, daughters inherited half of what sons inherited. After that, the rules changed so that sons and daughters inherited equal shares.³² The reform in 1845 was one of many reforms in mid-nineteenth-century Sweden intended to solve broader social problems, improve women's situation in society, and promote economic development.³³ Until 1870, when industrialization started in Leksand, all households took part in agriculture. For this study, it is important to keep in mind that, before 1870, all households in Leksand kept animals.

During the eighteenth century, animal husbandry in Leksand was conducted as transhumance, where peasants brought their livestock from the village to summer farms (*fäboddar*) located in forest-covered common property. Thus, a summer farm was a periodic settlement for the use of common pastures for grazing. It had buildings for human accommodation, livestock, and the processing of milk into non-perishable products. Summer farms were specialized, feminine workplaces and functioned within a system of arable farming and animal husbandry.³⁴ Cows, goats and sheep were brought to the summer farms and grazed together. As in many other areas in the world, commons users had exclusive rights to their dwellings and small plots of land adjacent to the common land.³⁵ The number of users varied considerably for different

³¹ Jesper Larsson, 'The expansion and decline of a transhumance system in Sweden, 1550–1920', *Historia Agraria* 56 (2012), pp. 21–5.

³² Ulf Sporrang, 'Ägandets reproduktion – om arvsregler och landskapsutveckling i 1700-talets Dalarna' [The reproduction of ownership – on inheritance laws and the development of the landscape in eighteenth-century Dalarna. An Example from Leksand] in Widgren (ed.), *Äganderätten i lantbrukets historia*, p. 99.

³³ Maria Ågren, *Domestic secrets: women and property in Sweden, 1600–1857* (2009), pp. 168–9.

³⁴ Jesper Larsson, *Fäbodväsendets, 1550–1920: ett centralt element i Nordsveriges jordbrukssystem*. [Summer farms in Sweden, 1550 to 1920: an important element in north Sweden's agriculture system] (2009), p. 102; Larsson, 'Expansion', p. 20.

³⁵ Charles Geisler, 'Property Pluralism', in Charles Geisler and Gail Daneker (eds), *Property and values, alternatives to public or private ownership* (2000), p. 73.

summer farms during the eighteenth and nineteenth centuries. Small summer farms had only a few users while larger ones could consist of more than 40 users. Around 1830, approximately 112 summer farms existed in Leksand with a total of 1043 houses for people to live in. More than one household could have shares in a house.³⁶ This system collapsed in Leksand after 1890, with the rapid abandonment of summer farms.³⁷

Agriculture was not the peasants' only means of making a living in the eighteenth and nineteenth centuries. Residents of Leksand developed specialized skills earlier than in most rural places, as men and women moved to other areas of Sweden, mostly during the summer. They worked as painters and decorators, in construction, as well as in agriculture and other occupations. This was a way to maintain the household income when the population increased and expansion in agriculture was limited.³⁸ However, agriculture was still the foundation of the local economy in Leksand up to the second half of the nineteenth century. Ownership of land gave people food and access to many other resources in the commons, and it gave them bargaining power and access to collective choice arenas.

Leksand was a homogeneous society with a shared understanding of many important aspects of life. The people belonged to the same church, it was a fairly egalitarian society in which most adults were landowners and all peasants were freeholders, almost all people were born and raised in the community, and all legal matters were handled by the local court.

(d) Source material

This article uses court records from Leksand and Gagnef, two adjacent parishes.³⁹ It is possible to begin the investigation as early as the mid-sixteenth century by using court records from Gagnef made between 1544 and the 1730s.⁴⁰ What justifies the use of court records from Gagnef is that the natural conditions, agriculture, and economy were almost identical to those at Leksand. When one compares court records from 1660 to 1730 from the two parishes, the similarities are clear. An additional argument for using court records from Gagnef is that animals from villages on both side of the parish border used the same pasture grounds in the first half of the eighteenth century.⁴¹ Because 90 per cent of the court records are from Leksand, I refer to the whole set of material as 'court records from Leksand'.

Records from court sessions are the best sources for coming close to the ordinary people in early modern Sweden. They are also the only source material where one can follow the management of summer farms over a long period of time. In many court cases, we get detailed

³⁶ Some peasants from Leksand also participated in summer farms in neighbouring parishes, six in Bjursås and one in Rättvik, Sigvard Montelius, *Leksands fäboddar* [Summer farms in Leksand], *Leksands sockenbeskrivning VII*, (1975), pp. 124–7.

³⁷ Larsson, 'Expansion', p. 28.

³⁸ Göran Rosander, *Herrarbete: Dalfolkets säsongsvisa arbetsvandringar i jämförande belysning* [Herrarbete: migration of labour from Dalarna, a comparative study] (1967).

³⁹ Leksand was part of a court district that embraced three parishes (Leksand, Ål, and Bjursås), but the court

records I have used include only Leksand. I have had access to unique excerpts from Leksand court records extending from 1660 to 1870 made by Dr Sigvard Montelius in the late 1960s (Sigvard Montelius archive, private collection, Falun, Sweden). His notes extend from 1660 to 1870. Dr Montelius made the extracts while doing research for his book *Leksands fäboddar* (Summer Farms in Leksand).

