

Crises, commons and collective action

The changing use of woodlands and mountains in seventeenth-century upland Scandinavia¹

Introduction

This article discusses the development of common-pool resources (CPRs) in the northern part of Scandinavia (Sweden and Finland) during the seventeenth century. The sixteenth and seventeenth centuries saw a rise in the demand for goods from commons that affected many upland regions in Europe. The demand for metals such as copper and iron led to a boom in mining in central Europe and Scandinavia.² Mining and iron works required firewood and charcoal from the woodlands, changes in maritime warfare created a demand for improved and larger vessels that required timber and tar, and trade increased. The commons in upland Scandinavia held resources that became increasingly important in the expansion of the economy.

While the seventeenth century is known as the Age of Greatness in Swedish history, for the peasants in upland Scandinavia the period is more appropriately described as the 'age of crisis.' The male population was reduced by many wars, taxes increased, and a cooler climate (the Little Ice Age) made arable farming more difficult.

In northern Scandinavia, the increased use of the commons started with the recovery after the late medieval crisis. But it was not until the seventeenth century that utilisation intensified. New ways to organise the use of resources emerged during this century, which had a huge impact on the agricultural system and shaped the area for centuries to come. The system that developed in the seventeenth century changed more profoundly with industrialisation in the second half of the nineteenth century. In this paper, four areas of new uses of the commons are discussed: (1) Sami reindeer nomadic pastoralism, (2) tar distillation, (3) charcoal production and (4) a transhumance system (summer farms) used by peasants. Rising demand for these activities and products may explain why the utilisation of the commons increased, but one needs to analyse other factors as well in order to understand how users explored new ways to use the resources held in the vast commons.

This paper argues that one major factor influencing resource users' decisions to change production were crises. The many wars that made the Swedish nation great had put seventeenth-century peasants in a state of crisis, which had a huge impact on their households and production. This paper also tries to demonstrate that the more complex and intense use of commons emerging in upland Scandinavia was driven by the peasants' need to cope with the new conditions and constraints they faced. The ability of peasants and other users to adapt was to a large extent the result of their self-organisation.

Crisis and development

One of the major themes in history is why production changed and which implications this had for economy, society, gender, etc. In this debate, some scholars have seen crises as a cause of change and part of the long-term fluctuations in the economy. The Austrian-American economist Joseph Schumpeter argued that to create a new economic structure one has to destroy the old one. In his book *Capitalism, Socialism and Democracy*, he claimed that creative destruction was the core of capitalism and that movements of change came as revolutions rather than continual changes.³ The destruction of a former system as a prerequisite for a new system to emerge is not limited to capitalism and modern periods. The Swedish agrarian historian Janken Myrdal has pointed out that what has been seen as a catastrophe for the structure of a society may in the long run have a positive outcome. In the example of the late medieval crisis, he argues that a vicious circle began when the Black Death struck. It led to the destruction of older society but opened the opportunity for technological and social reorientations that resulted in societal change and renewed economic expansion.⁴ In Myrdal's view a crisis in a society can be divided into phases with similarities to how a crisis can affect a human being: After the initial catastrophe (shock) comes a dysfunctional phase (reaction) that leads to reconstruction and finally a reorientation.⁵ However, not all crises have led to reorientation; a crisis can devastate a society.

The American geographer Jared Diamond has shown that for some societies it has been impossible to recover after a crisis, e.g. the Maya collapse between the eighth and ninth centuries, the Norse Greenland collapse in the fifteenth century, the Easter Island collapse in the early modern period.⁶ According to this paper the crises in Scandinavia during the seventeenth century led to a reorientation of production. It was a period of stress and changing conditions, and people were searching for new ways to solve problems. A crisis is in fact a time when it is possible to make larger changes in production. An analogy would be a depression in the economy when companies make changes in production compared to a boom when significant changes are not necessary. However, in all societies some path dependencies limit the directions that changes can take and reorientation thus has limitations. Even though it is possible, as Myrdal has suggested, to divide a crisis into phases, this article is focussed on the causes of the crises and on the processes and results of the reorientations.

There are different types of crises, from global to local catastrophes. Early modern Europeans faced many short-term crises, such as bad harvests or witch hunts, which could plague or traumatise a region or a country for several years with severe effects for the population many years after they had taken place. This paper does not deal with these types of shorter crises, but looks more closely at long-lasting crises. Crises discussed here lasted many decades, had profound impacts on people's lives and forced them to make structural changes that concerned the use of land, production and labour organisation. These crises affected the foundation of the economy.

