



The economics of reindeer herding

Saami entrepreneurship between cyclical sustainability and the powers of state and oligopolies

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Abstract

Purpose – This paper attempts to explain the drastic fall in income experienced by Saami reindeer herders in Northern Norway between 1976 and 2000, in spite of increasing government subsidies. Saami herders maintain a legal monopoly as suppliers of reindeer meat, a traditional luxury product in Norway.

Design/methodology/approach – This paper shows that a review of the literature is supported by qualitative interviews.

Findings – The paper argues that main explanatory variables are to be found in the interaction of a number of factors, mainly: cyclical climatic variation in Northern Norway; a system with fixed prices, independent of the variations in supply, that magnified the effects of the natural cycles; increasingly severe sanitary regulations forcing Saami herders to abandon slaughtering and preparation; and the oligopoly market powers of the non-Saami actors taking over slaughtering and processing. It is argued that the fall in herders' income resulted from a failure of the Norwegian Department of Agriculture to understand key factors distinguishing sub-Arctic herding from sedentary agriculture. Sanitary requirements and the government's quest for economies of scale in processing contributed to playing the volume of production into the hands of non-Saami oligopolies. In this way the Saami herders lost the meat production that traditionally was at the core of both their culture and their economic livelihood.

Originality/value – The paper is relevant for the management of herding and other production systems in areas with cyclical production, and documents the damaging effects on the aboriginal culture resulting from Norway's exclusive use of modern agricultural science in managing such systems.

Keywords Culture (sociology), Government policy, Meat, Entrepreneurialism, Norway

Paper type Research paper

Introduction

The Saami are one of more than 20 indigenous groups across the Northern Eurasian continent that has traditionally made reindeer herding one of the bases of their livelihood. As an ethnic group, they live throughout the Northern parts of Norway, Finland, Sweden and Russia, a territory known traditionally as Lapponia or Sápmi. Their exact number varies from source to source, depending among other things on national criteria used to determine ethnicity, but official sources place the total population of Saami in the area somewhere between 30,000 and 70,000, with about 2,000 Saami living in Russia. In Finland, Norway and Sweden “Saami parliaments”



have created parallel indigenous political structures that function as advisory bodies to their respective national governments. Only a minority of the Saami practice reindeer herding, and conflicts of interest over land rights, access to natural resources and political rights often create tensions between the reindeer herders and other Saami groups. Reindeer herders are thus a minority within the Saami minority, and many herders have chosen neither to register in the Saami census nor take an active part in Saami political life.

The purpose of this paper is to outline the economics and the structural conditions for entrepreneurship of indigenous Saami reindeer herding in Norway today, as well as the historical and political forces that have shaped the present situation. Saami reindeer herders possess a legal monopoly on the production of reindeer meat, traditionally considered a culinary luxury in Norway. As monopoly providers of a highly priced commodity, the Saami reindeer herders have a unique economic position among the indigenous peoples of the Arctic. Nevertheless, despite this monopoly position, at the end of the millennium the reindeer herding communities of Northern Norway found themselves in a devastating economic crisis and had to be saved through emergency subsidies by the Norwegian government.

In 2000 the market value of reindeer meat produced in Norway was about 70 million Norwegian kroner. The approximately 550 production units, or driftsenheter, in the Saami reindeer herding areas were under the supervision and management of the Reindeer Administration, or Reindrifftsforvaltningen (1997), which employs around 50 people with an annual budget of 41.2 million kroner and reports to the Ministry of Agriculture. In addition, the annually negotiated agreement between reindeer herding and the state had at the time a base budget of 80 million, with an additional 25 million kroner earmarked for reindeer herding over the budget of the Ministry of Environment. The annual direct government expenditures on reindeer herding thus added up to 140 million kroner, or around twice the value of the total production of the reindeer herding industry.

This economic situation represented the dramatic endpoint of a long period of economic decline. The 1980s had brought a sharp decline in meat prices. Official figures from the Ministry of Agriculture show that while a kilo of reindeer meat brought herders 68 kroner in 1976, they received less than half, only 32 kroner, for the same meat in 1990[1]. The same figures show an impressive profit margin of 48 kroner per kilo in 1976, but a net loss for every kilo produced in 1990 (Totalregnskapet, 1996, p. 63). In the 1990s the previous sharp fall in prices was followed by a sharp fall in the volume of production, without a compensating rise in prices. Over a period of 20 years the herders experienced the halving of first the price of their products and subsequently of their volume of production, the latter with only a minimal correction of unit prices. Reindeer meat virtually disappeared from the market, but prices failed to rise. How was it possible for the price of a scarce resource with very limited production and a documented demand to fall that rapidly?

