

CHANGES IN PROPERTY RIGHTS IN A COMMON-POOL RESOURCE,

1600 TO 1850

By

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ABSTRACT

The aim of this paper is to analyzing 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 were important. We will follow the transformation of the parish's forest-covered outlying land in central Sweden from open access to a communal common-property regime and finally to a common-property regime conducted on private property, i.e. the commons were converted to privately owned land but animal husbandry was still conducted as a collective action. I will discuss how these changes happened and how they affected the peasants who used the forests for grazing their animals.

This paper focuses on two aspects of the change:

1. How the property regime on common 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.
2. What happened to this common-property regime when a land consolidation reform transformed the commons to privately and individually owned strips and how it affected the peasants.

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 consolidation 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 managers. However, these changes increased the transaction costs to utilize summer farms at the same time as land exchange between peasants became more costly. 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.

Key words: Commons, Property Rights Sweden, Early Modern period

INTRODUCTION

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 land parcels.

Along with these changes came a transformation of the traditional use of a common-pool resource—land. The aim of this paper is to address this broader change by analyzing 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 were important. We will follow the transformation of a parish's forest-covered outlying land in central Sweden from open access to a communal common-property regime and finally to a common-property regime conducted on private property, i.e. the commons were converted to privately owned land but animal husbandry was still conducted as a collective action.

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2. What happened to this common-property regime when a land consolidation reform transformed the commons to privately and individually owned strips and how it affected the peasants.

Was the development of an evolutionary road to private property a Demsetzian response (Demsetz 1967) to increasing demand for scarce natural resources as the population grew and more peasants used the forest for grazing? Or was division of the commons into private strips of land a break from the way the peasant 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 practiced 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 the enforcement of the boundaries of a resource unit is a way to exclude other users (Ostrom 1990, 2005). It is also important to study the interplay between the peasants and the local authority and how this interplay changed over time.

The focus is on how a common-property regime evolved within the context of property-rights reforms by studying a Swedish parish over three centuries. 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 consolidation (or privatization) became costly for almost all landowners in the region, and required adaptation of a well-established common-property regime to individually owned forestland.

BACKGROUND

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 (Cole 2002; Cole and Ostrom 2012). As Daniel Cole (2002:9) points out, “One major problem with this conventional typology of property regimes is that it simply does not fit many real-world circumstances.” This was certainly true for property rights in eighteenth-century Sweden, where the three main categories of land for agricultural purposes were arable fields for cultivating crops, meadows for harvesting winter fodder, and outlying land, mostly forests, for grazing animals and collecting firewood, 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.

Similar to many other peasants around the world, for centuries the Swedish peasants used different property systems for different ecologies. Robert Netting (1976) identified five key variables that he considered the most important to differentiate common-property rights from individual rights in land, based on the nature of land use. 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 labor- 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 more likely 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 or when it was fallow. The peasants used different property rights as a means to achieve different goals in the management of natural resources. The property rights can be viewed as a function to achieve these goals and were very far from universal rights to property in a Blackstonian sense (Blackstone 1766).

The focus of this paper is on how the outlying forestland was used as pasture and held as commons. The right to use a common land area was based on being a landowner and having a homestead in a village. An individual farm's share in the common was proportional to the farm's share in the village (Sundberg 2002). Thus, it was not possible to sell one's use of a common (alienation) without selling the farmstead, or a part of it, with arable land. The right to sell outlying land came after the land consolidation reform, when many commons were divided into individually owned parcels. After that, companies in the timber industry came along and often bought forestland or whole farms, including woodland, from individual owners, especially in northern Sweden (Persson 2011).

THE STUDY AREA

Leksand parish in Dalarna County in central Sweden encompasses the southern part of Lake Siljan and a stretch of Österdal River (Österdalälven). From central Leksand, it is about 30 miles (48 km) to Falun, the main city in Dalarna. During the 1600s and 1700s, Falun's Great Copper Mountain, an important copper mine, exerted a huge influence on everyday life in Leksand. It was one of the biggest work places in Europe in the late 1600s, and during this time, Falun was the second-largest city in Sweden.

