History and management institutions for forests and pastures of northern Fenno-Scandia with an emphasis on Norway.

Erling Berge, Department of Sociology and Political Science,
and
Aud Mikkelsen Tretvik, Department of History,
Norwegian University of Science and Technology, Trondheim, N-7055 Dragvoll, Norway

Keywords
forests, commons, legal goals, design principles, management institutions, Norway, Sweden

Abstract
The paper presents some observations on the historical development of legal institutions for forest management in the Norwegian part of northern Fenno-Scandia, discussing the motivations shaping them and outlining the principles currently embedded in them. The emphasis is on forest commons and Norway. Some comparisons to Swedish institutions and other resource usage systems than forest commons are presented. The goals of the lawmaker is seen as equity in access, economic performance of the industries, and protection of the resource productivity. To implement these goals three design principles are used :
1) power sharing between state and appropriators,
2) resource specific regulations of technology and quantity harvested,
3) variable geographical boundaries for access and enjoyment of benefits.

INTRODUCTION

It seems to be the conventional wisdom that "In Europe, conservation efforts were largely devoted to private game management and maintenance of royal preserves and private manor lands. Until the 18th and 19th centuries, little notice was given to problems of the commons, the public lands. As a consequence, exploitation of these common-use resources led to the deforestation of most of Europe by the early 18th century." (Meffe, Carroll, and contributors 1994:8). This is positively wrong for the part of Europe we here identify as Fenno-Scandia. The current situation in nortern Fenno-Scandia is the outcome of the slow colonisation of the land of the Saami and the Fins, and of international struggles throughout the last 7-800 years among the ruling powers of the countries we now know as Russia, Finland, Sweden, Norway and Denmark in shifting alliances[1]. (See Table 1).

Management institutions for forests and pastures as well as other renewable resources have in Fenno-Scandia a continuous history with origins in medieval society[2] . For forest commons the legal history goes back at least to the 12th century.

---

[1] Fenno-Scandia comprises of Finland, Sweden, Norway and Denmark. Northern Fenno-Scandia is sparsely populated. Most of the area is covered by forest of some type or by bare mountains. Agriculture works on the margin of what is economically and biologically feasible. Only animal husbandry is able to produce a sufficient surplus of calories. Sheep and cattle are important, but also reindeer herding is central.

For Norway as a whole, the most important criterion for establishing a farm was the possibility of cultivating grain, and grain was grown on most Norwegian farms far into the 20th century. Further north the possibility of fishing was a similar criterion for establishing a farm. Thus mixed farming has been typical for most parts of Norway.

More than one third of the area of Norway is burdened with rights of common of various types. But most of this is not forest land. Pasture is more important. In Finnmark, the northern-most county of Norway, more than 90% of the area is state property. Recently the government has proposed to change the status of its land in Finnmark to a new type of local commons (NOU 1997: 4). The design of these commons is based on the already existing system of local commons in southern Norway.

During the period covered Norway was in union with Denmark (1380-1814) and with Sweden (1319-1363; 1397-1434/1523; 1814-1905). The table below summarises the shifting alliances of the four countries. The coincidence of alliances and important legal developments is obvious.

[2] The legal history of the property rights regime of commons in Norway makes if fair to say that they are outstanding examples of "indigenous" knowledge applied to resource management. No legal entities have a longer uninterrupted history in Norway. Students of the rights of common are unable to find any trace of foreign impact on the development of the rights of common. See e.g. Rygg (1972). The "odelsrett" institute has the same long history and also seems rather "indigenous", but its legal history is more variable.

TABLE 1	IMPORTANT DATES FOR INTERNATIONAL RELATIONS IN NORTHERN FENNO-SCANDIA				
Years	Russia	Finland	Sweden	Norway	Denmark
1100 - 1319		State building in Denmark, Norway, Sweden and Russia. Sweden colonises Western Finland.			
1319 - 1363		1319 Union of Sweden-Finland and Norway 1321-23 Agreement on border between Russia and Sweden-Finland		1326-29 Agreement between Norway and Russia on dual taxation of Finnmark	
1363 - 1380				1363 Norway leaves the union	
1380 - 1397				1380 Union of Denmark and Norway	
1397 - 1434		1397 Union of Denmark, Norway, and Sweden-Finland			
1434 - 1523		Several Swedish revolts against the King. Short periods with «normal» union.			
1523 - 1809		1523 Sweden elects her own King leaving the union. 1595 Peace of Teusina. Agreement with Russia gives the Finnmark coast to Sweden-Finland. This precipitates the Kalmar war (1611-13) where the Finnmark coast is returned.		1751 Agreement on border between Norway and Sweden-Finland. Agreement on Lapp-Codicill	
1809 - 1814		1809 Russia takes over Finland			
1814 - 1905		1852 Russia-Finland closes the border for Norwegian and Swedish Reindeer Herders and ends their part of the Codicill regime.	1814 The King of Denmark and Norway transfers his rights to Norway to the King of Sweden 1826 Agreement on border Sweden-Norway and Russia-Finland 1852 Sweden-Norway retaliates and closes the Finnmark fisheries to Russian and Finnish citizens		
1905 - 1917				1905 Norway independent	
1917 -		1917 Finland independent			

Also the legislation on salt water fisheries can in principle trace its roots to medieval times. The reindeer herding legislation is younger. But still the "The Lapp Codicill" of 1751, regulating the movements of Saami between Denmark-Norway and Sweden-Finland, is part of the legal framework[3].

For the government of both Denmark and Norway timber for ship and house building was the most important forest resource. From early in the 16th and well into our own century the supply and quality of timber, fuelwood (e.g. for mining), and charcoal for smelting were main concerns in its effort to develop management institutions for forest resources[4] . In developing these institutions the government had to find ways of accommodating the needs of local communities and to incorporate new concerns about the forest resources. So even if a large part of northern Fenno-Scandia for centuries has been some kind of public property, it is also covered with a complicated system of rights of common regulating the access and harvesting of forest and pasture as well as other resources.

