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Conflict and negotiation: management of forest commons in seventeenth-century Northern Finland

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ABSTRACT

The seventeenth century was a time when large economic transformations had direct consequences on people's everyday lives. Increased economic pressure was put on rural populations, which affected their management of the resources that they owned in common. This paper examines how peasant communities managed commonly owned forests in Finland during the seventeenth century. The focus is placed on North Ostrobothnia, where large-scale tar production and widespread timber cutting took place to meet the growing need of European states for forest products. Through the study of district court protocols, this article analyses how peasant communities responded to and coped with the new economic climate of the period while local authorities enforced royally sanctioned restrictions and outside interest groups raised demands on what the peasantry could provide. Consequently, the peasantry formalised previously informal rules, regulated cutting activities in relation to the taxable capacity of the peasant households, and re-established borders, which offset privatisation.

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Introduction

Notwithstanding harsh conditions, such as war, a cold climate, and state control, the seventeenth century was a time in Swedish history that observed great societal transformations with profound consequences for people's everyday life. The many and exhaustive conscriptions from the peasant population radically affected the family structure in rural areas. The state's expanding resource mobilisation altered the ways in which people found sustenance and work, and Sweden's international trade networks and exports expanded significantly. The new political and economic climate also boosted the iron, copper, and tar industries, which soon became indispensable sources of income for the Swedish state.¹ The latter of these commodities was produced at an accelerating rate in Finland (then a part of the Swedish realm) throughout the century and became the dominant region supplying European states with tar, which was sorely needed due to its water-resistant properties. As a consequence, forests and woodlands became more significant, which led to an increasingly integrated and complex peasant economy, while economic pressures from the Swedish state also grew steadily. This would make a lasting imprint on peasant communities in Finland where as much as 76 percent of the Swedish tar was produced, out of which 43 percent was exported from the Ostrobothnia region in 1686 (Villstrand, 1992).

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¹Approximately 20,000 tons of wrought iron, 2,070 tons of copper, and 16,100 tons of tar and pitch were produced each year in Sweden at the middle of the seventeenth century, Karlsson (1990); J. Larsson (2009); Villstrand (2011).

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Ostrobothnia's forests have attracted the attention of historians, who have illuminated the peasant population's engagement with tar production and widespread forest cutting, as well as the societal, political, and environmental conditions that made this a growing industry during the seventeenth century (Alho, 1968; Virrankoski, 1973; Villstrand, 1992). However, these activities, which include the management and regulation of natural resources, have not yet been put into the context of historical commons. The interest in exploring the diverse histories of commons in Europe has grown considerably in recent decades, and this article is a contribution to this field of research. The purpose of the article is to explain how the peasant population in North Ostrobothnia responded to intensified economic and societal pressures during the seventeenth century and how the management of forest commons was affected by increasing levels of resource utilisation. Although the scale of tar production ultimately moved the resource frontier in the region, the institutional framework of the peasantry management system helped offset privatisation and facilitated the maintenance of a collective utilisation of forest commons throughout the century. These institutions would endure for another century before finally being privatised.

I will begin by discussing the current state of research on commons and forest utilisation in pre-modern Europe and introduce the area of study. The results of the analysed source material will then be presented, ending with concluding remarks on their significance and contribution to the field of historical commons and forest industry during the seventeenth century.

Management of common lands

Garret Hardin's article 'Tragedy of the commons' (1968) initiated a debate over whether commonly owned resource systems were doomed fail, as propagated by Hardin, or not. His contention has since been disproven many times, not least by Elinor Ostrom in her seminal work on *common-pool resources* (CPRs) (1990). When studying such ownership structures, it is important to consider the conditions that frame the use of the resources in question. To this end, there are different dimensions, such as the resource itself and the users. What overarches and interlinks them is the *common-pool institution* (CPI) they create (de Moor, 2015). These institutions can be defined as containing the rules and norms through which people organise their economic, social, political, and cultural activities – or in the spirit of Douglas North: the rules of the game (North, 1990). These norms and rules are essential to how commons are managed since they influence and, in many ways, determine whether stable and long-term CPR is achievable (Ostrom, 1990, p. 30).

Research on commons across the European continent has resulted in a realisation that communal property regimes played a larger and more important role in pre-modern societies than previously assumed. Whereas the effects of privatisation and enclosure have been of special interest in earlier research, much can now be said about the longevity and robustness of CPRs and about the driving forces and motivations of common-pool regimes in historical time (de Moor, Shaw-Taylor, & Warde, 2002; de Moor, 2009; Hersperger & Bürgi, 2009; Szabó, 2010; de Moor, 2015; Grüne, 2011; Ongaro, 2016). The benefits of enclosure have mainly been argued to be an issue of productivity and cost-efficiency. However, it has been shown in many places that CPRs provided low transaction costs and advantages of scale and balanced the levels of inequality in local communities (de Moor, 2009; Beltrán Tapia, 2015; Beltrán Tapia, 2016). Whereas legal frameworks differed across Europe, the motivations for maintaining commons were similar in many places. They provided stability in the form of collective action in matters of maintenance and monitoring, risk sharing, and created a sense of communality in the face of growing market forces (de Moor, 2015). Other aspects, such as use rights, have been shown to be similar in English and Italian commons, and the traditional customs of regulation for the collection of resources for fuel consumption were also comparable in local communities in the Netherlands, Germany, and Scandinavia (Winchester, 2015).

Regulation of users and use rights were, however, not constant but were subject to changes necessary to accommodate fluctuating economic and political forces. Nor were the commons immune to privatisation. A trend of adapting to new economic and political conditions was observed, which

ultimately led to the dismantling of commons primarily during the nineteenth century. However, local communities were until that point able to offset enclosure by motivating collective action through institutionalisation and by adjusting management to the changing societal environment (Szabó, 2010; de Moor, 2015; De Keyzer, 2018). Studies on village communities in southwestern Germany during the eighteenth and nineteenth centuries have, for example, shown that a modernisation (but not dismantling) of commons management was needed for the consolidation of village communities (Grüne, 2011). Other examples of slowing down the rate of privatisation have been linked to the geographical properties of the region in question, for instance, in eighteenth century Spain (Beltrán Tapia, 2015). Whereas the word ‘modernization’ implies innovation and new methods of regulation, this article will argue for the importance of the ‘formalization’ of pre-existing rules as economic and political pressure was put on rural communities. This strategy was employed in the Campine area in early modern Belgium and the Netherlands, where use rights to pasture land and the foundation of the CPI were formalised while regulation remained more informal (De Keyzer, 2018).