Leksand parish includes 274,196 acres (110,963 ha) of land (excluding water). The population growth in Leksand was quite rapid (Palm 2000), especially during four distinct periods: 1650–1690, 1718–1750 (after the Great Nordic War), the late 1700s, and 1830–1865. Cows, goats, and sheep increased 3.7, 5.5, and 10.1 times between 1571 and 1830, respectively in the region; after 1850, the numbers of goats and sheep decreased sharply, while the number of cows remained the same (Larsson 2012).

In Leksand and the surrounding area, all children, both sons and daughters, inherited land, which meant there were no landless households. Until 1845, daughters inherited half of what sons inherited. After that, the rules changed so that sons and daughters inherited equal amounts (Sporrong 1995). The reform in 1845 was one of many reforms in mid-nineteenth-century Sweden meant to solve broader social problems, improve women's situation in society (Ågren 2009), and promote economic development. 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 alpine transhumance, where peasants brought their livestock from the village to summer farms (*fäbodars*) located on common property. The number of users varied considerably for different 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 1,043 houses for people to live in. More than one household could have shares in each house (Montelius 1975). The summer farm system collapsed in Leksand after 1890, when peasants rapidly abandoned their summer farms (Larsson 2012). 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 all 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. Leksand and Upper Dalarna differed from other parishes and counties in Sweden during the eighteenth century with respect to inheritance rules, structure of agriculture, dependency on migration of labor, and other important ways. However, as a community that developed a well-established common-property regime, it is well suited to investigate how the property regime evolved.

SOURCE MATERIAL

I used court records from Leksand and Gagnef, two adjacent parishes, and had access to unique excerpts from Leksand court records made by Dr. Sigvard Montelius in the late 1960s. His excerpts embrace the time from 1660 to 1870 (Sigvard Montelius, unpublished archives, private collection, Falun, Sweden). Dr. Montelius wrote the excerpts while doing research for his book *Leksands fäbodars* (*Summer Farms in Leksand*) (Montelius 1975). I also used Gagnef court records from 1544 to the 1730s (Andersson 1984) to begin the investigation as early as the mid-sixteenth century, a period for which very few Leksand records exist. I verified that the developments in Gagnef and Leksand were comparable (Larsson 2009). Because 90% of the court records are from Leksand, I refer to the whole material as court records from Leksand.

Records from court sessions are the best sources to come close to knowing the ordinary people in early modern Sweden. Court records are also the only source material where one can follow the management of summer farms during a long period of time. In many court cases, we can get detailed pictures of everyday life at summer farms (Larsson 2009). However, it is probable that the cases brought to court were only a small part of all conflicts and agreements that were taking

place and by-laws that were present. There were transaction costs to using the court, and informal adjudications among users were common.

3. RESULTS

BEFORE THE LAND CONSOLIDATION REFORM

Focus for the investigation is how physical boundaries were used and changed for the utilization of pastures on commons. An important question is how the peasants worked to exclude other users. We can see the process develop by examining court records from Leksand. Out of 601 cases concerning summer farms in the Leksand court between 1660 and 1870, the largest category (180 cases) is boundaries (Larsson 2009). This is not surprising, since changes in boundaries within an area heavily utilized for agricultural purposes have great influence on the ability to develop agriculture and the output of agriculture. Encroachment on others' land could cause imbalances and unpredictable losses (Ostrom 1990).

In the sixteenth century, households began to establish summer farms on the outlying land around their villages. Based on court records, it seems that the establishment of a summer farm was initially an individual enterprise. Leksand was divided into quarters for the administration of many local issues, and one can argue that the commons in each quarter was de facto open access as pasture. No boundaries seem to have existed in the commons between different user groups (summer farms) 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 actually established summer farms inside its boundaries. (Later, the users of these summer farms came in conflict with peasants in Leksand who wanted to establish summer farms there). 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 (Hardin 1968). 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 cost to exclude others would have been high and with little purpose (Cole and Ostrom 2012).