⁴⁰ Anders V. Andersson, *Om fäbodväsendet i Gagnefs socken* [About summer farms in Gagnef] (1984).

⁴¹ Larsson, *Fäbodväsendet*, p. 285.

pictures of everyday life at summer farms.⁴² However, it is probable that the cases brought to court were only a small part of the conflicts that were taking place. There were costs associated with using the court, and informal adjudications were common.

II

This investigation focuses on the twin questions of how physical boundaries were used and changed to exclude other users. We can see the process of change by examining the court records from Leksand. Out of 601 cases concerning summer farms in the Leksand court between 1660 and 1870, the largest category (180 cases) concern boundaries.⁴³ This is not surprising, since changes in boundaries within an area heavily utilized for agricultural purposes have an influence on the ability to develop agriculture and the output of agriculture. Encroachment on others' land could cause imbalances and unpredictable losses.⁴⁴ It is therefore likely that disputes over boundaries would end up in court. We find there were two kinds of boundary cases: first, those regarding the boundaries themselves and, second, those concerning the trespassing of animals. In the latter, it was not uncommon for the defendant to question a boundary and argue that no trespass had taken place either because the boundary was not where the plaintiff maintained, or that the court had not established it, or it did not exist at all.

In the sixteenth century, households began to establish summer farms on the outlying land around their villages (Figure 2). From the court records, it seems that the establishment of a summer farm was initially an individual enterprise.⁴⁵ Leksand was divided into quarters for the administration of many local issues, and one can argue that the commons in each quarter were *de facto* open pasture. No boundaries seem to have existed in the commons between different user groups for the purpose of grazing. The few boundaries mentioned before 1680 concerned quarters and parishes, but even the parish border was not always a boundary for grazing rights. Several villages located close to Leksand even established summer farms inside its boundaries. Later, the users of these summer farms came in conflict with peasants from Leksand who wanted to establish summer farms there. Both establishing a summer farm and herding animals in the vast forests surrounding it seem to have been open-access activities up to the mid-seventeenth century. However, it was not open access in a 'tragedy of the commons' sense.⁴⁶ It was open access because utilization of the commons for summer farms was still low (i.e. the resource was abundant relative to demand for it) and the costs of excluding others would have been high and served little purpose.⁴⁷ It is hard to argue, though, that the commons

⁴² Ibid., p. 212.

⁴³ The second most common cases were about the right to have a share in a particular summer farm (71 cases), and the third most common cases were about moving livestock between the village and a summer farm and between summer farms (61 cases), *ibid.*, pp. 215, 228–9.

⁴⁴ Ostrom, *Governing*, pp. 91–2.

⁴⁵ The village community might have organized the

summer farms, but there is no evidence of that. It is more likely that the animals grazed on outlying land close to the village and were brought to the homestead every night before the establishment of summer farms. For the reasons behind the expansion of the summer farms, see Larsson, 'Expansion', pp. 15–17, 28–9.

⁴⁶ Garrett Hardin, 'The tragedy of the commons', *Science* 162 (1968), pp. 1243–8.

⁴⁷ Cole and Ostrom, 'Variety of property', p. 45.

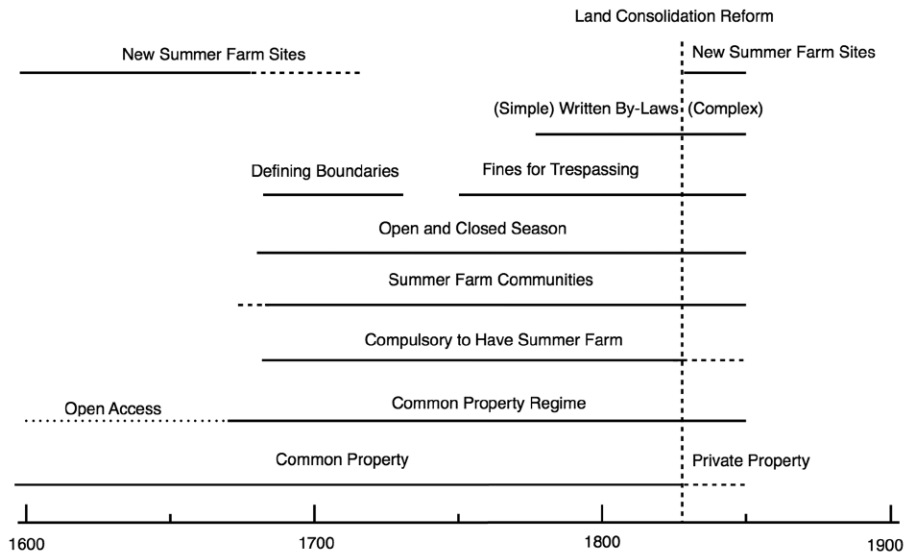


FIGURE 2. Schematic timeline for some of the more important parameters for the development of summer farms in the parish of Leksand between 1600 and 1850

were non-property (*res nullius*) since there might have been other restrictions in the use of the forest, and the commons, in a legal sense, belonged to landowners in Leksand.