Even though much of Europe’s forests were ultimately cut down, large areas of woodlands were successfully preserved, for instance, in Italy, through various forms of cooperation within local communities (Ongaro, 2016), whereas other strategies, such as effective use of accounting and bookkeeping, strengthened communality and facilitated sustainability in rural Spain (Lana-Berasain, 2017). In mountainous alpine areas and in the northeastern parts of France, forests were preserved through the establishment of bylaws (Vivier, 2002). In northwestern Germany in the Westphalian region of Haverberg, forests were parcelled into different ‘fields’ that were used in rotation, which managed to meet the growing needs of the iron industries and the agricultural sector from the late Middle Ages to the late nineteenth century (Brakensiek, 2002). A study on revolutionary France and the region of Franche-Comté has provided further evidence of how common property regimes were successful and created rich biodiversity, thus challenging the notion held within earlier research that these arrangements were to blame for the depletion of France’s forests (Matteson, 2015). The Finnish case will provide yet another example of how common property regimes motivated cooperation as market forces and state intervention grew considerably during the seventeenth century.

Forests in the Swedish realm

Large parts of the early modern Swedish kingdom were covered with forests, and a large number of peasant households were located in such areas, although they were dominant in the north together with in Finland (Larsson, 1996; Svensson, 1998; Gadd, 2000). Unlike the village’s infields (*inågojord*), forests were often situated further away in the village’s outlying lands (*utmark*). It was here that peasants got their building timber, firewood, wood for fences, and materials for equipment and tools. It was also here that they cut the pine trees (*Pinus sylvestris*) needed to make tar. As the demand for forest resources increased, the structure of peasant households changed to support stable and continuous production. This stood in stark contrast to the peasantry’s otherwise agriculturally driven household economy in the sense that it affected the ways in which peasants structured their daily work. Since the forests were collectively owned up until the land reforms of the middle and late eighteenth century, the organisation of extracting resources was vital, as were the rules concerning access and the sanctions against violations.

The historiography of Swedish forests during the seventeenth and eighteenth centuries has been concerned with the expanding iron and copper industries in and around the district of Bergslagen (Karlsson, 1990; Sjöberg, 1996; Bladh, 1997; Eliasson, 1997; Ågren, 1998a). A westward expansion of peasants and forest-consuming industries occurred here, and the commercial use of forest commons increasingly complicated management structures in local communities. In Fryksdals hundred (*härad*) in Värmland County in the western part of the Swedish kingdom, Staffan Granér (2002) has shown how an increasing number of forest-related conflicts concerning access and use rights took place between 1630 and 1750 and described a development where collective and social rights were slowly redefined. The consumption of wood and charcoal by the ironworks industry created

scarcity, and the pressure to enclose outlying lands intensified. However, it was a long and slow process. Divisions of forests and outlying lands were first done between villages and later between individual households, and most were made in the first half of the eighteenth century. Nevertheless, forest borders became increasingly important as violations and disputes over their whereabouts became more frequent. The ultimate privatisation of the forests enabled peasants to more effectively oppose the ironwork-owners' monopoly on buying charcoal.

Another more drastic development can be noted in Viby parish in Örebro County during the seventeenth century, where peasants' rights to manage the utilisation of forest commons were gradually limited due to growing interest and involvement by the Swedish crown. The peasant community ultimately lost its collective ownership in favour of the County Governor and crown officials, who enlisted foresters to control and regulate the utilisation of both communal and private forests (Jansson, 2003).

The state-led regulation over the peasantry's use of forest resources gained mandate with the Royal Forest Ordinance of 1647, followed by several new regulations throughout the seventeenth and eighteenth centuries. Similar forestry acts were decreed throughout Europe, as scarcity had become a universally proclaimed fear, prompting widespread legislative actions to be made in the sixteenth century and onwards (Warde, 2018). The use of forest ordinances by local courts in Sweden was extensive, especially in the western part of Sweden, but they were liberally interpreted and implemented differently by local courts throughout the realm (Granér, 2002). Geography and environmental properties also affected the state's ability to control the peasantry's utilisation of forest resources. This was an important factor for the pace and intensity of movements to enclose communal property (Beltrán Tapia, 2015). The results below also affected how forest ordinances were implemented in North Ostrobothnia and the level of impact they had on the peasantry's forest-related activities.

Studying how commonly owned forests in North Ostrobothnia were managed will broaden our perspective of how peasant communities reacted to the intensified economic pressures of the seventeenth century. While the peasants in Bergslagen and other places in central Sweden were more directly targeted and affected by central regulation, the peasants of North Ostrobothnia enjoyed a higher degree of autonomy. In addition, whereas the former were in a socially and economically subordinate position to the dominance of the state-supported ironwork owners, which caused ruptures in the system for determining the level of individual households' shares and rights to the common (Granér, 2002), the peasants in North Ostrobothnia faced a different reality.

North Ostrobothnia

Finland was an integral part of the Swedish realm from the medieval period until the early nineteenth century. It was not until 1809 that Sweden had to surrender Finland to Russia as a consequence of the Finnish War (1808–1809). Prior to this territorial loss, Finland played an important role in the Swedish state because of the economic wealth extracted from its forests. The area was particularly well suited for tar production due to the many streams and rivers of the region upon which forest resources could easily be transported to coastal towns from remote forest areas and because the resources could be paid to the state as tax (Alho, 1968; Villstrand, 1992; Villstrand, 1996).

Prussia was the main supplier of tar for the European market at the turn of the seventeenth century. As demand increased, Prussia's forests were depleted, and Finnish tar dominated the market in the middle of the century. North Ostrobothnia (Fin: *Pohjois-Pohjanmaa*) extends from the Gulf of Bothnia north of Ule Träsk (Fin: *Oulujärvi*) to the eastern border and covers an area of approximately 44,000 square kilometres. Tar production was an industry solely managed by peasants and included several stages similar to the production of charcoal, although it took longer to complete. The trees were first debarked so the trunks could collect and sweat resin. After two to four years of continuous debarking, they were cut in the autumn and winter. The wood was split at the tar pit and distilled the following spring. Mainly men were engaged with tar distilling; however, in

some parts of the work process, both women and men participated, for example, when the tar wood was stacked in a tar pit (Villstrand, 1992). Together with iron and copper, tar accounted for approximately 90 percent of Sweden's total exports in the middle of the seventeenth century (Villstrand, 2011, p. 434). In the beginning of the century, approximately 18,700 barrels were exported annually from Swedish Baltic Sea ports, which increased to nearly 130,000 barrels in the second half of the century. Exports mainly went to the Netherlands and England and were thereafter introduced further into the European market (Villstrand, 1996, pp. 62–63). Considering the massive expansion of tar production, North Ostrobothnia should be regarded as a *resource* and *commodity frontier* as the search for pine-rich woodlands by the tar industry and peasants expanded throughout the region, from the coast and inland to the east.²

Sources and methodological considerations

The sources analysed in this article are court records from local district courts during the seventeenth century, and the method of analysis was guided by Ostrom's criteria for how such resource systems are achieved (Ostrom, 1990). These records were suitable for a number of reasons. Assembling three times per year, the court was the place where people went to discuss and resolve conflicts that could not be solved elsewhere or by other means, and they provided accounts on how regulations were introduced for forest resources and how borders were established and formalised in the landscape. While bylaws are not available from this time, both informal and formal constraints were successively derived from the records since they reflect the arrangement and order of the society in question. However, it is likely that the court records only represented a portion of the total number of conflicts and dealings concerning these issues, but they nevertheless reveal how the legal system was used to solve matters that concerned commonly owned forests (Birrell, 1987; Larsson, 2014). It is important to point out that while the judge was appointed by the state, he ruled together with the laymen (*nämndemän*), who were twelve trusted representatives of the peasantry that gave the court assembly a profound and close affiliation with the local community (Österberg & Sogner, 2000; Larsson, 2016).