METHODS

In the investigation of the development of forest management systems in Fenno-Scandia we rely on historical studies of the legal and administrative documents from the various periods, and a reading of contemporary legislation with the aid of concepts from recent studies of resource management regimes (Ostrom 1990, Baland and Platteau 1996). Historical and current legal documents are listed as litterarure cited. The emphasis on Norway emerge as a result of the availability of source documents and time constraints.

---

[3] The Codicill has never been annulled. Since 1883 it has however, increasingly been replaced by new legislation. First in 1883 by the common legislation for Norway and Sweden, then 1905 by the Karlstad treaty (the separation of Norway from Sweden), then again in 1919 by the reindeer herding convention with amendments in 1949, and finally in 1972 by the current reindeer herding convention. The fact that the 1751 Codicill still is law, even though suspended, together with the view it gives on how the rulers in 1751 regarded the Saami, has made it into an important source for arguments in the current debate about the rights of the Saami to land and water in Northern Fenno-Scandia.

[4] The Codicill has never been annulled. Since 1883 it has however, increasingly been replaced by new legislation. First in 1883 by the common legislation for Norway and Sweden, then 1905 by the Karlstad treaty (the separation of Norway from Sweden), then again in 1919 by the reindeer herding convention with amendments in 1949, and finally in 1972 by the current reindeer herding convention. The fact that the 1751 Codicill still is law, even though suspended, together with the view it gives on how the rulers in 1751 regarded the Saami, has made it into an important source for arguments in the current debate about the rights of the Saami to land and water in Northern Fenno-Scandia.

RESULTS

Five periods in the development of forest regulations in Norway

- 1100-1550
  The regulation of forest usage is based on medieval legislation. Necessary adaptations arise mostly by local initative and (re-)interpretion of the legal code.
- 1550-1660
  Increasing public interventions to protect forest resources.
- 1660-1814
  Public interventions from the absolutist state and privatisation of resources from sale of King's commons. The most active periods were the 1680'ies and 1720-1740. Legislation in the 1680'ies was part of a mercantilistic policy giving privileges to the few and putting restrictions on the many. The latter period is at least partly an effort to redress problems created by the earlier period.
- 1814-1857
  Democratic control of legislation guided by public poverty and ideological liberalism. The period is characterised by increasing deforestation and government efforts to do something about it
- 1857-1992
  The modern legislation on forest resources is gradually developed, starting with acts in 1857 on forest commons and in 1863 on forestry. The legal code on commons is basically the same as the medieval code, but this is supplemented by regulations also of private forest land and increasingly public regulations are applied to both private forest land and commons.

TABLE 2 Summary table of forest management efforts in Norway

Ca 1550	Regulations (mostly export prohibition) to protect forest resources as a production factor in war industries and for building material in expanding towns and manorial estates. Taxes on production. Important to see Denmark-Norway and the duchies Slesvig-Holstein as a unitary state in this respect. The forests in Denmark were heavily reduced during the demographic and economic expansion of the 15th and 16th centuries. Thanks to forest resources in Norway, Scania and the Baltics the consumption of forest products in Denmark could continue. The first signs of crises in Denmark appear in the first half of the 17th century. The long war period strained both people and resources. The forests in Norway became more interesting, and export prohibitions more important in the time to come.
1602	Export prohibition of oak and timber for shipmasts
ca. 1660	Sale of King's commons starts
1683	King's writ on forestry in Norway (also illegal logging) It is imprecise in its regulations and therefore difficult to enforce. The mining ordinance gave mining companies general rights to forest products in their surroundings.
1687	Farmers are prohibited from logging more in the commons than they can use on their farms.
1688	To secure the long term interests of the state, saw mill regulations are introduced in southern Norway. They need consessions to operate and quotas of timber are set.

1693	Niels Knag, the King's sheriff in Alta, promulgates regulations of logging in the King's forest and commons in Alta. Only people from Finnmark were allowed to take timber from the forest, and then only after permission. New regulations were written in 1753 by the new county governor Mathias Collett and extended to Karasjok and Tana in 1776. From 1762 to 1845 and again from 1892 to 1925 a policy of no export of timber from the north to south was enforced.
1725	First government commission on forestry and sawmilling.
1726	The county governor Christian Reitzer in Trondheim expresses worries that the forests would be ruined. He appeared as a spokesman for the mining interests in his district, and managed to get a royal ban on logging in forest commons adjoining the mining district.
1726-1740	Four enactments on forestry: 20 August 1726, 7 October 1728, 8 December 1733, and 8 March 1740. The aims were to regulate logging and to further the conditions for the export industry. A continuous political debate on forestry in the period, the saw-mill interests being the strongest. For the king the preservation of the forests was the most important, although the export interests were to be considered. A forest service of German model developed from 1735 onwards.
1739-1746	The older "Generalforstamt", the first attempt to establish a professional forest service.
1750	Saw-mill regulations in Mid- and Northern Norway.
1740-1780	Gradual introduction of a special tax on logging in the King's commons in Nordland and Finnmark.
1760-1771	The younger "Generalforstamt", the second attempt to establish a professional forest service.
1821	Act regulating the sale of state property. The sale of the King's commons was exempted, requiring special legislation. The Parliament expressed a restrictive attitude towards dividing forests from the farm units they belonged to. For the government private property was the ideal for sustainable resource management.
1825-1838	Government fails in its attempts to give new regulations on the use of the commons.
1848	The paragraph in the act of 1821 exempting the commons from sale was abolished. The 19th century state was a poor state, and the government searched for new sources of income. An administrative investigation of the commons was carried out prior to this deregulation, giving a complex picture of the resource situation and the management of the commons throughout the country.
1857	Act on forest commons, inaugurates the modern forest legislation
1863	Act on forestry ends sale of King's commons.
1874	Government commission to propose new act on forestry
1875	National forestry service established
1892-1895	Act on forestry enacted (public debate during the 1880's desimated the proposal significantly).
1932	Act on forest protection (several of the proposals from the 1874 comission were reintroduced: duty to ensure regrowth, regulation of protective zones of the forest)
1965	Act on forest production and protection (strengthening the duty to ensure regrowth, revised in 1976 incorporating considerations for outdoor recreation).
1975	Act on rights in state commons («The mountain law»)
1992	Acts on bygd commons and forestry in state commons

The period 1660-1814

Three processes shaped the development of subsequent forest legislation significantly. The most important for Norway was that the King began to sell off "his commons" in the 17th century. The second is the rapidly increasing timber trade and the requirement for fuel wood and charcoal in the mining industry from the same time. And the third is the actions to redress problems created by the two former processes.