When the population increased and the number of summer farms increased, as well as the number of users at each summer farm, the peasants took action and established a common-property regime. One of the first steps, according to court records, was to establish a new institution: summer farm communities. A summer farm community encompassed all peasants who used the same summer farm location.

A major step to establish a common-property regime 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 (Ostrom 2005). The creation of resource areas for summer farms was an

intense process during the late 1600s and early 1700s. It is clear that this process was initiated by the users and was supported by the local court.

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 then became compulsory for all peasants to have a summer farm. Until then, it had been up to the individual peasant whether to have a summer farm or not. From this time onward, it was no longer possible for a peasant to leave the livestock in the village when the others left for the summer farm. One had to be a member of a summer farm community. Thus, an agricultural system of which summer farms were an essential part had been established in the region (Larsson 2009, 2012). Allowing peasants to stay in the village with livestock during the summers while others moved their livestock to the summer farms would have posed a threat to this agricultural system. During the grazing season, the pastures had to be used in harmony among all users.

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, and have more detailed regulations on issues connected to the use of the pastures. It became important 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 (Larsson 2009).

It became more important to protect the boundaries for the summer farms in the second half of the eighteenth century. The boundaries between villages and summer farms' pasturelands were most crucial to protect, and it became common to put up fences between them. The boundaries between summer farms also could be fenced, but since making 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.

From the second half of the eighteenth century, charging fines when people trespassed with animals became an especially effective way to protect pastureland. If a summer farm community wanted to charge fines for trespassing, the fine had to be established by the local court, which stipulated the fines in advance for certain violations. To acquire legal force, the trespassing rules had to be read out loud during church services so all people in the parish were aware of them. If someone did not agree, he or she could make a formal remark to the court. If no one complained, the right to charge fines for trespassing, for example, was given to the summer farm communities. A way to prove that somebody had trespassed with livestock was to take the bells belonging to the animals as evidence (Ågren 1992; Ehn 1991; Larsson 2009).

After summer farm boundaries had been clarified and were better protected, the number of cases brought to court declined. They had peaked in the second half of the eighteenth century, with the highest number of cases during the 1760s. 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 (Larsson 2009). The court cases decreased because by then the boundaries were firmly established and peasants knew there was little chance to change 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.

AFTER THE LAND CONSOLIDATION REFORM

As we have seen, the common-property regime in Leksand was well established when a land consolidation reform (*storskifte*) took place. The land consolidation reform in Leksand began in 1819 and was complete 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 were reduced and merged into bigger fields. The outlying land, which was a common-pool resource, was divided among the peasants. The intention was to promote cultivation in that area. Another important reason to include the outlying land in the reform was to turn commons into private land for better management of the woodlands (Pettersson 1995). The goal for the state was to make the country more prosperous and, in the long run, increase tax revenues. To achieve this goal they needed to eliminate claims other users had to the same land and appoint only one user and owner to each piece of land. This was a goal the courts explicitly expressed in cases regarding the grazing rights for summer farms in Leksand after the land consolidation reform (Schmidt 1849). Thus, the ideological background of the land consolidation reform was part of a central trope in eighteenth-century public discourse: property should be under individual, absolute dominion where the bundle of property rights is gathered under a single owner with the right to enjoy and exploit that property's resources without restriction (Gordon 1995). It is clear that the architects behind the land consolidation reform did not recognize common property as a favorable property regime. Their aim was the dissolution of village communities (Helmfrid 1961) because they viewed common property regimes as inefficient. In that sense, they had the same view of commons as Hardin would have two hundred years later (1968), and like Hardin, they proposed conversion to private or public property.