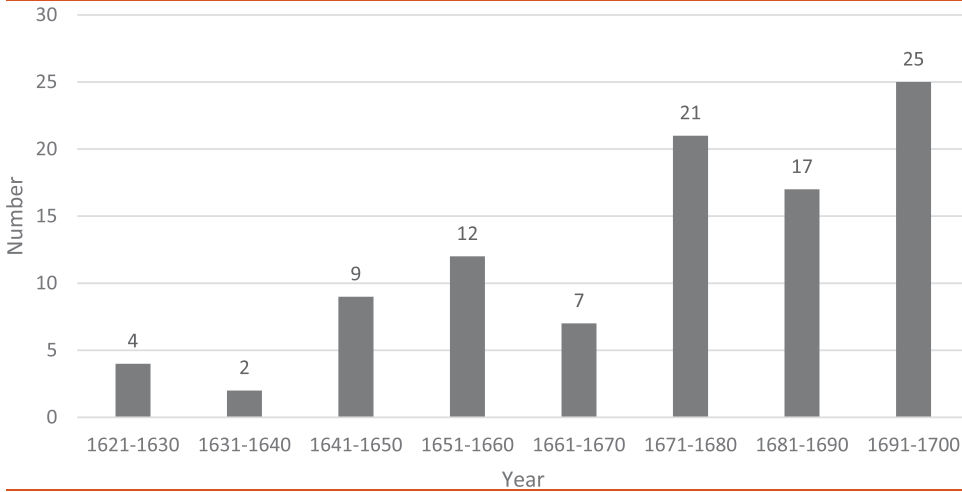
Results

A total of 308 cases constituted the basis for the investigation; the first was from 1628 and the last was from 1700. They differed in severity: one case may have concerned a stolen barrel of tar, whereas another may have concerned the regulation of use rights in parishes. Three different categories of cases have been established: those concerning the regulation of village and parish commons (Table 1), the establishment of borders (Table 2), and cases concerning the peasantry and central institutions, i.e. the Swedish state and burgher classes (Table 3). The development in categories one and three, as well as the general trajectory of the total number of cases (Table 4), show a gradual increase throughout the century, which points to a general intensification of forest-related activities in the region.³

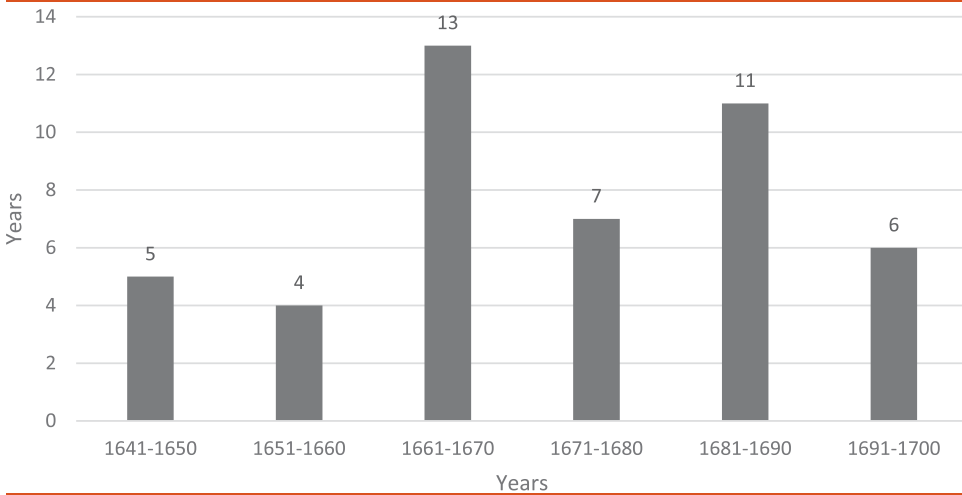
Of particular interest is the relationship between categories one and two, that is, matters of regulation and establishment of borders. A decrease in regulation matters can be noticed during the 1660s, while border matters increased. This trend was reversed during the following decade and continued to fluctuate in this manner throughout the century. This demonstrated a pattern where peasants needed to re-establish and affirm the border location after a period of regulating access. The continuous increase in the third category was principally a result of the Royal Forest Ordinances first introduced in 1647 but more thoroughly and intensively used by local authorities from the

²For more information on resource and commodity frontiers, see Moore (2010a); Moore (2010b).

³To put this in perspective, the fleets of England, the Netherlands, Sweden, Denmark, France, and Spain had a combined load capacity that grew from approximately 140,000 tons in the 1650s to 400,000 during the 1680s, Villstrand (1992). Considering this massive demand, the regulation of forest-related activities and the establishment of borders needed to be discussed to a greater extent than before.

Table 1. Number of court cases concerning regulation on village and parish commons in Northern Ostrobothnia in ten-year increments, 1621–1700.

Source: NAF, Court Records.

Table 2. Number of court cases concerning forest borders in Northern Ostrobothnia in ten-year increments, 1641–1700.

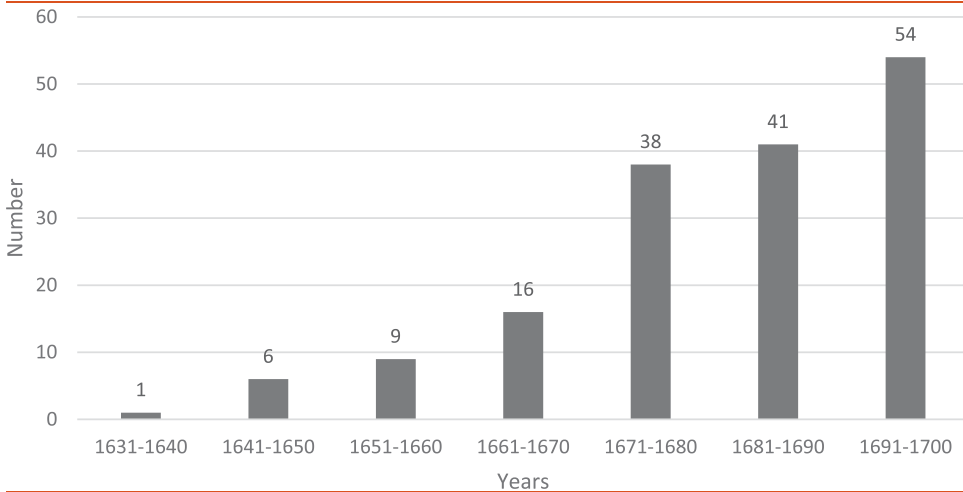
Source: NAF, Court Records.