The King could sell only what was his: the ground and the remainder[5] . The rights of common remained (in theory) undisturbed[6] .
The repercussions of these sales are felt even today[7] .

---

[5] The relationship between what we would call the King's private property and the extent of his control over the property he managed as the sovereign is an interesting topic. The expression "the King's commons" should not be taken to mean anything like his private property. In Denmark-Norway the distinction between the private property of the king and the property of the sovereign was kept clear. It is also clear that the sovereign throughout the centuries after 1687 rather consistently worked to increase the share of profit falling to the state to the detriment of the commoners. It also seems clear that the Swedish king had more success in this than the Danish-Norwegian king during the important 18th and 19th centuries.
Rian(1992:pp. 117-159) argues like several others in recent Norwegian historiography that from old the King was more the King of the farmers (yeomen) than the King of the nobility, and that the King first of all was the embodiment of law and order, the rule-of-law.

[6] Rights of common is defined as rights to remove something of value from another owner's property (Lawson and Rudden 1982:130). These "profits-à-prendre" (today called profits) can be classified into 4 types:

Rights vest		
	inalienable	alienable
in land	appendant	appurtenant
in persons	all men's rights	in gross

In England Simpson (1986:108-113) recognises three varieties of profits:
1) "profits appendant": the right to the resource is inalienably attached to some holding or farm unit. Appendant profits were in England exclusively rights of pasture (Simpson 1986:111). If the holding was split up the appendant rights would also be subdivided (Simpson 1986:112)., 2) "profits appurtenant": the right to the resource is attached to some holding, but alienable, 3) "profits in gross": the right to the resource belongs to some legal person in ordinary ownership (Simpson 1986:107-114).
Simpson's discussion of "profits" does not contain any category where the right is inalienably attached to a person like citizen rights or human rights are. However, the right to kill ground game is vested inalienably in the occupier of the land where the game is found, and the right to kill other game is usually vested in the freeholder (Lawson and Rudden 1982, p.74).
In Norway and Sweden the "All men's rights" (Allemannsretten) to such goods in the outfields as right of way, camping, and picking of berries and mushrooms can be described as an inalienable personal profit. The all men's rights have no restrictions on who can enjoy them, but of course there are clear limits on how to enjoy them. Some other rights vest inalienably in persons as long as they are citizens of Norway, or are registered as living in a certain area or are members of a certain household.
•The principle of all men's rights as defined in Scandinavia seems to be unknown in the U.S.A. and England, but fairly common - although with variations - elsewhere in Europe (Steinsholt 1995). The struggle to keep and extend the rights of way tied to the system of footpaths and to establish a freedom to wander in England is vividly described by Marion Shoard (1987). In the USA public rights of access varies widely from region to region. The only places public rights are assured are on the beaches below the mean high tide mark where the public has rights of navigation, fishing and recreational uses, including bathing, swimming, and other shore activities (Singer 1993:249-258). Fishing could here be described as an inalienable personal profit.

[7] The case of Skjerstad was judged in the special court on the mountains in Nordland and Troms 26 April 1990, and in the High Court of Norway 19 November 1991 (Norsk Retstidende Vol 156, 1991 part II:1311-1334). The origin of the case can be traced to 1666. In 1666 the King sold his lands in Nordland and Troms to Joachim Irgens, but bought them back in 1682. This sale was in the 19th century used as argument for the stipulation that the state land in Nordland and Finnmark was not state commons. The conclusion of the Skjerstad judgement, crudely put, is that while the state lands of Nordland and Troms must be considered to be state commons, the injustices done during the preceding 200 years by preventing the local population from enjoying their former rights of common, has removed all rights of common except the rights of pasture.

The rapidly growing mining industry as well as the demand for timber for ship and housebuilding througout Europe led to what was perceived at the time as largescale deforestation. New technology and/ or new markets can make established regulations ineffective. Both in the early 18th century and later in the middle of the 19th, inadequate regulation of access to timber in the commons and good timber markets evidently led to overuse. The actions taken by the lawmaker to guard against this incipient tragedy of the commons (Solnordal 1958:43-46) are important. One source for these actions was a new paragraph in the law of commons in Christian V's Norwegian Law of 1687. The parapgraph limited the rights of common to timber and fuelwood to the needs of the farm. The reasons for the introduction of this rule were probably more to extend the rights of the King to the resources in "his" commons (enlarging the remainder) and further the interests of the saw-mills, rather than to protect forests against unsustainable usage. But ground owners did not have to observe such rules. Both the King and the private investors who bought a part of the «King's commons)) were logging as much as they managed. And neither of them put up enough resources to enforce the limitations on the commoners (where rights of common to timber existed). A situation resembling the tragedy of the commons developed both in the commons and in privately owned forests.

In the first half of the 18th century the rule limiting logging to the needs of the farm came to be seen as a tool for the regeneration of the forests and enforced more strictly. From the same time the number of sheep and cattle the farm could feed during winter increasingly came to be seen as the upper limit for pasturing on the commons.

Already in 1693 the King's sheriff promulgated rules to protect the King's forest and commons in Alta. During the 1720-30 we find concern about the conditions of the forests in several acts (Acts of 20 August 1726, 7 October 1728, 8 December 1733, and 8 March 1740). There were two attempts to establish a professional forest administration. Both attempts failed. The older "generalforstamt" from 1739-1746, and the younger "generalforstamt" from 1760-1771 were modeled on German experiences. They can be seen as part of a centralisation of the Norwegian administration and were met with massive protests from the old civil service (see Opsal 1956, 1957, 1958, and Eliassen 1972) as well as resistance from the forest owners (Vevstad 1992:12). Not until the latter part of the 19th century, after the second period (ca 1840-1870) with public alarms over depletion of forests, did the professional forest service get established.