In terms of subsidies, a net expense of 70 million kroner – somewhat more than 10 million dollars – would not have been a high price to pay for a rich nation in order to maintain a unique human culture. This is not the issue, however. What needs to be explained is that an indigenous industry that had thrived under a “free market” system – albeit with a legal monopoly – had deteriorated into economic misery over a period of 25 years with the same monopoly. As late as 1976, with a minimum of government

intervention or subsidies[2], reindeer herding was a very profitable activity. In spite of extremely high government subsidies – 25 years later – this indigenous industry was operating at huge losses.

The economics and governance of reindeer herding in Norway is a large and under-researched area. The Saami herders themselves like to say that the average reindeer herding family consists of mother, father, two children, a dog, and an anthropologist. However, compared to the large amount of anthropological and biological research on reindeer herding in Norway, there is a conspicuous absence of more politically sensitive research on the economic aspects of reindeer herding and on the problems of governance, i.e. on the consequences of the regulatory and administrative regime managed by the Ministry of Agriculture (Lie and Karlstad, 1999). The Lie and Karlstad report also comments on the paradox that the areas of research that the reindeer herders themselves point to as being of great importance have received little or no funding (p. 122).

I shall argue that many of the problems of Norwegian Saami reindeer herding – among them an apparent lack of entrepreneurship – are the product of a very heavy, visible and in the end counterproductive government hand in Norwegian reindeer herding since the late 1970s. The logic of this visible hand was based in an economic paradigm of state planning, a logic that is normally invoked in order to protect resource-based industries from the vicissitudes of the market. Why did the traditional agricultural planning paradigm seemingly produce opposite effects in reindeer herding? Why were the Saami reindeer herders seemingly better off with a free market economy than under traditional agricultural policies? What this paper attempts to explain is how a unique blend of government mismanagement and non-indigenous vested interest destroyed this once profitable indigenous industry, while at the same time destroying the traditional entrepreneurship of the herders. I shall argue here that the Saami reindeer herders in many ways received the worst of two worlds: the worst of the planning paradigm and the worst of the market.

The institutional context: Fordism and the planning paradigm

The development of the reindeer meat industry took place in the context of Norwegian agricultural policy as it was carried out, by the Labour Party, after World War II. The economic crisis of the 1930s had, all over the world, hit manufacturing industries and the agricultural sector in very different ways. Industry experienced large-scale unemployment but stable wages, while income in the agricultural sector plummeted. The relationship between prices and cost in US agriculture between 1909 and 1914 had been given the index 100, the so called “parity price relationship.” As a result of World War I, the relationship had reached 200 by 1918: agricultural prices had doubled compared to industrial prices. In 1929 this relationship had been reduced to 138, and in 1932 the number was a disastrous 57: between 1918 and 1932 the price the farmers received for their agricultural products had fallen by 70 per cent compared to the situation in 1918 (Galbraith, 1994). John Steinbeck’s book *The Grapes of Wrath* renders the flavour of the problem.

It was clear at the time that the combined countervailing powers of industry and labour unions had protected industrial wages. The response to this development was for agriculture to imitate the conditions of the manufacturing industry: to organise large integrated monopolies in order to achieve the market power and the economies of

scale which were typically found in manufacturing, but were lacking in agriculture. All over the western world the same solutions were brought forward in order to solve the farmers' economic problems: agriculture had to be given the same market power as industry. Both in the USA and Europe agriculture was exempted from anti-trust legislation. This strategy was carried out to the extreme in Norway, where farmers were given what for a long time amounted to something very close to national monopolies. Norwegian agriculture has been characterized by small units of primary production, but with a strong focus on achieving economies of scale in processing and distribution. In other words, processing and distribution were managed under a "Fordist" production system characterized by standardized mass products. In the meat business, the cooperative that managed this quasi-monopoly was Norges Kjøtt- og Fleskesentral, or the Central Meat and Lard Office of Norway, which later became Norsk Kjøtt, or Norwegian Meat.