Land consolidation was not introduced as a result of changes in the agricultural system in Leksand. The peasants practiced the same type of agriculture after the

reform as they had before (Larsson 2009; Montelius 1975). However, the reform impacted their agriculture in many ways. The reform stated that summer farms should be located on the peasants' own property. Most peasants got land where they already had their summer farm dwellings and could continue within the same summer farm community, but quite a few had to establish brand new ones. Following the land consolidation reform, more than 40 new summer farms were established in the parish but each had very few users (Montelius 1975).

Despite the fact that the forest was now 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 (Montelius 1975). The summer farms remained a necessity, and without the rules that allowed livestock to graze on others' properties, the society 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 and managed as a common-pool regime. It was a tension between private extraction of resources from the land and collective use of the land for animal husbandry. As long all peasants needed the forest for grazing, it had to work.

In many ways, animal husbandry and the common-property regime remained the same after the land consolidation reform. It was still important for all users to move from the village to the summer farm on the same day in early summer and back to the village on the same day in the fall (some users did return for a short time to the village in mid-summer). It was still important to respect the boundaries of each summer farm, support maintenance of roads to the summer farms, and work to clear the pastures, etc. Since ownership of the woodlands went from common land to private 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 consolidation reform the number of by-laws concerning summer farms increased heavily in Leksand. Up to the time of the reform, written agreements about summer farm rules were quite simple and contained only two to six paragraphs (Larsson 2009). 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 village. The summer farm communities could lay a fine on trespassers only if it had been established 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 authorities so he could enforce the rules and collect fines. It is obvious that it had become important to make sure the by-laws could be enforced efficiently.

DISCUSSION

The peasants' involvement in the changes in property rights in Sweden has been extensively discussed. Research conducted prior to the 1970s stressed an almost invariable joint-property system on outlying land, i.e., common-pool resources, and how this was changed by higher-level judicial decisions in a series of consecutive land consolidation reforms between 1749 and 1827. The land consolidation reforms were seen as an external force suddenly destroying a world of collective action (Rösener 1994). Long-term development of property rights in agrarian societies has often been described as a unilinear development from collective to individual rights to land (Demsetz 1967). Since the 1970s, an important research method used to understand development of property rights in Sweden has been to investigate the struggle between different groups for more exclusive control of natural resources. Woodlands, which to a high extent were commons prior to the land consolidation reforms, have been emphasized as an important part of this struggle (Pettersson 1995). 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 (Ågren 1992; Gadd 2011; Granér 2002). However, these studies have focused on the transition to private property and not taken into account that common-property regimes could evolve, be efficient, and serve the participants well (Cole and Ostrom 2012; Ostrom 1990, 2005; Schlager and Ostrom 1992). Research also has emphasized that change in property rights started much earlier (seventeenth century) than previously believed and that it was a local process. Important actors were often large-scale landowners, but scholars have stressed that the development was also driven and supported by many peasants (Ågren 1992; Granér 2002). The transformation of the commons into smaller units with clear boundaries managed by defined user groups has been interpreted as an evolutionary process toward privately owned land. The development had an evolutionary character and was not a sudden transition from one type of property right to another (Granér 2002, 2005). 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 the collective rights are connected to individual rights and that peasants used a mix 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 (Cole and Ostrom 2012; Widgren 1995).

Instead of looking at the development as an evolutionary process to private property, I think it is better to distinguish a common-property regime as a form of property right with its own logic. What the peasants in Leksand did when they continuously changed the rules for using common-pool resources was to adapt to changing conditions for the natural resource they managed. The purpose was to avoid overuse and ensure that the land could be used for grazing by the next generation of users. 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 into pieces (McKean 2000). With private property, the goods are divided into pieces. Property is a set of legal relations among persons (individual or collective), and the summer farm communities in Leksand continuously increased their “rights” to their pasture grounds by reducing 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. Any property regime is costly to enforce (Coase 1960), and summer farms were no exception—peasants had to invest time and labor. Investigating these costs is a way to determine if the transition from common property to private property in Leksand happened gradually or was a sudden break. Looking at how the change affected peasants regarding animal husbandry will also provide insights into the transition.