1670s and onwards, as well as by the intensifying trade relations between peasants and burgher classes, which caused tension between the two.

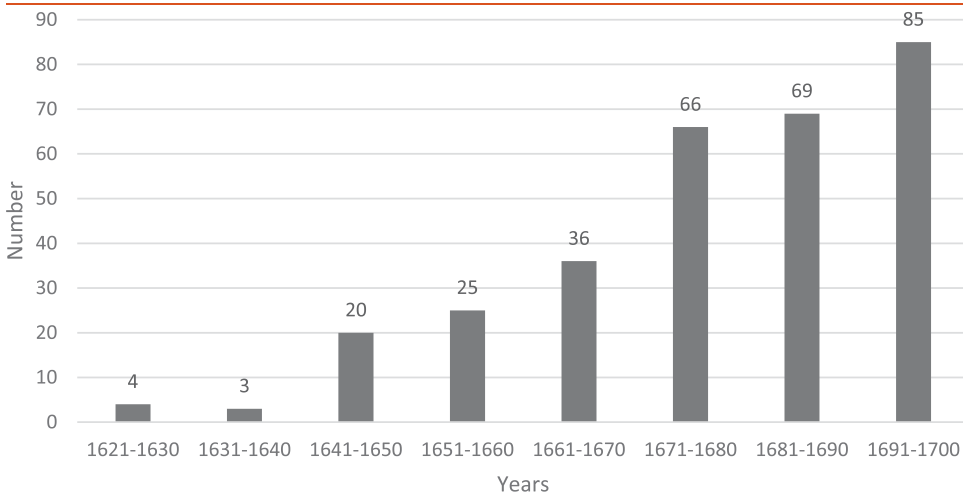
Internal regulations in villages and parishes

While the parish forest was generally open to free use by all parish members, regulation of the village forest could be different, and they could be shared in different ways. It could be open to free use by the village members, but the households could also share the forest by assigning each one their own ancient harvest area (*hävdivunnen hyggeplats*). This was an unmarked although specified area where the members of a certain household were allowed to cut (Jutikkala, 1963).⁴ The forest could also be

⁴Such harvest areas were sometimes defined as 'ancient forest' (Swe: *urminnes skog*) in the court records. See for example Häradsting, Gamlakarleby parish, 23rd, 26th, and 27th of August 1678, NAF, Court Records, KP, 1678–, QQ.1, p. 112v.

Table 3. Number of court cases concerning the peasantry and central institutions in Northern Ostrobothnia in ten-year increments, 1631–1700.

Source: NAF, Court Records.

Table 4. Total number of court cases in Northern Ostrobothnia in ten-year increments, 1621–1700.

Source: NAF, Court Records 1621–1700.

cut in rotation (*krångelvis*), meaning that while members of one household were cutting in the south, another was cutting in the north and so on (Kuusi, 1914). This would ensure that each household was given equal opportunity to take part in the forest's sometimes diverse biomass, which grew unequally in different parts of the forest.⁵ The growing number of legal cases shows how these areas were contested more often as the century progressed. The nature of the disputes could either be that single individuals claimed areas of the forest that were too large, that too much had been cut, or that resources that had already been cut were stolen.⁶

⁵Similar 'virtual enclosures' were found in Nether Wasdale in England, where commoners were given a section of the common to graze their sheep (heafs) and to collect peat and moss; these areas were unmarked and were recorded in the collective memory of the community, Winchester (2015).

⁶NAF, Court Records.

A universal principle practised across much of Western Europe was that commoners should not appropriate more resources than was necessary to sustain one's household (Birrell, 1987; Winchester, 2015). However, where they obtained resources was also important and had consequences for the entire village. The typical layout of a village in North Ostrobothnia was that the farms were positioned in a sparse row along the river valleys. The infields were laid in a continuous, elongated cropland in the direction of the river with the forest surrounding the village and infields, facing away from the river (Jutikkala, 1963). As resource extraction became more intense, the availability of wood and the proximity of cutting activities to a neighbour's private lands became a central issue. Even though it was carried out on the common, villagers increasingly perceived these activities as intrusive. Cutting too close to a neighbour's homestead in a location that was not anyone's ancient harvest area meant that the offended peasant had to go further into the forest to acquire resources, which was more time-consuming and physically demanding. The forest bordering a peasant's private lands was therefore often claimed to be for the inhabitants of that homestead to cut, not the neighbours. However, no general rule of proximity existed prior to the expansion of tar production in the region. The general pattern provided by the court records was that the argument of proximity was less adhered to in the beginning and middle of the century, as infield-bordering forest areas were generally kept open for free use by all villagers.⁷ This changed towards the end of the century as it became common to argue for each villager's right to 'have space for forest' close to one's homestead.⁸ The consequences brought on by the expanded and intensified use of village forests thus pointed to a changing awareness of decreasing forest resources.

With increased competition came the need to monitor common land to prevent overexploitation. In England, woodwards were appointed to monitor communal forests but also in woodlands belonging to the crown and private estates. Nevertheless, the prevailing customs and traditions of the local community governed the practises. In general, those using the forest also policed it. In Denmark, the tenants of Crown woods were themselves the wardens charged with monitoring tasks (Warde, 2018). Similarly, in North Ostrobothnia, towards the end of the century, the constable (*länsman*) was often elected to oversee the borders of the parish forest and report illicit cutting. The success of the institutional system could vary depending on several things: the layout of the geographical landscape, the population density, and the utilisation purposes of the extracted resource.⁹

Given the size of North Ostrobothnia, the time that had passed before an act of illicit cutting was noticed could vary greatly. The size of certain parishes could sometimes be substantial in relation to the population, which further complicated the matter of detecting offences. One of the parishes along the coast in North Ostrobothnia, Kalajoki parish, had a total land area of 4100 square kilometres. It consisted of 15 villages with approximately 18 homesteads per village. The average land and forest area of each village was just over 270 square kilometres and over 15 square kilometres per homestead (or 15,000 hectares).¹⁰ It is therefore not surprising that the regulation of forest-related activities could be hard to detect in areas far away from the village community. Generally, detection depended on the size of the parish and each peasant's forest-related activities in relation to the monitoring system set in place by the community.

The formal conflict solving strategy of going to the court and having the district judge and laymen of the community help solve disputes became increasingly important and useful for peasantry. This

⁷See, for example, Häradsting, Pyhäjoki parish, 20th of January 1642, NAF, Court Records, PPEP, 1640–44, RR.5, pp. 101–101v; Vinterting, Kemi parish, 13th of March 1645, NAF, Court Records, PPEP, 1640–44, RR.6, p. 5v; Sommaring, Kronoby parish, 3rd and 4th of August 1664, NAF, Court Records, PPEP, 1661–66, RR.11, pp. 558v–559.