The period 1814-1857

While the process of forest destruction in the period 1720-1740 led to an effort to establish a professional forest administration, one response in the mid 19th century was to remove the prohibition of privatization of state commons.

During this period ideologically motivated liberalism led to a partial break with the "local commons" management (co-management) which until then had had increasing recognition and protection. The break can be observed both in the salt water fisheries and the forest legislation.

In the legislation on salt water fisheries the break came in the Act of 13. Sep 1830 "On Fisheries in Finnmark" (Robberstad 1978, Pedersen 1994)[8] . In the legislation on forestry the break can be seen in the 1845 removal of the export prohibition on timber from northern Norway and in the 1848 act which again permitted sale of the King's commons. The act from 5 August 1848 annulled §38 in the act of 15 August 1821 which said «The forest commons owned by the state shall until further notice not be subject to sale or alienation». The act of 1821 dealt with the sale of state property, and the commons were exempted, due to need for special legislation. But new legislation did not appear until 1857. The decision to allow privatization of the commons can partly be seen as a response to problems of sustainable usage, but the 19th century liberalism and the economic poverty of the state is important to bear in mind. But as earlier: the state could sell only what belonged to the state: the ground and remainder.

The period 1857-1992

During the previous centuries the King' sale of common land had created new legal realities. In many cases those with rights of common (or a subgroup of them) had become owners of the ground on which they had rights of common (and then they became the owners of the remainder after the rights of common were accounted for). This seems to have come about in three ways:

- through the recognition that long usage of a part of the King's commons in other ways than what was implied by the rights of common, defined property rights to the ground for the users, or
- through buying of a part of the King's commons, or
- through buying the ground from the investors the King first sold it to.

The new realities were recognised in the act from 1857 which defined two new types of commons. If those buying the ground represented more than 50% of those with rights of common the area burdened with rights of common was called a "bygd commons"[9] . If they

---

[8] Later, in the 1890'ies, some aspects of local commons management were reintroduced in a few special districts with local powers for regulation of technology and coordination of appropriation. See Jentoft 1989 on the Lofoten district. The development of technology in the coastal fishery was significant but not large between 1830 and 1890. From then it was picking up speed. Coordination of activities became necessary. These developments made some involvement from the fishers themselves necessary and facilitated the reintroduction of local management powers. But it never developed further. In our century the rapidly growing faith in the ability of the state to regulate the activities of its citizens has been the foundation of the legislation on salt water fisheries.

[9] "Bygd" is a Norwegian word which in the context of commons doesn't translate well to English. Sevatdal (1985) translates "bygd" commons as "parish common lands". But it has in connection with commons nothing to do with parish as usually understood. The concept "bygd" has been used in legal texts at least since Magnus Lagaboter's (1238-80) "Landslov" ("law of the realm" from 1274 (see also page 61-66 in Sohwdal (1958)). The meaning of "bygd" is litteraly «settlement» meaning a small local community. In most contexts village or local community will be the correct translation. Current usage of the word would suggest some kind of local community independent of more formally defined units such as school districts, parishes, or municipalities. Earlier in our history bygd would be used for the smallest administrative unit, the local law district, and later the parish. In Sweden the word would mean the same. But in conjunction with commons this translation will not give the right associations. Because the areas burdened with rights of common

were fewer than 50% it was called a "private commons"[10] . The rest of the King's commons are today known as state commons.

In 1863 the new act on forestry reversed the sales policy on public lands and introduced public control of forestry activities for all forest land, both private and public. In 1854 the first professional forester came into state service and a permanent administration of public forests got established from 1860. It was extended to cover private forests in 1875 (Vevstad 1992:13).

Since 1857 three turns in the legislation can be seen. First on the agenda was forest protection. Prohibition of timber export from Northern Norway was reintroduced in 1892 and remaind in force until 1925. Legislation making sale of land difficult was also part of this effort. The act on concession for sale of forest from 1909 was the first of its kind in Norway. Its major goal was to make it difficult for foreign citizens to buy forest land by requiring buyers to settle on the property. Another goal was to stop the consolidation of forest land into large estates. Small scale forestry in conjunction with farming was seen as necessary for the viability of rural Norway. To the same end an act from 1915 prohibited sale of forests separately from arable land.

Around 1930 the goal of legislation changed from forest protection to forest production (Vevstad 1992), and in the 1970's the urban concern about nature protection and use of natural resources gained foothold in the Act on forestry.

The situation ca 1992

In 1992 the Norwegian parliament enacted new acts on bygd commons and forestry in state commons. The basic form of the legal regulations is still medieval, and also most of the variation introduced during the last 3-400 years predates the modern nation state. To a very large degree new aspects have been introduced by case law as need for adaptations to new circumstances arose.

This is reflected in the legislation by the increasing number of distinctions (variables) used to differentiate among resource users, and resource usage systems (See Table 3). It is also reflected in the increasing amount of legislation modifying the operation of the forest legislation such as the legislation on recreation and nature protection.

---

throughout our history usually were tied to users from some specific local community (the bygd), the bygd became tied to a certain area recognized as "their" commons. During the past 800 years the original usage of the word "bygd" in the legal language has turned around, and today the bygd, in relation to commons, is defined as comprising of those farm enterprises which have rights of common in the area recognized in law as a "commons" (both state and bygd commons). This way of delimiting the units with rights of common has been in the law since 1687. Since translation of "bygd" to English in this case is seen as inadequate, the word "bygd" will be used.

[10] In the act from 22 June 1863 on forestry, private commons were required to go through a land consolidation process dividing the forest area between the owners of the ground and the commoners. If an area was left with rights of common, it became a bygd commons. All private commons where the rights of common included rights to timber are believed to have been dissolved in this way. However, there exists private commons with rights of common to pasture, fishing and hunting of small game. One such, Meråker almenning, is discussed in NOU 1985:32,pp.36-38. Presumably there are more of them. How many is not known. Acts enacted since 1863 have to an increasing degree disregarded their existence, since their significance was declining.