To change the production in a time of crisis, one must have opportunities to make these changes. In seventeenth-century Sweden, these opportunities were an expanding market and available resources that had been used in a more limited way before. They paved the way to changes in production, which were more suitable to the new conditions and served the households' subsistence needs. The expanding market demanded iron, copper, cattle, butter, hides, tar, charcoal and reindeer meat – commodities that could be extracted from or produced by

using the wooded and mountainous upland areas in central and northern Scandinavia. These areas were to a large extent commons, and the expansion of the economy was dependent on collective action and the self-organisation of local users.

The hypothesis is that the crises the peasants faced during the seventeenth century could be relieved by exploiting common-pool resources more efficiently. To do so users needed to establish collective action that required more cooperation among them. However, a more intense use of the commons could lead to social dilemmas and ‘the tragedy of the commons.’⁷ To counteract these possibilities, user groups had to create institutions to regulate their claims to resources and to build up functional common-property regimes. Earlier research has recognised the more intense use of woodlands, but has not paid much attention to the fact that they were a common-pool resource and could be managed efficiently only through collective action.

Three crises

The seventeenth century is known as the Age of Greatness in Swedish history, and the country was viewed as a great power in Europe up to 1721. However, the age brought hardships to the peasants and in many ways the period can be described as a time of crisis for them. Three crises, in particular, hit Swedish peasants: (1) wars, (2) taxes and (3) changing climate, the Little Ice Age. Wars and taxes were connected but affected the peasants and other resource users in different ways.

Wars

From 1560 to 1721 Sweden was a country in permanent war. It was at peace intermittently for a total of only 50 of these 161 years, but since Sweden was often in more than one war at a time, the average number of wars was 1.2 per year throughout the period. From the 1620s onward, around three percent of the population were soldiers. Compared to other European countries Sweden had the highest share of its population in the armed forces. This figure is an indicator of the impact that war had, but even more important were the losses. All soldiers who died had to be replaced. Between 1620 and 1721, half a million men died in the wars, which corresponds to approximately 30 percent of all adult men. The vast majority of them did not die in battlefields but in camps from diseases.⁸ The wars strongly affected the workforce, and Sweden has been described as a land of ‘war widows’. To keep up production, more work had to be done by women.⁹

Taxes

As in many other countries in Europe, big changes in taxation took place in Sweden during the sixteenth and seventeenth centuries. The main cause was that the absolute state needed to cover its increasing military expenses.¹⁰ The primary taxes were based on the size of the landholding. In the first half of the sixteenth century these taxes rose. Later in the century

new ways to tax households were added. The labouring peasants had to deliver one particular tax by carrying out duties for the state. This could mean constructing and maintaining roads, for example, or it could be an obligation to give rides to representatives of the government and nobility. To these taxes the state added extra 'contributions' for specific purposes during a specified period of time. Most taxes were in kind. During the seventeenth century, the taxation system stayed the same but the rates were stepped up, and extra contributions became numerous and had to be paid for longer periods or became permanent. One example of the former would be an extra tax on households based on the number of livestock and the amount of sown grain that was in place from 1620 to 1641. The taxes became a heavy burden on the peasants.¹¹ With increased taxes, people came to be more involved in the economic life outside their local communities.

Little Ice Age

At the same time when wars and taxes were taking their toll on the lives of ordinary people in upland Sweden, a climate change affected conditions for agriculture. The Little Ice Age was a period with cooler climate from the fourteenth into the nineteenth century.¹² The seventeenth century was the coolest time during that period and, in fact, during the last 8,000 years around the world. The cooler climate had a negative impact on agriculture. The season for growing crops in Sweden during the Little Ice Age was around five weeks shorter than in the warmer period of the twentieth century. The probability of crop failure increased, and in marginal areas it was no longer possible to cultivate cereals. The seventeenth century started and ended with really bad crop years with several sets of consecutive years of failed harvests in between. The 1690s was an especially severe decade, and many areas were hit hard with up to 30 percent of the population dying. The impact of the cooler climate was profound, and the Canadian historian Timothy Brook argues that 'if there is one overwhelming condition that shaped the history of the seventeenth century more than any other, it is global cooling.'¹³

The wars, taxes and a cooler climate had huge impacts on living conditions in the seventeenth century, and one can argue that the effect on peasants and other resource users could be described as a crisis. However, different user groups did not respond in the same way to the crises. Their reactions depended on the resources they used or began to use. However, the solutions people found had two things in common: they started to use common-pool resources more efficiently, and the appropriation of these resources was based on collective action.