⁸Vinterting, Lochteå parish, 13th, 14th, 15th, and 16th of September 1699, NAF, Court Records, PP, 1699–, RR.36, p. 382. Original text: 'hafwa uthrymme till skoog.'; see also Höstting, Gamlakarleby and Kelviå parish, 13th and 14th of November 1682, NAF, Court Records, PPEP, 1682–, RR.19, pp. 734–735.

⁹In the Duchy of Württemberg, the general pattern was that the further someone lived from the residence of the forester who watched over the common, the more likely it was that rules were not followed, see Warde (2006); Warde (2017). It is hard to deduce with any certainty whether this applied in North Ostrobothnia as well; however, it likely did apply since most reported offences occurred in more densely populated areas where constables could more easily detect offences.

¹⁰These calculations were based on numbers provided by Villstrand (1992).

is not surprising since reliable conflict-solving strategies were needed to sustain the longevity of a CPR (Ostrom, 1990; Ostrom, 2005). Informal ways of solving disputes also existed, but drawing someone before the court had certain benefits. It meant that one's allegations were made public, which sometimes enabled a combination of formal and informal conflict-solving strategies to be practised. This happened in Uleåborg and Karlö parishes in February 1692 when the two brothers Mats and Olof Olofssöner accused Johan Koloinen of having cut tar wood without permission. The court decided to have the matter investigated and provided a verdict later in the spring or the forthcoming summer, upon which the three peasants left the courtroom. However, before the court adjourned that day, they returned and announced that they had reached a settlement where Johan would give the brothers four barrels of tar and transport the remaining tar wood to their tar-pit, where they would distil it together.¹¹ The informal custom within the local community, which the three peasants had an active part in creating, made it possible to exercise social control outside as well as inside the courtroom.

The social conditions in peasant communities were very much affected by changing economic trends and the strategies for the organisation of work (Larsson, 1996; Sjöberg, 1996; Eliasson, 1997). In the forest landscapes of southern Moravia in Central Europe (today the Czech Republic), for example, the management systems were heavily influenced by tradition and socio-economic conditions and choices (Szabó & Hédl, 2013). Introducing regulations was a way of counteracting overexploitation and creating structure in society (North, 1990; Ostrom, 1990). From the mid-seventeenth century, local communities' need for such regulations became more apparent in North Ostrobothnia. The records showed an increasing number of occasions when informal regulations were not followed, thus prompting the need to formalise such rules in the legal context of the court, which meant a changing institutional framework where the rules of the game had been altered. What can be discerned is that the informal rules for cutting in relation to one's taxable capacity began to be ignored.¹² This had been a long-standing tradition, which meant that the higher the taxable capacity of the household, the more resources that household was allowed to appropriate from the common. This system was also practised in the western part of the Swedish kingdom, and similar arrangements existed in other places in early modern Europe, for example, in England, northern France, Belgium, Flanders, and much of Germany (Winchester, 2015). The pine trees in both village and parish forests were, however, cut at a rapid rate, which ultimately moved the resource frontier deeper inland (Villstrand, 1992). As such, maintaining it as an informal custom no longer sufficed to sustain the forests, something which also could not be accommodated for by the replenishment rate of young growing pine trees.

The local courts were a collective-choice arena where local communities met to re-establish rules concerning use rights and regulation in the forests. The chosen strategy was to formalise the precious informal rule that had been practised for centuries by requesting a non-physical division of the forests. This did not mean that forests were divided as the infields of a village but that the property of each village and household owner was properly estimated and taxed with the court's supervision and that legal documents over its enactment were provided. This was implemented in Gamlakarleby parish in mid-March 1679, which spread to the parish of Lochteå as they approximately one week later followed suit after hearing about Gamlakarleby and other parishes' courses of action. Similarly, although later, in 1692, the village of Rautio in Kalajoki parish decided to obtain a formal attestation of the extent each village member was allowed to cut. In other words, what was needed was to reduce the uncertainty and establish consistent expectations.¹³

The increasing level of forest work affected the peasant economy to such a degree that the behaviour of individuals changed. As intensity grew, fragility also increased; this fragility was noticeable in the parishes named above. However, growing market forces and demand for resources also had the

¹¹Vinterting, Uleåborg and Karlö parishes, 11th, 12th, and 13th of February 1692, NAF, Court Records, PP, 1692, RR.29, pp. 215–216.

¹²For information on landholding and tax units, see Gadd (2011).

¹³Häradsting, Lochteå parish, 20th, 27th, and 28th of March 1679, NAF, Court Records, KP, 1679–, QQ.2, p. 59v, nr. 383; Vinterting, Gamlakarleby parish, 20th, 22nd, and 24th of March 1679, NAF, Court Records, KP, 1679–, QQ.2, p. 50v; Vinterting, Kalajoki parish, 14th, 15th, and 16th of January 1692, NAF, Court Records, PP, 1692–, RR.29, p. 47.

potential to strengthen collective identities and communality (Grüne, 2011). The measures taken in these parishes did, however, continue as the extractive pressures from the Swedish crown continued to grow in the second half of the century. In the autumn of 1686, peasants in Gamlakarleby, Lochteå, and Kronoby voiced concerns that some had been excessively cutting timber in the parish forests despite the terms determined in 1679. Those responsible confessed but added that they were compelled to excessive cutting as they had been forced to deliver 1000 dozen planks of wood to the crown on top of the 250 dozen planks they already delivered each year. This amounted to an additional 15 dozen planks per homestead. To emphasise the stressful nature of the situation, they continued to explain that they had to hire men from the northern part of the parish to be able to meet the quota. The parish members therefore decided to level the wood-cutting in such a manner that those who had been cutting more during this year should cut less during the next. Additionally, if anyone was unable to meet the quota, the responsibility of procuring the remaining planks would be proportionately spread among the members of each parish.¹⁴

Increased competition over forest resources within local communities was difficult to overlook in the court records. In such contexts, population growth had been found to be a contributing factor in many places in northwestern Europe (de Moor, 2009). In North Ostrobothnia, the rural population grew from approximately 9000–14,000 between 1654 and 1695 (Virrankoski, 1973, Table III, p. 757). One might assume that this increase had major significance for the number of conflicts. However, while it certainly had some level of impact, the vastness of the region in relation to the population density should not be ascribed too much influence. The development presented here most likely had more to do with increasing market integration and pressure from the state in the form of taxes and conscription rather than demographic development. The development also demonstrated that peasant communities were ready to take action to protect their forests, although resource scarcity did occur in local areas. They needed to uphold a sense of unity to prevent total deforestation, an effort that the court records showed they succeeded in maintaining.