DISCUSSION

Three design principles

The forest commons of Norway have existed since pre-medieval times in one form or another. They have changed from being the open access "wastelands" around the local communities in pre-medieval time by way of being the King's commons open to be used by the people of the local communities, later to become the more or less exclusive property of the sovereign. The current system grew out of the struggle for control of the various forest resources among the King, the local farmers, and the growing group of capitalists looking for investment opportunities and profit. The shifting fortunes of monarchy, the industrialization of the economy, and democratization of the polity all affected the system of forest commons that emerged. From the history and current status of the legislation three principles can be said to be embedded in the legal system. They are

1) power sharing between state and appropriators,
2) resource specific regulations of technology and quantity harvested, and
3) variable geographical boundaries for access and enjoyment of benefits.

Power sharing** in **forest governance

A major historical legacy of resource usage systems in Fenno-Scandia is the co-management (On the current political status of co-management see Baland and Platteau 1996, ch 13), the division of power between the state (the King at the start) and the local population (the "commoners")[11] . In Norway this is with us in strong form in the bygd and state commons, but also, even if weaker, in the boards of the reindeer herding areas. In its weakest form we see it in the 14 special districts in the salt water fisheries. In Sweden the Saami "bygd" as well as the forest commons are good representatives of this tradition.

---

[11] Its origin goes back at least to the 11th century. At that time the King of Norway was elected by the commoners and he was given certain powers to go with his office. Mainly it was activities in war. But he was also given some rights of coordination among the commoners. The first one, we think, may have been the right to give settlers permission to settle in the commons and make their home there. From that time on the kings powers, gradually generalised to state power, has grown in bounds and leaps, but also with significant setbacks. Sometimes the government has taken some powers from the commoners, at other times, when the government was busy elsewhere, the commoners have taken rights back or gotten themselves new rights through prescription. Both Rian(1992:pp. 117-159) for Norway and Hein (pp.34-41) for Finland, discussing the period 1550-1750, find that the basic stand of the general public towards the government was defensive. They can be described as fighting a non-violent rearguard battle against increasing taxation and confiscatory policies, sometimes initiated by the King, sometimes by selfserving government servants. Their powers of local choice was waxing and waning, but the strong medieval tradition was never eradicated.
Today the relations between state and various types of commoners are formalised. The difference in governance between state commons and «bygd» commons is substantial. The state has no particular powers for decisionmaking in the bygd commons but quite large in the state commons. The interests of the groundowner are in the state commons managed by the company STATSKOG, while the management and coordination of the interests of the commoners have been delegated to the local municipalities in their "mountain board".

TABLE 3 Summary table of distinctions used by the legislation on resources in Norway

VARIABLE	CATEGORIES OF VARIABLE	RELEVANT RESOURCE USAGE SYSTEM
Type of management unit responsible for resource system	1) actor system 2) state bureaucracy 3) municipality 4) co-managed	1) bygd commons, forest in state commons, forest commons and reindeer herding in Sweden 2) reindeer herding, salt water fisheries 3) state commons except forest 4) forests in state commons, 14 special districts of salt water fisheries
Appropriator units	1) legal person (citizen, firm) 2) cadastral unit (farm, fishing vessel, herding unit) 3) registered person (individual according to registered residence)	1) state commons, salt water fisheries 2) bygd/ state commons, salt water fisheries, reindeer herding, forest commons and reindeer herding in Sweden 3) bygd/ state commons, reindeer herding
Powers of local choice	1) yes 2) no	1) bygd commons, state commons, special districts of salt water fisheries, forest commons and reindeer herding in Sweden 2) reindeer herding, salt water fisheries
Professional administration	1) required of appropriator units 2) supplied by state bureaucracy 3) both 1) and 2) 4) not required	1) bygd commons, 2) reindeer herding, salt water fisheries 3) state commons 4) forest commons and reindeer herding in Sweden
Basic resource classes	1) ground and remainder 2) pasture, timber, fuel wood, 3) timber 4) hunting of small game (except beaver) 5) hunting of big game 6) anadrome species 7) fresh water fish except anadrome species 8) salt water fish except anadrome species	1) bygd/ state commons 2) bygd/ state commons, reindeer herding 3) forest commons and reindeer herding in Sweden 4) bygd/ state commons, reindeer herding 5) bygd/ state commons 6) bygd commons 7) bygd/ state commons 8) salt water fisheries
Rights of common	1) rights of common 2) no rights of common	1) bygd/ state commons, reindeer herding, reindeer herding in Sweden 2) salt water fisheries, forest commons in Sweden
Economic activity	1) collective required 2) individual or collective by choice	1) bygd commons, forest in state commons, forest commons and reindeer herding in Sweden 2) reindeer herding, salt water fisheries
Form of ownership of resource	1) fee simple 2) in common, fractional interest 3) joint, equal interest	Norway: Varies by resource class and resource usage system Sweden: 2) forest commons and 3) reindeer herding
Alienability	1) inalienable 2) alienable	Resources are in general inalienable from appropriator units, but appropriator units are alienable
Quantity regulation	Varies by resource class and resource usage system	
Technology for harvesting	Varies by resource class and resource usage system	
Duties to local society	1) no duties 2) maintenance of infrastructure	1) Norwegian resource usage systems, Swedish Saami «bygd» 2) Forest commons in Sweden

In its general form the co-management is based on differentiation of rights and duties by type of rights holder, area and resource type. The units exercising rights of common are selected among the actors of the economic system. They are persons or economic units in the primary industries seen as legal entities and going concerns (farms, reindeer herding units, fishing vessels). Stockholding companies or other kinds of economic actors have been barred in Norway. In Sweden they are not. The conceptualisation of the units able to hold rights in the commons reveal a lot about the political objectives of the society. Residence of persons or location of appropriator (farms, herding units or fishing vessels) are used to distinguish between those who legitimately can appropriate from a specified resource and those who cannot.

The Norwegian resource legislation has a rather bewildering complexity in the various local constellations of resources, users and institutions. In regulating the use of forest resources the character of the various resources and the technology of utilising them combine to present unique problems for the regulator. General rules for resource management will not work well. The result is resource specific regimes of regulation.