When the population and the number of summer farms, as well as the number of users at each summer farm, increased, the peasants took action to protect their commons. One of the first steps, according to court records, was to establish a new institution: summer farm communities (*Fäbodlag*). A summer farm community encompassed all peasants who used the same summer farm. The first time a summer farm community is mentioned in Swedish historical records is in 1639 in Orsa parish, located about 40 miles north of Leksand.⁴⁸ The first Leksand references to summer farm communities are from 1677 and 1686 in the neighbouring parish of Gagnef.

A major step towards protecting the commons from overuse was to establish boundaries for the summer farms. Creating boundaries made it clear where one summer farm's resource area ended and the next one started. Thus, it was possible to manage questions about exclusion and subtractability in an efficient way.⁴⁹ The creation of resource areas for summer farms was an intense process during the late seventeenth and early eighteenth centuries. It is clear that this process was initiated by the users and was supported by the local court. The evidence for the creation of defined resource areas is provided by court records that contain disputes amongst the summer farm communities, and between villages and summer farm communities, up to the nineteenth century. In these disputes, many references were made to how boundaries for grazing rights had been established between 1680 and 1730. An example was a conflict about pasture rights in 1780: *Western Gansås and Faxberg v. Sörskog*. In the lawsuit, Sörskog presented

⁴⁸ Olle Veirulf, 'Fäbodväsendet' [Summer farms], in *Orsa: en sockenbeskrivning II* (1953), p. 394.

⁴⁹ Ostrom, *Understanding*, pp. 260–2.

a document from a 1699 inquiry about grazing rights that were eventually established by the local court in 1704.⁵⁰ Boundaries were often agreements between summer farm communities, and when their locations were disputed, the court often ruled that so-called 'trusted' men should walk along the boundaries and decide their correct positions. Afterward, the court confirmed the boundaries. It was not always possible to determine the boundaries between summer farms, because some were very close together. In such cases, the court ruled that the summer farms had to share the pastures.

The major change that took place in the late seventeenth century, and had an enormous effect on the use of the commons, was that it became compulsory for all peasants to have a summer farm. Until then, it had been up to the individual peasant to decide whether to have a summer farm (or a share in one) or not. From this time onward, it was no longer possible for a peasant to keep livestock in the village after the other villages had left for the summer farm. Since there were very few households without livestock, every household in the parish was forced to have a share in a summer farm during the eighteenth century and up to the mid-nineteenth century.⁵¹ The only exceptions to this rule were poor people who either could not afford to move the livestock or who needed the milk from the livestock to feed their children during the summer months. Thus, an agricultural system in which summer farms were an essential part had been established in the region.⁵²

When the utilization of the commons increased during the eighteenth century, the users took action to better protect their pasture grounds. It became more important to enforce rules, to monitor each summer farm better, to have more detailed regulations on issues connected to the use of the pastures, and to regulate what earlier had been minor issues concerning the utilization of the pastures. An example is the regulation over places where animals and people who tended the animals rested during the day. The livestock were herded out from the summer farm stables along different paths each day, stopping to graze as they went (Figure 3). At the end of each path was a place where the livestock could rest before they returned to be housed for the night. These places were often located along boundaries with other summer farm communities, resulting in arguments about use rights.⁵³

It became more important to protect the boundaries of the summer farms in the second half of the eighteenth century. The boundaries between villages and summer farm pasturelands were the most crucial to protect, and it became common to build fences to mark them. Boundaries between summer farms could also be fenced, but since building fences was expensive and the outlying land was vast, it was something the summer farm communities tried to avoid doing. If they really needed a demarcation, it was possible to put up a simple fence or put debris from the forest along the boundary. However, the cheaper and more common way to protect one's pasture was to make the boundary more visible by cutting down trees and bushes along it or charging fines when people outside the summer farm community trespassed.

⁵⁰ Montelius archives, 1780 §54, p. 695.

⁵¹ This rule led to much tension in the parish and many court decisions, and it was an important issue during the land consolidation reform in Leksand

between 1819 and 1830, Larsson, *Fäbodväsendet*, pp. 278–80.

⁵² *Ibid.*, pp. 385–8; Larsson, 'Expansion', p. 26.

⁵³ Larsson, *Fäbodväsendet*, p. 229.



FIGURE 3. Cattle stopping to graze and female herders practising two-end (twined) knitting at Björnbergets summer farm in the parish of Leksand in the opening year of the twentieth century

Source: Photo taken by Hans Per Persson, Djura, Leksand, Sweden. Permission to use granted by Lars Liss Photo Archive in Gagnef, Sweden.