Commissioned by the Ministry of Agriculture to write a report on how profitability could be raised in Saami reindeer herding, the author visited the main herding areas in Finnmark in 2000. At the core of the economics of reindeer herding was an astonishing two-tier price system for reindeer meat. The least wealthy of the herders were selling their animals to what was then called "listed slaughterhouses" obtaining a price of about 42 kroner per kilo on hoof. The wealthiest ones – the owners of the largest herds – were able to sell on the open market obtaining a price of more than 60 kroner per kilo for slaughtered meat. The cost of slaughtering would only account for part of this price difference. The question begging for an explanation was how, and why, the government had created a system where the poor were forced to sell to a monopsony (purchasing monopoly) that paid much less for their meat than did the "free market"?

Soon after reindeer herding was brought into the planned economy in the late 1970s, when faced with an increasing volume of reindeer meat production, the Ministry of Agriculture delegated the responsibility for marketing reindeer meat to the farmers' meat cooperative. Their representatives were initially well received by the reindeer herders: they paid promptly and were easy to deal with. However, as former Norsk Kjøtt employees freely admit, in 1976 reindeer meat was seen as a competitor to the upper end of the beef market, and thus to the farmers who owned the cooperative. The marketing responsibility for reindeer meat was forced upon them by the Ministry of Agriculture. Little was done to market reindeer meat, and the stocks of frozen meat started to mount. The Ministry of Agriculture helpfully intervened, by effectively giving the beef farmers' cooperative a blank cheque to cover the expenses of stocking the frozen reindeer meat of their perceived competitors, the reindeer herders.

The linchpin of the relationship between the Norwegian government and the farming sector is the annual negotiations between the government and the two national farmers' organisations over the terms of the Landbruksavtale, or the "agreement on agriculture" that regulates on a year-to-year basis the economic framework and subsidies for the agricultural sector. In the late 1970s, a parallel agreement governing the relationship between The Saami Reindeer Herders' Association (NBR/NRL) and the government was set up: Reindrifftavtalen, or the "Reindeer Herding Agreement"[3].

Starting in 1977, every year a few reindeer herders came to the negotiation table, facing the numerous representatives of government ministries. When the Saami got their own parliament, representatives from this were also included in the official Norwegian government delegation negotiating against the Saami reindeer-herding

minority. Every year the herders heard the same story: there was too much reindeer meat in stock, the negotiated “target price” for reindeer meat had to be reduced. The “target price” slowly became the only price paid for reindeer meat. Over time, the amount paid to Norsk Kjøtt for the costs of freezing the growing mountain of unsold reindeer meat – paid by the funds granted to the reindeer herders by Parliament – reached enormous proportions. One year, the sum reached 19.3 million kroner, close to half the market value of all reindeer meat produced annually at the time. Freezing and storing reindeer meat was probably a more profitable business than selling the same meat.

As the reindeer herders started losing money, the Norwegian government responded by establishing what in effects were social welfare programmes, normally based on subsidies granted on the volume of meat produced. When the volume of production again fell in the 1990s, the Government failed to increase the target prices for reindeer meat. Such a precipitous fall in production would normally have led to a sharp increase in prices. The government, however, hardly raised the target price that the monopsony had to pay the herders. This caused increasing poverty, to which the government reacted by increasing social payments rather than increasing the prices of meat. In order to prevent overgrazing, social payments were tied to the slaughtering of animals. In order to prevent fraud by counting the same animal twice, a very elaborate control system was set up, requiring the ears of the slaughtered animals (with the owner’s earmark) to be kept frozen for months to be ready for auditing by the Reindeer Administration. A “double entry” bookkeeping system was created, where all reindeer in Norway being processed were registered. Still today, no transport of animals to the slaughterhouse can be initiated without government approval (from the Reindeer Administration in Alta). In spite of this elaborate control system, the Ministry of Agriculture decided they could not trust all slaughterhouses to report correctly, and a list of approved slaughterhouses – the “listed slaughterhouses” – was produced. Coupled with rapidly tightening sanitary requirements for slaughtering, this practice reduced the Saami herders from being entrepreneurs delivering meat products to the market to being raw material producers, whose work now ended when the animals were herded on to a truck for transportation to the Norwegian-owned slaughterhouse. Slaughtering – the key both to their culture and to control markets and marketing – was lost to the Saami herders.