Four areas of changed production

In this section, four examples are given to show how crises in society led to changed production with more use of common-pool resources. The examples include reindeer husbandry in the mountain areas in northern Sweden, tar distillation in Ostrobothnia in present-day Finland, charcoal and firewood production in central Sweden and a transhumance system in central and northern Sweden.

Reindeer nomadic pastoralism

One of the more important changes in animal husbandry in northern Scandinavia has been explained by the increased tax burden and shortage of wild animals. It was a shift by the Sami people from a hunting and fishing economy to a reindeer nomadic-pastoral economy. The process of change was quite rapid, and the first decades of the seventeenth century are of particular interest.

The Swedish historian Lennart Lundmark argues that two important events spurred the change in the Sami community during the second half of the sixteenth century and the first decades of the seventeenth century.¹⁴ The first was a greater European demand for furs from the mid-sixteenth century, which led Samis to increase their activity in trade. With more trade they were able to buy more food, mostly flour and butter, and could feed more people. The population rose, and the economy became more dependent on trade. By the beginning of the seventeenth century, the number of wild animals had been reduced and the supply of furs from northern Scandinavia started to decline at the same time as a growing number of furs came to Europe from Russia and North America. This decline in the Samis' fur trade coincided with a profound change in taxation, and a crisis ensued. The new tax on the Samis was introduced in 1602 and was in full effect from 1607. They were now obliged to pay tax in fish and reindeer. The reason behind the new taxation was that these goods were needed by the Swedish government for military campaigns. The taxation came to be a heavy burden on Sami families, who were already suffering from slackening trade, and records from the 1610s describe the poverty the new taxation had created.¹⁵ The Swedish state came to realise that it had to alleviate the tax burden, and in 1620 the tax was reduced by half.

These hard years came to have great consequences for the Samis. Their solution was to profoundly change production. They increased the number of domestic reindeer to large herds, and meat became their main commodity. Once a large-scale nomadic reindeer husbandry system had been introduced it was impossible to go back to a hunting and fishing economy with only a few domestic reindeer.¹⁶ The new system in northern Scandinavia was more labour intensive, but the yield was higher. The transition from a hunting economy to a reindeer-herding economy changed the localisation of settlements and landscape use. The change is supported by studies of reindeer DNA that reveal a distinct transformation from wild reindeers to domestic reindeers during the seventeenth century.¹⁷

Tar distillation

The Finnish historian Nils Erik Villstrand wrote one of the best descriptions of the changes in production connected to the wars in which the Swedish state was involved during the seventeenth century.¹⁸ He describes the remarkable increase in tar production that took place in Ostrobothnia during the Thirty Years' War (1618–1648) and argues that tar distillation would not have been such an important element for peasants if it had not been for the pressures the state put on local societies in the form of conscription and taxes. He dismisses the earlier view of tar distilling peasants that saw the Finnish peasant as 'a potential capitalist who only waited for the right moment, and never hesitated to become involved in production for the

world-market'.¹⁹ Instead, he argues that tar distillation exempted them from conscription and hardship.

The wars were a reality for all people in Scandinavia during the seventeenth century, and there was probably nothing more frightening and devastating than to be conscripted. Few men returned from the wars, and losing men in a household reduced the workforce, putting a larger workload on women. A way to avoid conscription was to pay someone else to take one's place by contracting a man to replace him. To persuade someone to take one's place one needed money, a lot of money. The fee was determined by supply and demand, and it was a seller's market. To obtain money one had to sell a commodity that was in demand. In the province of Ostrobothnia in Finland that commodity was tar for the early modern ship industry in Sweden and Europe. Tar and pitch were established as the third most important Swedish export commodity after copper and iron.

The sale of tar made the peasants dependent on the outside world and tied peasants in Finland to the European economy with its centres in Amsterdam and London. Forests provided the raw material for tar distillation, and a relatively flat landscape with streams, rivers and lakes facilitated the transport of the heavy commodity. Ostrobothnia had these attributes, thus making conditions favourable for producing tar. Hardly any of the tools needed for production came from the outside world, and the cost of production consisted solely of the peasants' own labour. Tar distillation consumed both wood and time. However, since most of the work was performed during seasons when most peasants had little to do anyway, it did not affect agriculture in a negative way.²⁰ Tar distillation in Ostrobothnia became the backbone of forestry for centuries and started to disappear only after 1870 when ships were increasingly built of metal instead of timber.²¹

Charcoal production and firewood

Wars were not the only activities that put a heavy burden on the peasants during the seventeenth century in Scandinavia. The wars, or the threat of war, became a reason for increasing taxes in both Denmark-Norway and Sweden.²² The different ways in which the states taxed households seem endless, and one way that also facilitated the production of copper and iron, which the state needed, was to take the tax in the forms of charcoal and firewood.