From the second half of the eighteenth century, fining people who trespassed with animals became an especially effective way to protect pastureland. If a summer farm community wanted to levy fines, their right to do so had to be established by the local court. To acquire legal force, the trespassing rules had to be read out loud during church services so that all people in the parish were aware of them. If someone did not agree, he or she could register a caveat before the court. If no one complained, the right to charge fines for trespassing, for example, was given to the summer farm communities and the court stipulated the levels of the fines for certain violations. A way to prove that somebody had trespassed with livestock was to take the bells belonging to the animals as evidence.⁵⁴

After summer farm boundaries had been clarified and were better marked, the number of cases brought to court declined. They peaked in the second half of the eighteenth century, with the highest number of cases occurring during the 1760s (Figure 4). This change does not indicate that the competition for pastures eased after this. The number of animals in the pastures increased well into the nineteenth century.⁵⁵ The court cases decreased because by then the boundaries were firmly established and peasants knew there was little chance of

⁵⁴ Ågren, *Jord och gäld*, pp. 171–4; Ehn, *Mötet mellan*, p. 94; Larsson, *Fäbodväsendet*, p. 236.

⁵⁵ Larsson, *Fäbodväsendet*, pp. 175–7.

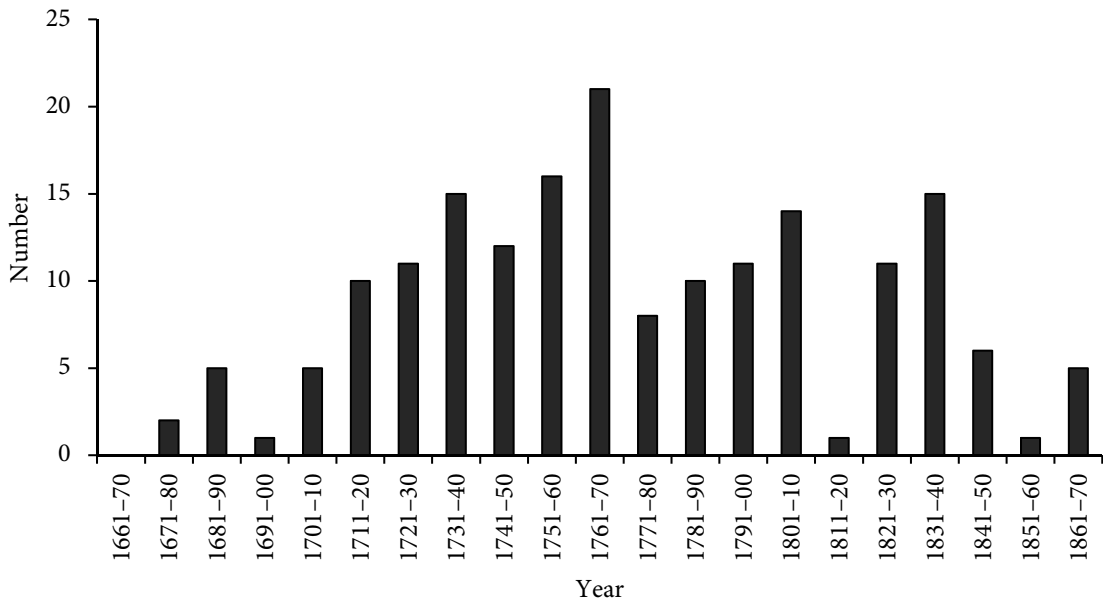


FIGURE 4. Number of local court cases concerning boundaries at summer farms in the parish of Leksand in ten-year increments, 1661–1870

Note: The high number of court cases after 1820 could be explained by enforcement drives. A few summer farms at the parish boundary were in dispute over several years, resulting in many court rulings. Between 1822 and 1827, one conflict had seven court sessions. After 1830, one summer farm accounted for more than one-third of all the cases. *Source:* Sigvard Montelius unpublished archives, private collection, Falun, Sweden.

changing them. With boundaries well protected from intruders, the biggest threat of overuse of the pastures came from the user groups themselves. From the second half of the eighteenth century onward, the peasants had to focus more on their internal use of the pasture grounds to avoid overexploitation. As a result, each community put more effort into monitoring and regulating the use of its summer farm. Monitoring of the user group had always been an important task for the summer farm community, but it is clear that the effort to enforce rules increased in the second half of the nineteenth century, when written by-laws for the summer farms were introduced.

What the peasants did from the sixteenth century up to the nineteenth century was to establish clear rules on how the commons could be used. With help from the local court, they divided the commons into utilization areas for each summer farm and established a well-functioning common-pool regime.

III

A programme of land reform (*storskifte*) in Leksand began in 1819 and had been completed by the beginning of the 1830s. The purpose of the reform was to make land use more efficient. To achieve this goal, the number of infield plots that each peasant used was reduced and plots were merged into bigger fields. The outlying land, which was a common-pool resource, was

divided between the peasants with the aim of encouraging its cultivation. Another justification for including the outlying land in the reform was to turn commons into private land to enable better management of the woodlands to take place.⁵⁶ The end goal for the state was to make the country more prosperous and, in the long run, increase tax revenues. To achieve this, they needed to eliminate claims other users might have to the same land and allocate only one user and owner to each piece of land. This was the goal the courts explicitly expressed in cases regarding the grazing rights for summer farms in Leksand after the land reform.⁵⁷ Thus, the ideological background of the reform was part of a central trope in eighteenth-century public discourse: property should be under individual, absolute dominion in which the bundle of property rights is gathered under a single owner with the right to enjoy and exploit that property's resources without restriction.⁵⁸ It is clear that the architects behind the land consolidation reform did not recognize common property as an efficient property regime: they considered all common-property regimes to be inefficient by definition.⁵⁹ In that sense, they had the same view of commons as Hardin would have 200 years later and, like Hardin, they proposed conversion to private or public property.⁶⁰