Establishment of borders

The boundaries of village and parish forest had been unmarked for centuries in Finland and were generally not specified unless there was a specific need. They were recorded in the collective memory of the local community and passed on through generations (Jutikkala, 1963). Increased forest exploitation led to a landscape where forests were often contested due to uncertainties over where forest borders were located. Boundary-related conflicts were not an exclusively forest-related problem (Jansson, 2003; Larsson, 2009), nor was they contained in North Ostrobothnia. In the parish of Leksand in Dalarna County in central Sweden, contested boundaries over land use for agricultural purposes often occurred, as did conflicts concerning animals trespassing on lands not belonging to their owner (Larsson, 2014). In the county of Värmland, most conflicts concerning border violations transpired between villages during the seventeenth century, whereas internal village disagreements showed an upswing during the following century (Granér, 2002). Since the eighteenth century is beyond the scope of this article, it is hard to say anything about the development after 1700. It is, however, evident that legal matters both within villages and on a much broader level peaked in the last decades of the seventeenth century, and it is possible that this trend continued (Table 4).

The court records frequently tell of instances when one or several individuals unlawfully crossed borders to cut in another village's forest. The perpetrator often claimed that he did not know that he was cutting on someone else's forest, which was not entirely surprising since physical boundaries were seldom erected. It was, however, much more common that the accused party claimed that the forest was within his own village border or private lands. One such example was brought up in Kelviä parish in 1664 when the preacher Olaus Marci accused the peasant Jöns Hypä of having

¹⁴Sommarting, Kronoby, G. Karleby, and Kelviä parishes, 7th, 8th, and 9th of September 1686, NAF, Court Records, PPEP 1686–, RR.23, pp. 559–568.

unlawfully cut wood in the common forest. Afterwards, he had also practised slash-and-burn agriculture in the area. The matter had been treated by the court the year before and it was decided that the court scribe, the constable, and a number of laymen should head out to the contested forest and examine the matter.¹⁵ A common argument throughout the period was to refer to the ancient memory on the community (*urminnes hävd*, lit. ancient claim). It meant that if the circumstance that was referred to had been established and accepted by the community for such a long time that no one could remember it being in another way, then that circumstance was lawful. The local community could thus provide considerable legal strength if the community's memory supported someone's claim (Ågren, 1997). As mentioned earlier, this customary practice was often used to affirm the whereabouts of individual households' ancient harvest areas in village forests. However, it also became a legal argument used for forest areas where no borders or mental delimitations had existed at all. Jöns Hypä was finally found guilty on the grounds that he could not prove that he had any exclusive right to the area. This was substantiated, as was emphasised by the court scribe, by the fact that his claim of ancient right could not be established since no community member could remember that there had ever been any delimitations in the area.¹⁶

Although forest borders were kept in the community's memory and were at best marked by carvings on trees or stones placed in an upright position, they were regarded as inviolable and sacrosanct (Jutikkala, 1963). This was similar to the conditions in Hanoverian England, where parish and village borders were regarded as sacred and to which villagers could foster an almost sentimental bond (Fletcher, 2003). Having them inspected became increasingly common and important when disputes over their location were brought to court. The consequences of inspections were that borders were reaffirmed, sometimes updated, but more importantly that their movability was altered. This has been emphasised by Heather Falvey (2013) concerning the disafforestation and later enclosure of Duffield Frith in England. She addressed the fluidity of borders when kept in the memory of the local inhabitants and explained how surveyors met heated and sometimes physical resistance from the local commoners. When asked to assist in finding the locations of the borders, they would wilfully 'forget' where they were since as long as no legal document or map existed, the borders would essentially remain movable at the will of the local users. Circumstances in North Ostrobothnia were, however, different. Inspections were hardly ever questioned and were always requested by the users themselves. Furthermore, contrary to the English case, inspections were not pushed by the local authorities in North Ostrobothnia. This development can be compared with that in Bergslagen in central Sweden during the first part of the eighteenth century, where peasants called for privatisation, as it would ensure more clearly defined property rights, which facilitated their struggle against ironwork owners who, conversely, observed greater personal benefit in keeping the areas commonly owned (Granér, 2002). However, there was never a question of privatisation in North Ostrobothnia, but rather re-establishment of already (although mostly in memory) existing borders.

Consensus over where parish borders were located was important, and thwarting outside infringements became a unifying element that incentivised peasants to protect their forests. This sense of communality can be observed in other well-forested regions in Europe, for example, in common forests in the valleys of the eastern Italian Alps (Bonan, 2019). This was also demonstrated by a case from 1665 when the peasants of Lumijoki and Limingo parishes were unable to agree where the borders separating their parish forests were located. Representatives from both sides presented legal documents with royal confirmation of the location of the border, which were both authenticated by the court. However, both were advised not to request an examination of the borders since it would only be costly and unnecessarily time-consuming. They were instead urged to maintain peace and reach an agreement among themselves. They nevertheless insisted on having the borders properly inspected to avoid ending up in a similar situation again.¹⁷

¹⁵Sommarting, Kelviä parish, 28th of February 1664, NAF, Court Records, PPEP, 1661-66, RR.11, pp. 554v-555.

¹⁶Sommarting, Kelviä parish, 28th of February 1664, NAF, Court Records, PPEP, 1661-62, RR.11, pp. 554v-555.

¹⁷Vintering, Limingbo parish, the 17th & 18th of January 1665, NAF, Court Records, PPEP, 1661-66, RR.11, pp. 660v-661.

The establishment or re-establishment of borders could be a recurring event even though legal documents (*synebrev*, lit. inspection letters) existed. Laymen and representatives of the court and local community, who were sometimes accompanied by trusted individuals from neighbouring parishes, attended the inspection to utilise as much of the peasant communities' expertise as possible and to guarantee a fair examination.¹⁸ The inspection letters also provided legal precedent, as they often contained settlements and terms if future border violations were to occur. These terms often included reimbursement of that which had been cut (tar wood, timber, firewood) through the exchange of finished products (tar or planks).¹⁹ The crossing of the border itself, especially if it had been done with malicious intent, could lead to the establishment of graduated sanctions in the form of added penalty fees. One such example from 1683 concerned the peasants living on the island Manamansalo in Ule träsk. Covering an area of almost 75 square kilometres, its forest seems to have been extensive but was also assaulted by peasants from a village on the mainland. While the borders in a forest landscape could be difficult to define, 12 kilometres of water separated these villages, which accentuated the malicious intent of the intruders. A pre-existing settlement from 1679 stated that each household on the island would be given three barrels of tar in case of another violation, which now had to be provided. The penalty fee was also updated to include 40 silver marks if repeated.²⁰

One might ask, then, if it would not have been easier to physically divide the forests. The answer is that a physical division of the forests would probably have led to an unfair distribution of forest resources. It is known that the properties of the environmental context could motivate cooperation (Beltrán Tapia, 2015). The biophysical conditions were such that different parts of the forests contained resources that were used for different purposes, such as tar wood, wood for shipbuilding, planks, building timber, and firewood. Furthermore, since sections of the forest had already been cut by the middle of the century, one peasant could be allotted an area rich in tar wood while another might be allotted barely anything. By maintaining the common and sharing responsibility, peasants were given advantages of scale that had considerable benefits in the face of market forces and raised taxes. Since certain tasks of tar production needed the whole household as well as assistance from one's neighbours, cooperation was a strong motivating factor and included monitoring of the forests. Taking into account the different problems and disputes that could occur and how peasants dealt with them, it was evident, however, that keeping forests clear of intruders was sometimes hard but was also vital to ensure the longevity of the management system. The borders of the forests were meant to be inviolable, and infringements were taken very seriously. Although the outcomes of inspections and settlements were sometimes disregarded, most were respected.