While an unofficial street market paid close to the old price, these “listed slaughterhouses” only paid the low “target price”. Thus, in order to receive welfare payments, most herders were forced to sell at an artificially low price, while the few relatively well off who controlled herds and resources sufficient to do business without government support could sell at a much higher price close to the old market price. As well as an astonishing two-tier price system for reindeer meat, the government had also created an effective monopsony – a monopoly on purchasing[4]. In practice, the official Norwegian policy became: all meat producers shall have a monopoly on selling their own produce, except the reindeer herders, who are forced to sell their products to their competitors, the producers of other meats.

These “listed slaughterhouses”, which got their reindeer meat cheaply, made money with little marketing effort. Generally, they were also not controlled by Saami. In 2002 an estimated 80 percent of all reindeer in Sweden and Finland were slaughtered in establishments owned by the herders themselves. In Norway the same figure was

around 20 percent (Reinert, 2002). The herders had lost control over a key stage in their productive cycle, as well as an important aspect of herding culture.

Over time, the unequal power and the strong vested interests of the farmers created structures highly beneficial to the farmers and highly detrimental to the reindeer herders. An example of this is how Norwegian import duties on meat over time came to reflect the vested interests of the farming lobby (cf. Tables I and II). Exotic meats that might conceivably compete with Norwegian meat – like snake and turtle meat – had prohibitive tariffs. Indigenous reindeer meat, on the other hand, received very little tariff protection from foreign competitors. If free trade had been introduced overnight, the reindeer meat industry would probably have been the only one to survive. The much higher tariffs on lamb and mutton than on reindeer meat in practice mean that the gradual intrusion of sheep into the traditional reindeer herding areas was in fact heavily subsidised by the Norwegian government. This was probably not an intentional policy, but rather a result of the power differential between the herders and the farmers. While the latter had obtained a legal monopoly and in practice had a strong influence in determining import duties and regulations for their products, the reindeer herders were faced with the exact opposite, i.e. a monopsony on reindeer meat.

The Norwegian political system has generally failed to consider reindeer herding as a business. Rather the preferred solution of successive governments of all political colours to the problems facing the herding industry has been to increase the level of economic support to the Saami herders, in effect putting them on the dole. The alternative solution would have been to free the herders from the iron grip of the

		(%)
Reindeer meat	5.50	100
Beef	13.55	246
Mutton	24.15	439
Pork	24.64	448
Whale	32.28	587
Lamb	32.49	591
Goat	37.21	677
Chicken and poultry	48.40	880
Horse meat	71.98	1.309
Snake and turtle meat	119.01	2.164

Source: Reinert (2002)

Table I.
Norway's import duties on different types of meat, whole and half carcasses, 2001-2002. In Norwegian kroner per kilo and in per cent of the duty on reindeer meat

Animal type	Duty/kg	Target price/kg	(%) Tariff protection
Reindeer	5.50	58.00	9
Beef	13.55	34.20	40
Lamb	32.49	42.24	77
Pork	24.64	26.55	93

Source: Reinert (2002)

Table II.
Norway's import duties on different kinds of meat, measured in percentage *ad valorem* of Ministry of Agriculture's "target price". In Norwegian kroner, 2001-2002

Ministry of Agriculture and the meat monopsony, which could have enabled them to live independently from their trade. The money available for projects of varying quality spent by the Ministry of Agriculture in their name, but without their consent, also provides negative publicity for the Saami. A recent example is a project to teach the Saami to ride horses when looking after their animals, a project initiated by non-Saami people. The cost of this project, more than 8 million kroner, was ridiculed across most of the first page of VG, Norway's most sold tabloid (2001). Implicitly the Saami always get the blame for such wastes of money, which are only made in their name by others in order to cash in on the grants, which are supposedly aimed at helping them.