The land reform had to be initiated by one of the landowners making an application to the county governor. Leksand made the formal request in 1817. It is hard to argue that the peasants participated in the reallocation willingly. The land consolidation reform in Dalarna County took place between 1803 and 1894. In the earliest years of the reform the peasants in the parish of Floda refused to co-operate with the regional head of the land reform and his surveyors. At a meeting in 1806 chaired by the county governor, to which he brought soldiers to maintain order, he explained the consequences of not co-operating, and the consolidation started later that year. The next year, representatives from Floda travelled to Stockholm on behalf of all peasants in the parish to decline to participate in the reform. The answer from central government was that participation was mandatory for all parishes in Dalarna.⁶¹ Finally, whether the peasants were for or against the reform is not important, because they could not avoid it. The peasants in Leksand were pragmatic and realized they would be better off by collaborating with the land surveyor to get the best possible result from the reform.

Land consolidation was not introduced as a result of changes in the agricultural system in Leksand. The peasants retained the same agricultural practices after the reform as they had had before.⁶² However, the reform impacted upon their agriculture in many ways. The reform required that summer farms should be located on the peasants' own property. Most peasants had land where they had their summer farm dwellings and could continue within the same

⁵⁶ Pettersson, 'Äganderätten', pp. 130–1.

⁵⁷ Carl Schmidt (ed.), 'Om fäbodedelägares i Dalarnes rätt att fortfarande begagna lötesmark inom annan sockens genom fastställt storskifte bestämda rågång' [The right of summer farm owners to use pastures in another parish after the land consolidation reform], in *Juridiskt arkiv* [Legal archive], 20 (1849), p. 511.

⁵⁸ Robert W. Gordon, 'Paradoxical property', in John Brewer and Susan Staves (eds), *Early modern conceptions of property* (1995), pp. 95–6.

⁵⁹ Staffan Helmfrid, 'The *storskifte*, *enskitte* and *laga skifte* in Sweden: general features', *Geografiska Annaler* 43 (1961), p. 115.

⁶⁰ Hardin, 'Tragedy', pp. 1243–8.

⁶¹ Martin A. Bortas, *Storskiftet i Dalarna 1803–1894, med exempel från Leksand och Åls socknar* [Land consolidation in Dalarna 1803–1894, with examples from Leksand and Åhl parishes] (1992), pp. 21, 25.

⁶² Larsson, *Fäbodväsendet*, p. 270; Montelius, *Leksands fäbodlar*, p. 166.

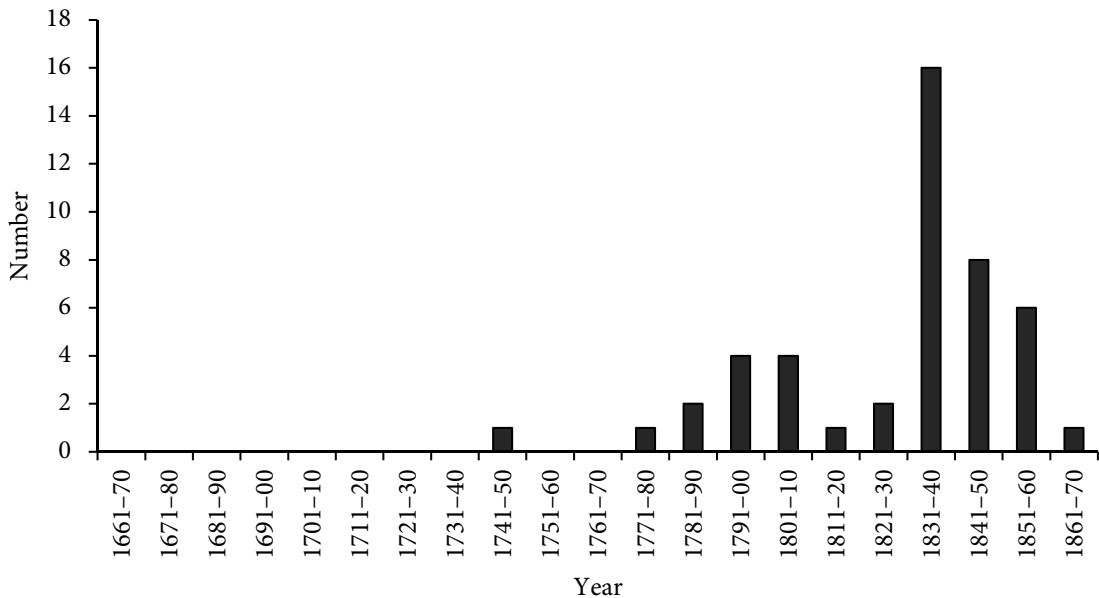


FIGURE 5. The number of court protocols regarding by-laws of summer farm communities in Leksand, 1661–1870, in ten-year increments