Local communities and central institutions

The substantial quantity of tar that eventually found its way to Amsterdam and London had come by trading ships from Stockholm in the keels of the Northern Tar Company (*Norrländska Tjärkompagniet*), which was founded in 1648. The company was tasked with keeping the average price of tar at a maximum level in the Western European market through quality control, standardising products, and limited supply. Since they had a monopoly on the trade, the company alone set the prices at which burgher classes could sell their tar (Hallberg, 1959). Depending on quality and buyer, the value of one barrel was three and a half copper daler in the latter part of the seventeenth century.²¹ Considering the calculations provided by Villstrand (1992) and Virrankoski (1973) on the level of

¹⁸See for example Häradsting, Lochteå parish, 4th and 5th of August 1651, NAF, Court Records, PPEP, 1650–52, RR.7, p. 330.

¹⁹See for example Vinterting, Paltamo parish, 5th, 6th, and 7th of February 1683, NAF, Court Records, PPEP, 1683–, RR.20, pp. 109–110.

²⁰Vinterting, Paltamo parish, 5th, 6th, and 7th of February 1683, NAF, Court Records, PPEP, 1683–, RR.20, pp. 109–110.

²¹See for example Vinterting, Friherreskapet Ikalaborg, the 31st of January & 1st of February 1667, NAF, Court Records, PPEP, 1667–71, RR.12, p. 9; Vinterting, Limingo parish, the 13th, 14th, 15th, & 16th February 1699, NAF, Court Records, PP, 1699–, RR.36, p. 351.

taxation, at least ten barrels of tar needed to be produced and sold annually by each peasant household in Salo parish. However, court records show that tar production could be far more extensive. One court case from the barony of Ikalaborg in 1667 revealed that the peasant Joseph Tomasson had delivered 107 barrels to a burgher for which he had not been paid in full. The value of the tar was estimated to be three and a quarter per barrel, which would amount to a value of almost 350 copper dalers.²² While it is difficult to estimate, approximately 30 barrels of tar could be produced per square kilometre (Villstrand, 1992), meaning that Joseph's tar production would have consumed three and a half square kilometres of forest. Such levels of exploitation were exceptional and rare to find in the court material but would nevertheless explain how the resource and commodity frontier came to move inland during the early modern period.

Tar was sold at markets in the town squares where peasants could freely choose their buyer. However, the trade and credit system (*majmiseriet*) gradually tied the peasants closer to individual burghers. This was a business agreement in which peasants went directly to a burgher with whom they had struck a long-term deal that included lodgings, food, and drink for the duration of the peasant's stay (Jutikkala, 1963; Villstrand, 2011).²³ Being tied to a burgher was not a practise limited to the Finnish part of the realm. Similar trade agreements existed in Bergslagen and in the town of Falun in the county of Dalarna, where peasants regularly delivered charcoal to mine owners, who often granted credits to peasants (Karlsson, 1990; Bladh, 1997; Ågren, 1998b). Burghers were in any case the intermediary between the peasant and the international market, creating a relationship of mutual dependence.

According to the Country Law of Christopher from 1442, trade in the countryside was only allowed between peasants. Even though it became increasingly difficult to uphold this constraint during the early modern period, local authorities generally succeeded in concentrating trade in the towns (Jutikkala, 1963). The burghers' role in the relationship of exploitation and their impact on the sustainability of Finland's forests was primarily indirect in so far as they eagerly bought as much as they could of what the peasants delivered. Additionally, they frequently complained over the infrequency of deliveries and that they were too small or of bad quality.²⁴ Illegal appropriation committed by burghers and illegal deals between them and peasants concerning forest access were also present in the records, which certainly had impact as well;²⁵ however, the extent of the impact was probably negligible compared with that of the peasantry. Establishing ownership rights was also easier in comparison with conflicts between peasants since the burghers, unlike the landholding peasants, had none. Conflicts between the urban and rural domains were also one of the few kind cases where the peasantry was supported by the crown.

Forests represented and shaped the cultural and symbolic bonds between peasants, which established a sense of communality within the local community. Nonetheless, forests also became an economic business venture that outside economic forces soon realised were worth betting money on. However, while there were financial profits to be made, those profits had to be collected long-term. This was the attitude assumed by the Swedish crown.

As in other European countries, the exploitation of forests gave birth to a growing fear within the central government that they were being completely cut down. Paul Warde (2018) explained how forest scarcity was a universally proclaimed fear in Europe at this time, which prompted widespread legislative actions to be made, especially in the sixteenth century. In Denmark, where woodlands had been gradually used up by the late seventeenth century, serious difficulties with the provision of fuel resources and timber were felt, which incited the government to institute several forest ordinances

²²Vinterting, Friherreskapet Ikalaborg, the 31st of January & 1st of February 1667, NAF, Court Records, PPEP, 1667–71, RR.12, p. 9.

²³A survey from 1679 showed that eight out of ten peasants were bound to a burgher in northern Finland, resulting in a situation where only a few burghers controlled the entire tar trade in the region. Villstrand (2011).

²⁴See for example Vinterting, Uleåborg and Karlö parishes, the 13th, 14th, 15th, & 16th of February 1682, NAF, Court Records, PPEP, 1682–, RR.19, p. 274; Vinterting, Kalajoki parish, the 22nd and 23rd of March 1662, NAF, Court Records, PPEP, 1686–, RR.23, p. 235–236.

²⁵See for example Sommarting, Karlö Friherreskap, the 22nd of July 1658, NAF, Court Records, PPEP, 1657–58, RR.10, p. 428.

during the seventeenth and eighteenth centuries (Kjærgaard, 1994). In Finland, earlier research has committed to the challenge of estimating the exploitation of wood in North Ostrobothnia and arrived at the conclusion that it is very difficult. While the yearly extraction rate was certainly high, there was never a real danger of total deforestation. It did, however, affect the biomass in such a manner that the commodity frontier linked to the tar industry and the widely growing pine gradually moved inland, leaving room for spruce (*Picea abies*) to spread throughout the region (Villstrand, 1992). Local shortages of pine forest did occur, and the development was most certainly a consequence of the tar industry's consumption of wood. The forest policies implemented by the Swedish state were, however, poorly rooted in the reality experienced by peasants in their day-to-day work, and these policies were seldom adhered to by the local population.