The greatest producer of copper in Europe was the Great Copper Mountain at Falun in the region of Dalarna, Sweden. A large share of the product was exported, and the revenues were of vital importance to the Swedish state. For the peasants in the region of Dalarna, a new form of taxation was introduced that helped the production in the copper mine. From a tax previously mainly based on arable land and furs from squirrels, the tax code was changed in the 1580s and more radically in 1606. From this time onward, the tax could only be paid in charcoal and firewood. As a consequence, the local peasants became more involved in the mining economy and, as we have seen with tar distillation in Ostrobothnia, more involved in economic matters outside the local community.²³

Transhumance: summer farms

A transhumance system here called 'summer farms', emerged in central and northern Sweden after the late medieval crisis. The first summer farms were established in the sixteenth century, but the full-fledged system, in which the majority of peasants had summer farms, had its breakthrough during the seventeenth century. In the later part of that century, peasants were required to have a summer farm and to move their livestock each summer to seasonal settlements for grazing and production of butter, cheese and whey-cheese.²⁴

The three crises discussed earlier came together to shape the development of the summer farm system during the seventeenth century. The cooler climate of the Little Ice Age had a huge impact on agriculture as it became harder to cultivate at higher altitudes. In Sweden, where the summers even before the Little Ice Age were short, the cooler climate made the growing season five weeks shorter than it is today. The risk of frost in spring and autumn increased, and when frost hit the harvest it had a negative impact on the yield and sometimes caused famines. The link between climate and transhumance systems was that former cropland in marginal areas was converted into meadows and this favoured animal husbandry and the development of summer farms. An additional effect of the cooler climate was that it facilitated winter trade by extending the period when the ground was covered with snow and lakes were frozen. The winter season became more reliable for transportation, which supported animal husbandry. The Swedish system is characterised as 'Alpine' transhumance (compared to 'Mediterranean' transhumance),²⁵ and gathering fodder for livestock was an essential part of summer activities for all households.²⁶ In the winter, when the livestock were stabled in the village (hamlet) and needed the fodder, snow and frozen lakes made it easier to bring home the feed stored in sheds at remote places like summer farms and hay meadows scattered in the woodlands. A warm winter, with little snow and ice, created large problems for the peasants and their animals. Since the winter was the time of the year when peasants went to markets, it also facilitated selling and buying commodities. A sledge was easy to fill up with commodities and to convey over snow. Products from the summer farm were part of what peasants took to the markets.

The second crisis was the on-going wars, which also affected the development of summer farms. One result of the wars was that 30 percent of all men died and this had an impact on production in many ways, the most obvious being that more work had to be done by women. The transformation of herding from a male task to a female one had started earlier, after the late medieval crises, but was not completed until the seventeenth century.²⁷ In the summer farm area, animal husbandry and especially dairy work were female tasks.²⁸ Women's great knowledge in animal husbandry and dairy work combined with a cooler climate that favoured animal husbandry led to an expansion of the summer farms. With fewer people in the households the organisation of the summer farm had to be efficient. The solution was a specialised female workforce that worked together and spent the whole summer taking care of the livestock at the summer farms and processing milk into dairy products. Households usually sent a daughter, a wife or a close relative, but a labour market for hiring maids was also required to maintain the system.²⁹

It might be more difficult to see the direct connection between the tax crisis and summer farms. However, increased taxes stimulated the establishment of summer farms in two ways. As discussed earlier, taxes strengthened the peasants' relations to society beyond the local

community. Even if most of the production from summer farms was used for subsistence, we know that some of the produce, mostly butter, was sold in markets. Hides and wool were also products that entered commerce. The pressure of taxation in the seventeenth century led to an increased use of common-pool resources for firewood and charcoal production to pay the tax for production of copper. This use was to some extent favourable to summer farms. Withdrawal of large amounts of firewood and charcoal opened the forests and improved pastures. It also facilitated communication within the forests, and they became safer to work in.³⁰ Although we cannot know for sure, there might have been a third way that taxation affected the peasants: Since the Swedish tax system relied to a large extent on the taxation of arable land, it could have been a strategy of the peasants to expand the economy in areas that were harder to tax. Peasants in upland Scandinavia had such an opportunity because they could develop animal husbandry using summer farms on common woodlands.³¹ It was an option that peasants on the plains lacked.³² By having more of their assets in animal husbandry, their production became more secure in a cooler climate, and at the same time they could avoid some of the taxes. A similar strategy has been observed in other areas of upland Scandinavia. From her research in the Archipelago Sea, part of the Baltic Sea, the Finnish scholar Beatrice Moring has argued that fishing and animal husbandry provided a resistance to harvest losses during the seventeenth century.³³