The cost to the peasant is connected to the question of power of property, or sovereignty (Brenner 1976; Cohen 1927). Who was gaining power and who was losing power after the land consolidation reform? Before the reform, peasants frequently used the local court to solve problems concerning summer farm boundaries. It was a low-cost arena for solving problems where lay participation was high. Scholars have pointed out that the guiding principle of the local courts was to establish socially sustainable solutions to local problems and not so much to press formal points of law, and Leksand’s court followed that principle (Ågren 2009; Larsson 2009). 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 originating among users that produced operational rules closely matched to the physical and economic conditions of the common-pool resources (Schlager and Ostrom 1992). 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 violation of rules is another example of how rights that originated among users were recognized by the court.

In a society where all children inherited land, there was an imminent 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 (Sporrong and Wennersten 1995). It was possible to do so when the household had many small plots at its disposal. The peasants in Leksand also had 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 (Sporrong 1995). With the land consolidation 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 representatives from the regional government, a land surveyor. 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 (Sporrong and Wennersten 1995). The power of the map belonged to the regional government. Morris Cohen (1927:12) recognized “that a property right is a relation not between an owner and a thing, but between the owner and other individuals.” The land consolidation reform in Leksand concentrated political rights to the state, and the state destroyed rights previously held by local communities (Tilly 1975). The reform increased the government’s power over land transactions, and at the same time, the transaction costs for peasants increased in Leksand. I will argue that the increased government control was intentional to have 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 and promote the rise of a more impersonal organization. Since the land consolidation reform was not the result of changes in agriculture production or changes in 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, but without the possibility for local exchange. In the long run, this resulted in very narrow strips of land, arable as well as wooded (Dalautredningen 1931), that were unmanageable and more costly to farm and log.

Since agriculture 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 land 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 commons for 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 consolidation reform. First, the number of by-laws increased tremendously right after the reform (Larsson 2009). Second, a similar development occurred in other areas of Sweden after land consolidation reforms were enforced (Ehn 1991).

In Uppland County in central Sweden, many land consolidation reforms were made in the 1770s at the same time many village by-laws were introduced. In Uppland, agricultural practice was very different from that in Leksand, and the backbone was grain production, especially in the southern part. Several attempts to introduce new village by-laws in Sweden failed during the 1700s. The government had been promoting village by-laws since 1742 as a means to increase grain production. Initially, the peasants’ response was hesitant and not

many by-laws were accepted. It was not until the land consolidation 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. The old organization for maintenance of fences was no longer useful, and many villages had a shortage of woodlands to provide material for the new fences. After the land consolidation reform, new rules were required to adjust to the new conditions, and village by-laws were a solution to the problem (Ehn 1991). Despite the fact 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 consolidation reforms dissolved the older form of agrarian organization (Sundberg 2002).

For most peasants in Leksand, the land consolidation reform increased the transaction costs for having summer farms, some higher than others. One group consisted of peasants who had to move from their previous summer farm and establish a new one, while another group of peasants, who lived in a village close to the parish border, found their summer farm in the adjacent parish.

The peasants who had to move their summer farms established over 40 new ones, with very few users in each. Most of the new summer farms (60%) had only one cabin and no neighbors who needed to share them. Thus, 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. 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 were abandoned earlier (Montelius 1975).

Before the land consolidation reform, some villages in neighboring 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 neighboring 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 (Schmidt 1849). The government wanted to limit polycentric land use and favored a monocentric hierarchy.