The ports and towns functioned as hubs for state intervention and inspection of trading activities between the rural and urban populations. However, overseeing and directly regulating forest cutting in rural areas was an overpowering task that authorities seldom succeeded in. The first Royal Forest Ordinance was issued in 1647, followed by a second in 1664. Their main purpose was to regulate the conflicting needs of the agrarian industries and the mining industry's dependency on charcoal (Bäck, 1982). However, applied to the conditions in North Ostrobothnia, threats of abolishing the peasants' right to freely use the forests became a common strategy used by officials. One such regulation was limiting tar production to 24 barrels of tar per household per year. This restriction was, however, seldom followed, as there were examples of peasants producing up to 120 barrels in one year (Villstrand, 1992). A similar example was found in the court records concerning forest cutting. In January 1673, the governor of Kronoby expressed his concern over the cutting of timber, planks, tar wood, firewood, and swidden in the parish. He required the constable Erich Matsson and layman Nils Matsson to provide a complete written account of how much each household had cut during the previous year by examining how much timber had been sawn at the local sawmills. Additionally, customs officer Tawast was compelled to examine his books over exported timber logs.²⁶ Records such as those provided by Tawast could be decisive when the state wanted to prosecute peasants for what they believed to be excessive forest cutting. The sawmill reports and Tawast's accounts appeared to correspond well and gave an estimation of the extent of exploitation and exports from Kronoby harbour in 1673. The peasants had exceeded the permissible amount of 2843 timber logs by 1767, resulting in a total of 4610 logs in one year. The average yearly number of logs cut per household was approximately 120.²⁷

An important aspect of any enforcement of forest regulations is to know the quantity of existing resources before implementing them. Numerous ordinances were introduced in Sweden, and their implementation in North Ostrobothnia stands out. As mentioned earlier, local authorities liberally interpreted their content and formulated rules based on lacking knowledge about how much exploitable forests actually existed or how much resources were consumed (the example above serving as an exception). Furthermore, while population growth in combination with state consumption rapidly exhausted Denmark's forests, the Swedish case developed differently. Here, the local population's forest cutting, the international market's demand for forest products, and the increasing levels of taxation and conscription enforced by the Swedish state created an engine that raised the level of wood consumption throughout the seventeenth century and brought it to an all-time high in the 1770s (Villstrand, 1992). Regardless of the growing number of forest regulations implemented by the Swedish state towards the end of the century, exports steadily increased.

It can be argued that the authorities' fear of wood shortage created a problem that motivated their involvement because 'without a problem, there could be no government' (Warde, 2006, p. 167). The mode of exploitation adopted by the Swedish state was to utilise the growing international demand for tar while at the same time keeping forest cutting at a level they believed to be sustainable. The

²⁶Vinterting, Kronoby parish, the 18th and 20th of August 1673, NAF, Court Records, PPEP, 1672–74, RR.13, pp. 352v–353.

²⁷It must be stressed that there are probably hidden statistics that were not accounted for in these reports since peasants generally cut wood for purposes other than the production of timber logs for export.

peasantry was expected to pay their taxes and limit their private consumption of forest resources to a bare minimum. These efforts were, however, continuously ignored by the local population.

Conclusion: Finland in a European context

The findings presented in this article demonstrate a development where increasing tar production and widespread forest cutting led to changes in the regulation of forest commons and to formalisation of borders and customary practices during the seventeenth century in North Ostrobothnia. The gradual increase in forest-related conflicts and how the local communities responded to the growing number of border violations and illicit forest cutting revealed both similarities and differences in how common-pool institutions were organised in a wider European context. Similar rules, such as not appropriating more resources than a household needed for its survival, can be found in the western part of Sweden as well as in several places in Europe (Birrell, 1987; Granér, 2002; Winchester, 2015). The custom of keeping to one's ancient harvest area was, however, increasingly disregarded in North Ostrobothnia, and the communal parish forests were exploited at an intensified rate. This required and encouraged peasants to take collective action by formalising already existing rules through the mandate of the local courts rather than by establishing new rules by means of modernisation, as has been observed in early modern southwestern Germany (Grüne, 2011). The non-physical division of forests was a solution that motivated community members to maintain and respect the formalised rules, reduced uncertainty, and created greater stability.

Borders and their whereabouts were an issue partly deriving from disregarded informal rules but also from the need to expand the level of forest cutting as the century progressed. Establishing and re-establishing the location of the borders was frequently requested by the peasantry, and the consequent inspections provided them with legal documents that solidified their fluidity. This development was very different from that of Falvey's case (2013), which showed that English commoners strongly opposed solidification of borders, and can be explained by the high level of self-governance enjoyed by Finnish peasants. It was a tool and strategy that peasants could use to suit their will. Bergslagen and the western part of Sweden followed a more similar development to that of North Ostrobothnia, where the establishment of borders became increasingly important and sought after, although it was driven by different incentives. The advantages of scale, which was a motivating factor for the Finnish peasants, as well as for the peasant communities in other places in Europe (de Moor, 2009; Beltrán Tapia, 2015), were undermined in western Sweden, where the state and ironwork owners exerted their influence by controlling commoners' use of their forest commons (Granér, 2002; Jansson, 2003).

The peasants shared many interests with the burghers, giving birth to the trade and credit system of *majmiseriet*, which had similar characteristics to the bonds between peasants and ironwork owners in Bergslagen. It did, however, create conflicts when burghers illegally appropriated forest resources and sometimes drove wedges between peasants through illegal deals for forest access, something that was condemned by local authorities. The role played by the Swedish state was double sided. The state had conflicting motives: to limit the peasantry's personal consumption of forest resources while raising the tax burden and revenues through increased exports of forest products. The Royal Forest Ordinances were initially formulated with regard to the development in western Sweden but were also implemented in Finland due to local authorities' fear of total deforestation, a trend that can be observed across Europe from the sixteenth century onwards (Warde, 2018). The balance of power was nonetheless such that the crown could not control the peasantry even though attempts were made. This sets the development in North Ostrobothnia apart from that in western Sweden as well as from other parts of Europe considering the vastness of the region and the extent of forest resources that the peasantry could exploit.

Even though the enclosures of later centuries ultimately led to privatisation of common lands, common-pool regimes endured throughout the seventeenth century. The intensified exploitation of forest resources nevertheless moved the resource and commodity frontier and compelled peasant

communities to formalise customs and rules in relation to how the forests were used, who used them and the extent to which they were used. How the management of forests changed in later centuries and whether it followed a similar trajectory to that of western Sweden and other parts of Europe is still a question that needs to be addressed. It is, however, clear that the development in North Ostrobothnia was both similar and unique when contrasted to how forests were managed in pre-modern Europe.

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