Source: Sigvard Montelius unpublished archives, private collection, Falun, Sweden.

summer farm community, but quite a few had to establish new ones. Following the reform, more than 40 new summer farms were established in the parish but each had very few users.⁶³ Most of the new summer farms (60 per cent) had only one cabin and were shared with no neighbours. Even though the new summer farms were located on the landowners' properties and closer to the home farm compared to many of the older summer farms, they tended to be abandoned earlier.⁶⁴

Despite the forest now being divided into privately owned strips, peasants were still allowed to use the combined area for grazing. Thus, the peasants were given the right to use other people's private property for feeding their animals during the summer.⁶⁵ The summer farms remained a necessity, and without the rules that allowed livestock to graze on others' properties, the agrarian economy would have collapsed. Animal husbandry was very important and there were no alternatives for grazing. But by separating the right to use the land from ownership of the land, a tension was built into the system: privately owned land was used as a common-pool resource. There was a tension between private extraction of resources other than pasture from the land and collective use of the land for animal husbandry. So long as all peasants needed the forest for grazing, it had to work.

In many ways, animal husbandry remained unaltered after the land reform. It was still necessary for all users to move from the village to the summer farm on the same day in early

⁶³ Montelius, *Leksands fäbodlar*, pp. 166–8.

⁶⁴ *Ibid.*, pp. 252–7.

⁶⁵ *Ibid.*, pp. 100–101.

summer and back to the village on the same day in the autumn (some users also returned for a short time to the village in mid-summer). It was still important to respect the boundaries of each summer farm, collectively maintain roads to the summer farms, work to clear the pastures, and other tasks. Since the woodlands went from being common lands to privately owned land while still being used as a common for grazing, it was necessary to formalize the rules for the summer farm. We know from court records that after the land reform, the number of by-laws concerning summer farms increased substantially in Leksand (Figure 5). Up to the time of the reform, written agreements about summer farm rules were quite simple and contained only two to six paragraphs.⁶⁶ Like village by-laws, these agreements had acted as laws once the local court had confirmed them, allowing a summer farm community to act like a court for such things as collecting fines from violators. The summer farm community by-laws could not be used against people who did not belong to the summer farm. As we saw, the summer farm communities could impose a fine on trespassers only if the right to do so had been confirmed by the local court.

After the land consolidation reform, a huge number of by-laws were brought to the court for confirmation. The number of paragraphs in each by-law increased and each paragraph became more detailed; the number of animals the peasants could take to the summer farm was clearly specified; the number of violations that the peasants had to pay fines for increased; and, for the first time, managers of the summer farm communities were mentioned. The local court specified the manager's authority to enforce the rules and collect fines. It is obvious that it had become important to make sure the by-laws could be enforced efficiently.

IV

The peasants in Leksand continuously changed the rules for using common-pool resources to adapt to changing conditions. Their key aim was to avoid overuse and ensure that the land could be used for grazing by the next generation of users. Property is a set of legal relations among persons (individual or collective), and each summer farm community in Leksand increased their 'rights' to their pasture grounds by denying other people's claims to the same land. For the summer farms, management was conducted as a common-property regime, even after the commons were divided into private plots, and 'membership' responsibilities continuously increased.

The cost to the peasant is connected to the question of power over property, or sovereignty.⁶⁷ Who was gaining power and who was losing power after the land reform? Before the reform, peasants frequently used the local court to resolve problems concerning summer farm boundaries. It was a low-cost arena for solving problems in which lay participation was high. Scholars have pointed out that the guiding principle of the local courts was to establish socially

⁶⁶ Most of the paragraphs were about summer duties, but one paragraph usually dealt with winter road work. All members of the summer farm were responsible for maintaining the winter roads to the summer farm so the hay stored there could be taken back to the village as needed, Larsson, *Fäbodväsendet*, pp. 267–71.

⁶⁷ Robert Brenner, 'Agrarian class structure and economic development in pre-industrial Europe', *Past & Present* 70 (1976), pp. 31–2, 71–2; Morris R. Cohen, 'Property and Sovereignty', *Cornell Law Q.* 13 (1927), pp. 8–30.

sustainable solutions to local problems rather than to press formal points of law, and Leksand's court followed that principle.⁶⁸ What made the court such a strong arena for conflict resolution was the interplay between *de jure* rights and *de facto* rights, i.e., rights given lawful recognition and rights that originated among users and produced operational rules closely matched to the physical and economic conditions of the common-pool resources.⁶⁹ One example is that the court recognized all landowners' rights to use the commons (*de jure*) as well as open and closed seasons for the pasture grounds (*de facto*). The court's stipulating fines in advance for violations of rules is another example of how rights that originated among users were recognized by the court.