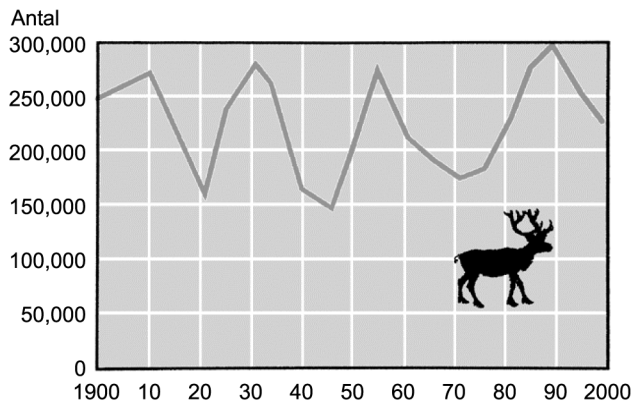
Cyclicity and two types of economic crises

The key to understanding economic systems in extreme climates like that of the Saami reindeer herders lies in the interface between geography and human production: in the sequential usufruct of areas of large ecological diversity. Building on the works of geographer Troll (1931, 1966), anthropologist Murra explains such economic systems as ones where ethnic groups attempt to control a maximum of ecological niches through migration and sequential use (Murra, 1975, 2001). Murra's model of a "vertical archipelago" of climatic niches in the Andes finds its parallel in the diversity of ecological and climatic niches sequentially used by Saami reindeer herders in an annual pattern. In both cases – because of altitude and latitude – the systems are exposed to climatic risks and cyclicity. The well-known El Niño phenomenon brings cyclical climatic changes to the Andes in a similar way that the less researched North Atlantic Oscillation (NAO) does to Northern Europe.

Murra points to the role of diversity as an "insurance system" to counteract climatic risks and cyclicity. An illiterate Peruvian peasant would know 200 varieties of potatoes by name, and plant 20 different varieties in the same field. Under any conceivable climatic variation, this system will always secure a sufficient crop. In the same way, the Saami definition of a beautiful reindeer herd is one with maximum diversity of all variables, sex, age and colour (Oskal, 2000). Both in the Andes and in Finnmark, modern agricultural practices have failed to understand the crucial importance of systemic diversity in the face of huge climatic risks.

As is the case in the Andes, reindeer herding under such extreme climatic conditions is subject to natural cycles of production. A core element in the economics of reindeer herding is the two different types of economic crises caused by these cycles, one at the top and one at the bottom of the cycle. Both types of crises severely increase the economic vulnerability of the herding groups. Data from Statistics Sweden, covering the whole twentieth century, show four cycles of production where the total number of reindeer peaks at a level close to 100 per cent above the minimum number (see Figure 1). Both extremes of the curve represent economic problems for the herders: the troughs because the volume available for sale is very low, and the peaks because production will exceed the "normal" demand.

What we shall call Crisis Type A is an underproduction crisis, which is found when nature's ability to produce is at its minimum (in the troughs of Figure 1). This crisis is caused among other things by "locked pastures" (difficult access to food through hard snow/ice). Mortality is high, the animals are weak, and loss to predatory animals peaks. Crisis Type B, an overproduction crisis, is found when nature's sustainability is



Source: Statistics Sweden

Figure 1.
Number of reindeer in
Sweden, 1900-2000

at its maximum: large number of reindeer, low mortality rates at birth, and high annual production (at the peaks in Figure 1).

By defining “sustainability” as a constant number valid for all years, thus ignoring the cyclical nature of the arctic climate, and at the same time keeping the “target price” for reindeer meat fixed independently of these cycles, the Norwegian Ministry of Agriculture reinforced – rather than softened – the negative economic effects of the cycles on the herders’ economy. The problem started when reindeer herding and production came under direct government control in the late 1970s. The market mechanisms that would have improved the economic situation for the herders in times of falling production were removed, and a system of fixed prices was introduced. In a normal market situation, a low volume of production (Type A crisis) will increase the unit price, and in that way compensate producers. In the opposite case of overproduction (Type B crisis), prices per unit of production will fall as production exceeds demand. It is important to note that in resource based industries (agriculture, fishing, mining) the market forces may cause the total value of production actually to be highest when the volume of production is at its lowest. In the Norwegian public debate the two fundamentally different types of economic crises tend not to be distinguished, creating the impression of an almost permanent crisis in reindeer herding.