CONCLUSION

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 seasons, so all members had to move their livestock the same days to and from the summer farm. They also decided that it was mandatory for all peasants to have a summer farm and no animals were allowed in the villages during the summer farm season. 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. When the land consolidation 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 managers. However, these changes increased the transaction costs to utilize summer farms at the same time as land exchange between peasants became more costly. For peasants who, to a large extent, practiced 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 (Larsson 2011). Despite other factors, it is clear that the land consolidation reform certainly did not favor the use of forestland as pastures for the peasants in Leksand. The question of whether the peasants were for or against the land consolidation reform is not important, because the peasants could not avoid it. The peasants in Leksand were pragmatic and realized they were better off by collaborating with the land surveyor to get the best possible result from the reform. 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.

LITERATURE CITED

- Ågren, Maria (1992) *Jord och Gäld, Social skiktning och rättslig konflikt i södra Dalarna ca 1650–1850*. Uppsala, Sweden: Acta Universitatis Upsaliensis.
- Ågren, Maria (2009) *Domestic Secrets: Women & Property in Sweden, 1600–1857*. Chapel Hill: University of North Carolina Press.
- Andersson, Anders V. (1984) *Om fäbodväsendet i Gagnefs socken*. Falun, Sweden: Dalarnas Museum.
- Blackstone, William (1766) *Commentaries on the Laws of England*, vol 2. Oxford, UK: Clarendon Press.
- Brenner, Robert (1976) Agrarian Class Structure and Economic Development in Pre-Industrial Europe. *Past & Present* 70: 30–75.
- Coase, Ronald H. (1960) The Problem of Social Cost. *The Journal of Law & Economics* 3:1–44.

- Cohen, Morris R. (1927) Property and Sovereignty. *Cornell Law Quarterly* 13: 8–30.
- Cole, Daniel H., (2002) *Pollution & Property: Comparing Ownership Institutions for Environmental Protection*. Cambridge, UK: Cambridge University Press.
- Cole, Daniel H., and Elinor Ostrom (2012) The Variety of Property Systems and Rights in Natural Resources. In *Property in Land and Other Resources*, ed. Daniel H. Cole and Elinor Ostrom, 37–64. Cambridge, MA: Lincoln Institute of Land Policy.
- Dalautredningen (1931) *Betänkande med förslag till lag med särskilda bestämmelser om delning av jord å landet inom vissa delar av Kopparbergs län*. Statens offentliga utredningar 1931:19. Stockholm: Marcus.
- Demsetz, Harold (1967) Toward a Theory of Property Rights. *American Economic Review* 57: 347–359.
- Ehn, Wolter (1991) *Mötet mellan centralt och lokalt: Studier i uppländska byordningar* (The Meeting of Central and Local Authority: Studies on Village By-Laws in Uppland). Uppsala, Sweden: Dialekt-och folkminnesarkivet.
- Gordon, Robert W. (1995) Paradoxical Property. In *Early Modern Conceptions of Property*, ed. John Brewer and Susan Staves, 95-110. London: Routledge.
- Granér, Staffan (2002) *Samhävd och rågång: Om egendomsrelationer, ägoskiften och marknadsintegration i en värmländsk skogsbygd 1630–1750*. Göteborg, Sweden: Meddelanden från ekonomisk-historiska institutionen Handelshögskolan vid Göteborgs universitet.
- Granér, Staffan (2005) *Thy Neighbour's Property: Communal Property Rights and Institutional Change in an Iron Producing Forest District of Sweden 1630–1750*. Göteborg, Sweden: Göteborg Papers in Economic History.
- Hardin, Garrett (1968) The Tragedy of the Commons. *Science* 162(3859): 1243–1248.
- Helmfrid, Staffan (1961) The *Storskifte*, *Enskifte* and *Laga Skifte* in Sweden – General Features. In *Geografiska Annaler* 43:114-129.
- Larsson, Jesper (2009) *Fäbodväsendet 1550–1920: Ett centralt element i Nordsveriges jordbruksystem*. Uppsala, Sweden: Acta Universitatis Agriculturae Sueciae.
- Larsson, Jesper (2011) The Transformation of the Summer Farm: From Backbone of North Swedish Animal Husbandry to Experience Tourism and Branded Products. In *Agriculture and Forestry in Sweden since 1900 – Geographical and Historical Studies*, ed. H Antonson and U Jansson, 233–250.