New institutions

The cases above exemplify how the crises affected production, and they all share some commonalities: dependence on the use of common-pool resources and the need for collective action, i. e. people working together, to expand production and the economy. The development of a nomadic-pastoral system to raise reindeer, increased distilled tar production, intensified charcoal and firewood production, and the development of a transhumance system were all reactions to crises peasants faced in upland Scandinavia in the seventeenth century. Changes in production were triggered by pressure from the outside, but each group of resource users decided how to accomplish these changes and how to organise production. The changes had long-lasting effects on the societies involved and became fundamentals in the economy for the peasants who introduced them. These changes in production have been recognised individually in earlier research,³⁴ but little attention has been paid to the fact that commons were used and that a more intense use of these commons required new institutional arrangements for their management. Institutions are here seen as sets of rules used by individuals to organise repetitive activities. They can be formal, informal or a combination of both; they structure much of our human interaction by reducing uncertainty.³⁵

When utilisation increased, new institutions were required to avoid the tragedy of the commons. Groups of resource users created institutions on their own, but also in interplay with the local courts. Contemporary research has shown that the development of institutions for the management of commons for summer farms during the seventeenth century created a common-pool regime that regulated the use of the woodlands for animal husbandry.³⁶ The institutions ranged from written laws passed by the Swedish Diet to formal and informal rules developed by the users. However, no laws were written specifically for summer farms; instead, general rules, such as those governing outlying lands around a village, had to be interpreted

by a court when disputes related to summer farms arose. Most rules were developed and changed by the users when utilisation of the woodlands continued to increase.

A few examples of institutions created during the seventeenth century for better management of summer farms are given here. An important organisational change was the introduction of summer farm communities, usually consisting of members from one summer farm who self-organised to set up many of the institutions they needed. Larger summer farms with many users could be divided into subgroups. The first time a summer farm community was mentioned in Swedish sources was in 1639 in a dispute between two summer farms.³⁷ By the end of the century, summer farm communities were commonly mentioned in the sources.³⁸

The overarching goal of the peasants was to ensure a balance between appropriation and provision, and the peasants acted to protect their land from overuse. Protecting resource boundaries is important because it is a way to exclude other users.³⁹ In the late 1600s, a process was established to determine boundaries for the summer farms, and resource areas for each summer farm were defined.⁴⁰ Another important institution was the creation of rules for when summer farms could and could not be used – an open season and a closed season for the livestock. No animals were allowed at the summer farm before it opened in early summer or after it was closed in the autumn. Another way to avoid overexploitation of the summer farms was to limit the number of animals each user could bring. Fines could be imposed on users who broke the rules, and a conflict that could not be settled between users or between user groups could be brought to the local court, which had knowledge about local conditions. As the summer farm system intensified, the communities were able to adapt and modify their institutions to fit new settings.

The management institutions of nomadic pastoralism, tar distillation and charcoal production in the seventeenth century have not been investigated as closely as those in the summer farm system. However, there are strong reasons to believe that there must have been similar developments, e.g. resource areas had to be determined among user groups, and times established for resource extraction. They all needed institutions to protect the resources from overuse and to facilitate the work by avoiding uncertainty among users. In a time when there was immense pressure from the central government to conscript men for the wars and to collect higher taxes to support them and when expanding industries and a cooler climate made arable farming harder, users' ability to create new institutions for self-management of local resources made it possible for them to change production and thus create the foundation for a new economy.

Final remarks

This article has argued that the crises in the seventeenth century forced resource users to change production, which led to a new economy based more on using the commons. The changes could be accomplished only by intensified collective action and required the development of common-property regimes for governing the commons. In response to these crises, different user groups had different solutions, but what they had in common was that the new solutions, to a large extent, required self-governance of their local resources and user groups' ability to create their own institutions. Thus, the seventeenth century saw an increase in cooperative work to harness vast forests and mountain areas, and these efforts paid off. It

impacted land use, labour division, and settlements. These findings about development in the seventeenth century are an illustration of how important common-pool resources and collective action could be for overcoming obstacles in a crisis. But they are also a reminder that commons have to be analysed in their proper historical context. It seems like the seventeenth century laid the groundwork for a use of commons in northern Scandinavia that became very successful in the eighteenth century.

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