Resource specific regulations

Counting the ground and remainder as a separate resource, current Norwegian legislation on resource management in forest commons can be said to comprise 5 different legal regimes. They are

1) ground and remainder,
2) pasture, timber, and fuel wood,
3) fishing and hunting of small game except beaver,
4) hunting of big game and beaver, and
5) pasture and wood for reindeer herding.

TABLE 4 Resource specific property rights regimes in Norwegian forest commons

	ground and remainder	pasture, timber, and fuel wood	fishing and hunting of small game except beaver	hunting of big game and beaver	pasture and wood for reindeer herding
Rights of common	no	yes	yes	yes	yes
Co-ownership	in common	joint	joint	joint	joint
Unit holding rights	cadastral unit	cadastral unit	registered persons	registered persons	reindeer herding unit registered in the local reindeer herding district
Use and quantity regulation	internal ("owner decision")	internal ("needs of the farm")	internal ("owner decision")	external ("publicly decided quotas")	internal ("needs of the industry")
Alienability	inalienable	inalienable	inalienable	inalienable	inalienable
Power of local choice	yes	yes	yes	yes	yes

In Sweden four legal regimes can be identified. They are the same as the Norwegian except that pasture, timber and fuelwood are not treated separately. Pasture, timber and fuelwood fall to the owner of the ground[12].

TABLE 5 Resource specific property rights regimes in Swedish forest commons

	ground and remainder (includes timber, fuel wood, pasture)	fishing and hunting of small game	hunting of big game	pasture, wood, fishing and hunting of small game for reindeer herding
Rights of common	no	no	no	yes
Co-ownership	in common	joint	joint	joint
Unit holding rights	cadastral unit	registered persons	registered persons	Saami villages
Use and quantity regulation	internal within limits	internal	external	internal
Alienability	inalienable	inalienable	inalienable	inalienable
Power of local choice	yes	yes	yes	yes

The 5 regimes in Norway share the characteristic that the rights are inalienable and that there are powers of local choice defined in relation to their utilisation. They differ in type of co-ownership, the kind of units which are rights holders, and how quantity regulations come about. The search for variables capturing the variation in resource usage systems has shown that ownership of "ground and remainder" plays a decisive role for coordination of activities, form and prevalence of co-management, distribution of benefits, and the form of resource specific systems of rights and duties cutting across the social categories distributing the benefits from the resources. Other resource types seem to be differentiated primarily after the ecological dynamic of their regeneration (woods are different from wild game). The dynamic has implications for how to allocate rights of enjoyment as well as control of technology used

[12] The Swedish forest commons were created during the years 1861-1918, partly as a result of state interest in developing viable local communities and timber suppliers and partly as an answer to problems remaining from the land consolidation process which had been going on since the 17th century. (See Carlsson 1995, and 1996, Act on "Häradsallmänningar av 18 April 1952", and Act on "Allmänningsskogar i Norrland och Dalarna av 18 April 1952")
The only rights of common defined for them are the rights of the Saami villages to the pasture, wood, fishing and hunting of small game they traditionally have enjoyed as reindeer herders.
The rest of the resources of the forest commons are enjoyed as a consequence of being registered as an owner of one of the cadastral units to which ownership rights in the commons are attached. The most important of the remainder is timber and hydroelectric power. They generate fairly large incomes for the commons and are the basis of extensive and variable economic activities. There are different regimes for the hunting of big game and for fishing and hunting of small game.
Pasture has never been important in the forest commons. The right to use the few patches from which fodder could be collected ("ströängar") have never been resolved legally.
Thus for the Swedish forest commons there are four resource specific regimes:
1) ground and remainder
2) fishing and hunting of small game
3) hunting of big game
4) pasture, wood, fishing and hunting of small game for reindeer herding. (See Table 5)

in their appropriation. Secondarily they are differentiated according to economic value. This has implications for who gets allocated the right of enjoyment.

Variable geographical boundaries for access and enjoyment of benefits.

The distribution of benefits are most of all historically determined. But the benefits vary systematically according to type of unit having rights assigned (individuals, households or cadastral units such as farms, fishing vessels or reindeer herds), and its geographical location (the number and extent of rights increases with declining distance to the resource system[13].

The goals of regulations in resource usage systems

The lawmaker will always have goals for acts enacted. Judging from the first known written law (from the 13th century), the major concern for rules about resources was equity and the procedural implications of that. Later on, from about the 17th century, concern about limiting the removal of timber was read into the law. The 19th century brought concern about economic performance. And in our own century a concern about the sustainability of wild game populations was introduced.

However, general rules for resource management seem to be absent from the legal framework. Some of the recent legislation such as the Act on nature protection from 1970 or the Act on anadrome species and fresh water fish from 1992 contain statements of a goal to manage resources to preserve diversity and productivity of nature. But the rules of how to do this are rather specific and their relation to the goal far from obvious. The level of resource specific details varies enormously from one resource usage system to another. Distinctions used in acts for systems on land are less detailed than those for systems in the sea[14]

The act on reindeer herding states explicitly that the goal is to secure the well-being of reindeer herders and the status of reindeer herding as an important aspect of Saami culture. The acts on salt water fisheries and on forest commons do not say anything explicitly about the goal of the lawmaker. But implicitly the purpose obviously is to secure sustainable conditions for an

---

[13] The separation of ground and remainder from the various specified resources is the main principle of differentiation among various types of commons in Norway. In a state common the state is the owner of the ground, in the «bygd» and the private commons it is the commoners who own it. What distinguishes «bygd» and private commons from a private co-ownership is that not all the commoners are owners of the ground. This is different from Sweden where all commoners also are owners of the ground.

The importance of the ownership of the ground and the separation of this from rights of common lies in the stipulation that the ground contains what is called the remainder. This means that all rights which are not positively accounted for as rights of common belong to the owner of the ground. In Norway for example hydro-electric power is one of these remainder rights. Waterfalls were of limited value until a new technology appeared. The separation has facilitated the division of benefits as these have arisen througout history, but it has not in any way prevent the owner from mismanaging the resource.