SOLMED 54. Stockholm: The Royal Swedish Academy of Agriculture and Forestry.

Larsson, Jesper (2012) The Expansion and Decline of a Transhumance System in Sweden, 1550–1920. *Historia Agraria* 56: 11–39.

McKean, Margaret A. (2000) Common Property: What It Is, What Is It Good for, and What Makes It Work? In *People and Forests, Communities, Institutions, and Governance*, ed. Clark C. Gibson, Margaret A. McKean, and Elinor Ostrom, 27–56. Cambridge, MA: MIT Press.

Montelius, Sigvard (1975) *Leksands fäboddar*. Leksands sockenbeskrivning del VII. Leksand, Sweden: Leksands kommun.

Netting, Robert M., (1976) What Alpine Peasants Have in Common: Observations on Communal Tenure in a Swiss Village. *Human Ecology* 4(2):135–146.

Ostrom, Elinor (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.

Ostrom, Elinor (2005) *Understanding Institutional Diversity*. Princeton, NJ: Princeton University Press.

Palm, Lennart (2000) *Folkmängden i Sveriges socknar 1571–1997. Med särskild hänsyn till perioden 1571–1751*. Göteborg, Sweden: L. A. Palm.

Persson, Bo (2011) Conflicts and Interdependence: The Forest Community and the Organization of Forestry Work. In *Agriculture and Forestry in Sweden since 1900: Geographical and Historical Studies*, ed. H. Antonson and U. Jansson, 372–389. SOLMED 54. Stockholm: The Royal Swedish Academy of Agriculture and Forestry.

Pettersson, Ronny (1995) Äganderätten, laga skifte och skogarnas avtagande. In *Äganderätten i lantbrukets historia*, 130–153. Stockholm: Nordiska museet.

Rösener, Werner (1994) *The Peasantry of Europe*. Oxford, UK: Blackwell.

Schlager, Edella, and Elinor Ostrom (1992) Property-Rights Regimes and Natural Resources: A Conceptual Analysis. *Land Economics* 68(3): 249–262.

Schmidt, Carl, ed. (1849) Om fäbodedelägares in Dalarne rätt att fortfarande begagna lötesmark inom annan sockens genom fastställt storskifte bestämda rågång. *Juridiskt arkiv* 20: 509–515. Christianstad, Sweden: Schmidt & Comp.

Sporrong, Ulf (1995) Ägandets reproduktion – om arvsregler och landskapsutveckling i 1700-talets Dalarna. In *Äganderätten i lantbrukets historia*, 99–108. Stockholm: Nordiska museet.

- Sporrong, Ulf, and Elisabeth Wennersten (1995) *Marken, gården, släkten och arvet: Om jordägande och dess konsekvenser för människor, landskap och bebyggelse i Tibble och Ullvi byar, Leksands socken 1734–1820*. Leksand, Sweden: Leksands sockenbeskrivningar del X.
- Sundberg, Kerstin (2002) Nordic Common Lands and Common Rights: Some Interpretations of Swedish Cases and Debates. In *The Management of Common Land in North West Europe, c. 1500–1850*, ed. Martina De Moor, Leigh Shaw-Taylor, and Paul Warde, 173–193. Turnhout, Belgium: Brepols.
- Tilly, Charles (1975) Reflections on the History of European State-Making. In *The Formation of National States in Western Europe*, ed. Charles Tilly, 3–83. Princeton, NJ: Princeton University Press.
- Widgren, Mats (1995) Individuellt eller kollektivt ägande i bondesamhället. In *Äganderätten i lantbrukets historia*, 5–16. Stockholm: Nordiska museet.