In a society in which all children inherited land, there was always a risk of land fragmentation. To counteract this, strategic marriages were important and the role of kinship was significant in achieving successful collective arrangements. Another way to avoid further fragmentation was for each child to inherit undivided plots of arable land and meadows instead of receiving one strip of land within each plot.⁷⁰ It was possible to do this when the household had many small plots at its disposal. The peasants in Leksand had also developed a system for local exchange of land (arable land, meadows, meadows surrounding a private lot at the summer farm, and houses) and kept local records of who owned which strips.⁷¹ With the land reform, the old practice of land exchange was no longer possible. From this time onward, the boundaries between landowners were defined by the central and regional governments, and they included the former commons. The exchange of land had to involve a land surveyor who acted as a representative of the regional government. Entitlements to land became clearer, at least for the government, but at the same time exchanging land became more costly for peasants. It was the first time in Leksand that a map was used as an instrument to show what property belonged to each landowner.⁷² The power of the map belonged to the regional government. Morris Cohen recognized 'that a property right is a relation not between an owner and a thing, but between the owner and other individuals'.⁷³ The land reform in Leksand concentrated political rights at the state level, and the state destroyed rights previously held by local communities.⁷⁴ The reform increased the government's power over land transactions, and at the same time, the transaction costs for peasants increased. Increased government control was intended to secure better control over the country's assets and was part of a state-building effort. It was also an attempt to make the organization of agriculture less dependent on personal ties, to promote the rise of a more impersonal organization and to remove restrictions on individual enterprise.⁷⁵

⁶⁸ Ågren, *Domestic secrets*, p. 23; Larsson, *Fäbodväsendet*, p. 292.

⁶⁹ Edella Schlager and Elinor Ostrom, 'Property-rights regimes and natural resources: a conceptual analysis', *Land Economics* 68 (1992), pp. 254–5.

⁷⁰ Ulf Sporrang and Elisabeth Wennersten, *Marken, gården, släkten och arvet: Om jordägande och dess konsekvenser för människor, landskap och bebyggelse i Tibble och Ullvi byar, Leksands socken, 1734–1820* [Land, farm, kinship and inheritance: landownership and its consequences for people, landscape and

settlement in Tibble and Ullvi villages, Leksand, 1734–1820] (Leksands sockenbeskrivningar 10, 1995), pp. 207, 213.

⁷¹ Sporrang, 'Ägandets reproduktion', pp. 101–06.

⁷² Sporrang and Wennersten, *Marken, gården*, p. 334.

⁷³ Cohen, 'Property and sovereignty', p. 12.

⁷⁴ Charles Tilly, 'Reflections on the history of European state-making', in Charles Tilly (ed.), *The formation of national states in Western Europe* (1975), p. 37.

⁷⁵ Cohen, 'Property and sovereignty', p. 21.

Since the land reform did not arise out of changes in agricultural practice or social organization, the result did not turn out well for the peasants. The exchange of land between owners in Leksand decreased while all children continued to inherit land. The peasants continued to divide their land without formal recognition by the regional government, and without the possibility for local exchange. In the long run, this resulted in very narrow strips of land, arable as well as woodland, that were unmanageable and much more costly to farm and log.⁷⁶

Since agricultural practice was almost the same before and after the reform, the big difference for animal husbandry was that peasants had to manage summer farms on privately owned land. The nature of the grazing made it impossible for peasants to feed animals on their own private lots, so they obtained easements to let their livestock graze on other peoples' land adjacent to their summer farm lots. Existing summer farms appear to have kept almost the same utilization area as before the reform. Thus, outlying land was still used as common pasture. In that sense, the land consolidation reform was not a complete privatization of land; it created hybrid ownership structures where common pasture rights remained intact. With the reform, more regulations were needed to maintain the use of summer farms, and by-laws became more complex. More by-laws and heavier regulations increased the transaction costs for the summer farms. It could be that more complex by-laws were a result of increased utilization of the summer farms, with more members in each. However, there are two reasons to believe that the introduction of the more complex by-laws was a result of the land reform. First, the number of by-laws increased tremendously right after the reform (Figure 5).⁷⁷ Second, a similar development occurred in other areas of Sweden after land reforms were enforced.⁷⁸ In Uppland, where agricultural practice was very different from that in Leksand, and its backbone, especially in the southern part, was grain production, many village by-laws were introduced at the same time as land reforms in the 1770s.⁷⁹

The government had been promoting model village by-laws since 1742 as one of several means to increase grain production.⁸⁰ Initially, the peasants' response was hesitant and few by-laws were promulgated. It was not until the land reform that peasants adopted village by-laws. The reform caused some trouble, because it changed the boundaries, and with new boundaries, the peasants had to put up many new fences.⁸¹ The old organization for maintenance of fences was no longer useful, and many villages had a shortage of woodland to provide material for the new fences. After the land reform, new rules were required to adjust to the new conditions, and village by-laws were a solution to the problem.⁸² Despite the fact

⁷⁶ Dalautredningen, *Betänkande med förslag till lag med särskilda bestämmelser om delning av jord å landet inom vissa delar av Kopparbergs län* [Report with bill of special provisions of division of land in certain parts of Kopparberg county] (1931), p. 37; Erik Westholm, *Mark, människor och moderna skiftesreformer i Dalarna* [Modern land reforms in Dalarna, Sweden], *Geografiska regionstudier*, 25 (1992), pp. 67–79.