[14] On land such distinctions as that between timber and fuel wood, or between small game except beaver and big game are used. The act on salt water fisheries contains much more detail. Here we find regulations for single species (e.g. seaweed, shellfish, whale, seal, lobster, crab, crayfish, shrimp, herring, cod, haddock, halibut, mackerel, angler, coalfish, capelin, ling, rosefish, sea scorpion). One reason for the difference between sea and land might be the growth in public regulations of nature and land usage in other parts of the law not applicable at sea (e.g. Act on Nature Protection of 19 June 1970).

industry. Resources are regulated to create the best possible returns to the industry with one major limitation. Fair access to a resource appears to be more important than maximizing returns for the industry. The major conflicts in the salt water fisheries are obviously about access. The concern about fair access can be seen as evidence that politics takes presedence over economic performance in shaping institutions as North (1990) suggest will be the case. It seems to us fair to say that the lawmaker with some significant deviations througout our history has tried (or been forced) to pursue the following, not always compatible, goals

- equity
- economic performance
- ecological maintenance

and usually also in this order in case of conflict.

Implementing the goals

It's not easy to reconcile the various goals, but one already mentioned technique used for some of the rights of common is to tie them to units such as a farm or a reindeer herding unit. Other rights are tied to persons in various ways. The rights of timber is for example tied to the farm while the rights of hunting is tied to the farmer and the persons in his household. Defining a farm as the unit able to exercise rights in the commons, suggests a consern with the viability of the farm as an economic enterprise as well as a practical mechanism (at least for farms) for stinting the usage of the commons. The concern about the viability of the farm goes back to medieval society and is directly tied to the need for taxes. In medieval society the tax was supplied in kind mainly as soldiers and warships. Seeing a farm or a reindeer herding unit as capable of holding some rights of common is tied to the stipulation of inalienability of the rights of common. The idea is strengthened with the stipulation that the rights cannot be enjoyed to a larger extent than what the "farm" or "herd" needs. A farmer cannot take more timber than he can use in building or repairing the houses on his farm.

A second basic technique in the design of the management system is the differentiation of rights of common according to geographical location. When persons are defined as the units holding rights, they are limited by geographical boundaries. These may be the boundaries of the houshold running the farm business, the boundaries of the "bygd" where the farm is located, of the local municipality where rights are to be exercised, or of the state of Norway. A few rights are given to any person which legitimately can visit the country. The way rights are limited can be interpreted as a compromise between considerations of equity and probability of overuse.

Each rabbit, grouse or fish does not have high economic value and hunting or fishing them to extinction is difficult. But, on the other hand, the gains from the hunting will be higher with some controls. Limiting the hunting to the persons owning the land or living in the «bygd» is one solution. Fishermen on the other hand does not represent any particular danger to the surrounding community qua fishermen. Fishing can be allowed for all living in Norway.

Big game has high economic value and hunting to extinction is not particularly difficult. Here restrictions need to be more severe. Even limiting the rights to the household of the cadastral unit is not enough. Problems of coordination requires special legislation and monitoring.

More recent ideas about resource management have not been integrated with the legislation on the commons, but has been laid down as resource specific rules applying to all lands whether commons or private lands. One reason for such a system of crosscutting management rules

might be the variations in size of the area needed to manage a resource effectively. Variations in rules for various types of game illustrate this. The increasing number of large game in the present century may be seen as a result of this approach even if it is not the only causal factor.

The goals, and the various design priciples and mechanisms used to achieve the goals create a complex web of regimes. There are particular rules for the enjoyment of housing timbers, fuelwood, pasture, housing in the commons, fishing, and hunting of small game, beaver, lynx, and big game. The enjoyment rules are further cut across by the resource specific management regimes. The several levels of decision making and the various ways of sharing power adds to the complexity.

CONCLUSION

Our review of the history and management institutions for forests in northern Fenno-Scandia suggests that Meffe, Carroll, and contributors (1994) in their assessment of forest conservation efforts in Europe do not appreciate the variety of experiences with management of forest in Europe. We furthermore think that rights of common are not mere «survivals of old manorial customary arrangements)) as Lawson and Rudden (1982:130) concludes for England. Rather, in northern Fenno-Scandia management institutions for commons can not only be traced far back, they also seem to be increasing in sophistication and complexity (NOU 1997).

The variety of forest management institutions in Fenno-Scandia has not been described exhaustivly. But the results so far, taken together with studies of similar institutions in the Alps (Netting 1981, Price 1988, Stevenson 1991) suggest that a broader study of the variety of management institutions, relating them to the economic and social outcomes, might give interesting data on which design principles give the more desireable outcomes.

Acknowledgement

We thank Torgeir Austenå and Hans Sevatdal for detailed advice and encouragement during the development of various parts of the legal investigations reported.

Literature cited

Act of 20 August 1726

Act of 7 October 1728

Act of 8 December 1733

Act of 8 March 1740

Act of 2 October 1751 "The Lapp Codicill", on movements of reindeer herders between Norway and Sweden-Finland

Act of 15 August 1821

Act of 5 August 1848

Act of 12 October 1857 on forest commons

Act of 22 June 1863 on forestry

Act of 5 December 1917 no 1, on registration of fishing vessels

Act of 21 May 1965 on forest usage and forest protection

Act of 19th June 1970, no. 63, on Nature Protection

Act of 9 June 1972 no 31, on pasturing by Swedish reindeer herds in Norway and Norwegian in Sweden

Act of 16 June 1972 no 57, on regulation of participation in fisheries by fishing vessels

Act of 6 June 1975 no 31, on rights in state commons ("the mountain law") with regulations of 21 April 1983 no 1011, on leases of elk hunting on state lands, and 19 April 1988 no 336, on game management on state lands

Act of 9 June 1978 no 49, on reindeer herding

Act of 3 June 1983 no 40, on salt water fisheries

Act of 15 May 1992 no 47, on anadrome species and freshwater fish (including eel and crayfish)

Act of 19 June 1992 no 59, on bygd commons

Act of 19 June 1992 no 60, on timber in state commons

Act of 19 June 1992 no 61, on private commons

Act on "Häradsallmänningar av 18. April 1952" («Härads» commons), Swedish act reproduced in NOU 1985:32