⁷⁷ Larsson, *Fäbodväsendet*, p. 268.

⁷⁸ Ehn, *Mötet mellan*, p. 103.

⁷⁹ The land consolidation reform (*storskifte*) in Uppland County occurred about a half century before

the same reform in Leksand. Since it took place at different times in different parishes in Uppland, it was an extended process, but the peak occurred before 1772. In the nineteenth century, new land consolidation reforms (*enskifte* and *laga skifte*) took place in Uppland.

⁸⁰ Ehn, *Mötet mellan*, pp. 21–2, 90.

⁸¹ One example was village boundary fences. Before the land consolidation reform, the boundaries between villages were often open fields. After the reform, fences had to be constructed along the new boundaries, *Ibid.*, p. 103.

⁸² *Ibid.*, pp. 102–103.

that common land had been turned into private land, collective action was still a necessity for the peasants and required more formal regulation in both Leksand and Uppland. These findings contradict the view that the land reforms dissolved the older form of agrarian organization.⁸³

For peasants in Leksand, land reform increased the transaction costs of having a summer farm for some more than others. One group consisted of peasants who had to move from their previous summer farm and establish a new one. Most of these peasants could not take advantage of one of the main benefits that larger and older summer farms had, i.e. many farmers being able to join forces and share the expenses of such things as building and maintaining roads and fences, clearing of pastures, and jointly hire workers. Another group of peasants, who lived in a village close to the parish border, found their summer farm in the adjacent parish. Before the land reform, some villages in neighbouring parishes had summer farms located inside the boundaries of Leksand. These summer farms were usually established in remote areas of Leksand in relation to where the major villages were situated. When the utilization of the outlying land increased during the eighteenth century and peasants from Leksand established new summer farms on the outskirts of the parish, conflicts emerged between user groups. However, the peasants from neighbouring parishes were still allowed to keep their summer farms. The land consolidation reform changed this arrangement. From then on, the boundaries of the parish were also the boundaries for grazing rights. Even if the land surveyor tried to compensate the peasants with land in the parish where they lived, many wanted to keep the same summer farm they had used before. For one such summer farm, a legal battle was waged from 1835 to 1849.⁸⁴ The government wanted to limit polycentric land use and favoured a monocentric hierarchy.

V

In the seventeenth century, the peasants in Leksand, with support from the local court, established a common-property regime for the purpose of using the outlying, common land for grazing. An important feature in this common-property regime was the creation of boundaries for the summer farms to establish utilization areas. Another important feature was open and closed grazing seasons, and it became mandatory for all peasants to have a summer farm. When the utilization of the outlying land increased, the common-property regime that the peasants had created was able to adapt to new conditions. The common-property regime they developed was able to cope with the important question of exclusion of users in an effective way. One of the features that made the common-property regime successful was the interplay between *de jure* and *de facto* property rights.

When the land reform split the commons into many small private strips without any preceding changes in animal husbandry, the peasants had to take action to continue their practice, i.e. introducing new, more complex by-laws and appointing managers. However, these changes increased the transaction costs of utilizing summer farms at the same time

⁸³ Sundberg, *Nordic common lands*, p. 178.

⁸⁴ Schmidt, 'Om fäboddeläggares i Dalarne', pp. 509–515. Larsson, *Fäbodväsendet*, p. 234.

as land exchange between peasants became more costly. For peasants who, to a large extent, practised subsistence farming and had no alternative to using the summer farms, the result was a gradual decrease in the value of animal husbandry. However, it is important to remember that there were also other factors at play in the nineteenth century that made it harder to manage summer farms.⁸⁵ Despite other factors, it is clear that the land reform certainly did not favour the use of forestland as pastures for the peasants in Leksand. The conclusion is that for the small farms with an established and well-developed common-property regime, the transition from a regime in which pastures were held as commons to a common-property regime on private land was costly and negative. It is difficult to interpret the introduction of private property in the outlying land as an evolutionary process from common to private. The peasantry were familiar with the concepts of both private property and common property before the reform and used a mixed property-rights regime.

If the development of property rights had gone toward more privatization during the seventeenth and eighteenth centuries, one would expect the peasants to have been better prepared for the land consolidation reform. Instead, the peasants' response to increasing demand for scarce natural resources, as the population grew and utilization increased, was to improve the common-property regime. The introduction of private property on the former commons increased the transaction costs for the users.

What we have seen is that more exclusive property rights were introduced by the peasants mainly by changing the common-property regime. At the same time, they used more collective action in agriculture. This could be seen as a conundrum: more exclusive property rights emerging with more collective action. A hypothesis is that during the early modern period a more complex agrarian economy evolved, including more complex social structures that required more co-operation among peasants. By creating more exclusive common-property rights and at the same time increasing co-operation among the users, it was possible to use larger areas, increase production, and create a more stable local society. Turning the commons into private property was supposed to end this co-operation, but it only served to make it more expensive.

⁸⁵ Larsson, 'Expansion', pp. 34–5.