Act on "Allmänningsskogar i Norrland och Dalarna av 18 April 1952" (Forest commons in Norrland and Dalarna), Swedish act reproduced in NOU 1985:32

Baland, Jean-Marie and Jean-Philippe Platteau 1996 "Halting Degradation of Natural Resources. Is there a Role for Rural Communities?", Oxford, Clarendon Press

Carlsson, Lars 1996 "Commons in Urban Industrialized Society", paper, Workshop in Political Theory and Policy Science, Indiana University

Carlsson, Lars 1995 "Skogsallmänningarna i Sverige" (Forest commons in Sweden), Forskningsrapport 1995:22, Tekniska Högskolan i Luleå,

Christian V's Norwegian Law of 12 April 1687 (NL1687)

Eliassen, Finn Einar 1972 "Det gamle embetsverk og det nye. Norske embetsmenns kamp mot Generalforstamtet 1739-46" (The old sivil service and the new one. The struggle of Norwegian sivil servants against the forest service.) Master thesis in history, the University of Oslo.

Fritzboger, Bo 1994 "Dansk skovlandbruk 1400-1800" (Danish Forestry 1400-1800), in "Bol og by. Landbohistorisk tidsskrift" 1994:1, Aabenraa

Frostatingslova (The Law of the Frosta Law District was written down ca 1160)

Hagland, Jan Ragnar and Jorn Sandnes (translators) 1994 "Frostatinglova" (The Law of Frostating), Oslo, Det norske samlaget,

Jentoft, Svein 1989 "Fisheries Co-management: Delegating Government Responsibility to Fishermen's Organisations", Marine Policy, Vol. 13(2), pp. 137-54

Lawson, F.H. and Bernhard Rudden 1982 "The Law of Property", Second Edition, Oxford, Clarendon

Magnus Lagabeter's Landslov (Magnus Lagab0ter's Law of the Realm) 1274

Meffe, Gary K., C.Ronald Carroll, and contributors 1994 "Conservation Biology", Sunderland,Mass., Sinauer Associatesjnc.

Norsk Retstidende Vol 156 (1991 part 11:1311-1334) "Dom 19 nov 1991 i l.nr 148/1991"

North, Douglass C. 1990 «Institutions, Institutional Change, and Economic Performance)), Cambridge, Cambridge University Press

NOU 1985:32 «Revisjon av almenningslovgivningem) (Revision of the law on commons), Oslo, Universitetsforlaget

NOU 1997:4 «Naturgrunnlaget for samisk kultur» (The natural resources foundation of Saami Culture), Oslo, Statens Forvaltningstjeneste

Opsal, Arnt 1956-58 «I Holzf0rsternes Fotspor» (On the trail of the «Holzf0rsters») A series in 7 parts published in Tidsskrift for skogbruk: 1956(4:241-253), 1957(2:97-136, 3:1-16), 1958(1:16-30, 1:130-139, 4:179-190, 4:198-219)

Ostrom, Elinor 1990 «Governing the Commons. The Evolution of Institutions for Collective Action)), Cambridge, Cambridge University Press

Pedersen, Steinar 1994 "Bruken av land og vann i Finnmark inntil f0rste verdenskrig" (Use of land and water in Finnmark until the first world war), pp. 13-128 in "Bruk av land og vann i Finnmark i historisk perspektiv. Bakgrunnsmateriale for Samerettsutvalget", NOU 1994:21, Oslo, Statens Forvaltningstjeneste

Price, Martin 1988 «Mountain Forests as Common Property Resources: Management Policies and their Outcomes in the Colorado Rockies and Swiss Alps»Ph.D dissertation, Department of Geography, University of Colorado

Rian, 0ystein 1984 "Skogpolitikk i Norge 1724-1740" (Forest Policy in Norway 1724-1740), in "Skog och brännvin. Studier i näringspolitiskt beslutsfattande i Norden på 1700-talet" (Forests and Spirits. Studies of decisionmaking in economic matters in the Nordic countries of the 18th century.) pp 129-178, Oslo, Universitetsforlaget

Rian, 0istein 1992 "Den frie og stolte norske bonden. Myter og realiteter" (The proud and free Norwegian yeoman. Myths and realities.), pp.117-159 in Harald Winge (ed.) 1992 "Lokalsamfunn og 0vrighet i Norden ca 1550-1750" (Local society and central power in the Nordic countires ca 1550-1750), Oslo, Norsk Lokalhistorisk Institutt

Robberstad, Knut 1978 "Tingsretssoga" (History of real property), pp 168-215 in Austenå, Torgeir et.al . "Jus og Jord. Heidersskrift til Olav Lid på 70-års dagen" (Law and Land. Essays in honor of Olav Lid on his 70th birthday), Oslo, Det Norske Samlaget

Rygg, Ola 1972 "Forelesninger i allmenningsrett" (Lectures on the jurisprudence of commons), As, Landbruksbokhandelen

Sevatdal, Hans 1985 "Offentlig grunn og bygdeallmenninger" (Public land and «bygd» commons), National Atlas of Norway, Oslo, Norges Geografiske Oppmåling

Shoard, Marion, 1987; "This Land is our Land. The Struggle for Britain's Countryside", London, Paladin.

Simpson, A.W.B. 1986 "A History of the Land Law" Second Edition, Oxford, Clarendon,

Singer, Joseoh William 1993 "Property Law. Rules, Policies, and Practices", Boston, Little, Brown and Company;

Sokuardal, O. 1958 "Rettledning i almenningslasren" (Guide to the legislation on common), Oslo, A/S B0ndernes Forlag

Steinsholt, Håvard, 1995 "Allemannsrett - og gait" (All Men's Right - and Wrong), page 5-14, Landbruks0knomisk Forum No 4/95

Stevenson, Glenn G. 1991 «Common property economics. A general theory and land use applications)), Cambridge, Cambridge University Press

Taranger, Absalon (translator) 1915 "Magnus Lagab0ters Landslov" (Magnus Lagaboter's Law of the Realm), Oslo, Universitetsforlaget, 1979

Vevstad, Andreas 1992 "Norsk Skogpolitikk" (Norwegian Forestry Policy), Oslo, Landbruksforlaget