As we have seen, when the marketing of reindeer meat came under government control in the late 1970s, the Ministry of Agriculture named Norsk Kjøtt as “market maker” for reindeer meat. In the high end of the meat market reindeer meat is in direct competition with expensive cuts from animals produced by Norsk Kjøtt itself. The reindeer herders, whose meat production represents around 2 per cent of the volume of meat in Norway, thus found that the government had handed over the marketing of their products to the competitor that dominated the remaining 98 per cent of the market. Production of other types of meat in Norway takes place independently of any natural cycles, and prices are therefore constant or gradually falling over time with increased productivity. This logic of a stable barn production was transferred also to the management of the prices of reindeer meat, the production of which, as we have seen, is highly cyclical. Production of reindeer meat peaked around 1990, and prices at

the time were low. When the volume of production started falling during the 1990s, after a while drastically so, the Ministry of Agriculture had effectively killed the market forces and Norsk Kjøtt kept prices (in constant kroner) relatively stable. As the volume of production fell in Norway, the rising gap between production and national demand was filled through imports from Sweden and Finland. At the time, any import of meat to Norway was made prohibitive by extremely high tariffs. Starting in the early 1990s, these tariffs were lowered for reindeer meat in order to bring in Swedish and Finnish meat.

In this way a halving of Norwegian production of reindeer meat saw a halving of the incomes of the Saami reindeer herders in the country during the 1990s. From being an at times even highly profitable industry in the 1970s, by the late 1990s most reindeer owners operated at a loss. In Sweden and Finland, where reindeer meat never had the prestige it enjoys in Norway, the price of reindeer meat almost doubled during the 1990s with the increasing demand from Norway. Under a normal market situation, the falling volume of production in Norway would have increased unit price there. In this case the inability of the “planned economy” of Norwegian agriculture to recognise nature’s cyclicity caused the ruin of many herders and – in the end – disaster relief transfers from the Norwegian Government in the late 1990s.

In no way, however, were the economic problems at the time associated with the cyclicity of Arctic sustainability or with the pricing regime that had kept prices fixed while volume of production was halved. Cyclicity of production is officially seen fundamentally as a result of “overpasturing” and “underpasturing” (Ims and Ansgar, 2001, pp. 14-15). Climatic variations are not discussed other than as random events causing occasional “crises” in an otherwise stable environment. The consensus in Norway ties the crisis in reindeer herding to irresponsibility of the herders. However, two lines of partly contradictory arguments are found in the public debate. One argument is the classical “tragedy of the commons” argument: individual herders maximize their profits based on unregulated common grounds. A lack of capitalist property rights and of strong central state management would therefore lead to the physical destruction of Northern Norway through overgrazing. The other argument is based on the assumption that reindeer herders are not profit maximisers, but rather maximize the size of their herds. In both types of arguments – weather herders maximize profits or fail to maximize profits – too little attention is paid both to the strong traditional regime regulating the use of pastures and to the role of natural cycles of production. In the Ministry of Agriculture the two types of economic crisis – type A and B – described above both bring forward the same gut reaction: too many reindeer. Whatever the source or type of crisis, the remedy and policy response is always the same.

The official interpretation of cyclicity in the Ministry of Agriculture as a result of “overpasturing” and “underpasturing” suffers from some logical flaws. How does one explain the fact that sustainability and herd sizes after the 1999 crisis subsequently returned to previous levels at an unprecedented speed, doubling the volume and value of production of Norwegian reindeer meat in three years from 1999 to 2002? The last period that saw a doubling of production was from 1978 to 1987, a period of nine years rather than three years. This suggests an increased resilience of the habitat precisely during a period when crisis-maximization regarding the habitat emanated from the Ministry of Agriculture. Does this sudden increase in the number of animals mean that

the mechanism causing “the tragedy of the commons” are subject to cyclical fashions among the herders, so that the pastures recover in periods when herders are less profit-maximisers (or respectively no longer maximize the size of their herds)? How would one otherwise explain the sudden and explosive recovery of “sustainability”?

The fact that sustainability and herd sizes after the 1999 crisis subsequently returned to previous levels at an unprecedented speed – doubling the volume and value of production of Norwegian reindeer meat in three years from 1999 to 2002 – caused no re-evaluation of the previous analysis. In fact, at closer scrutiny, what passes as “scientific analysis” from the Ministry of Agriculture may equally well be seen as incomplete and opinionated fragments of analysis lacking internal consistency[5]. Systematically fed with this far from scientific and far from complete analysis, the Norwegian Parliament (*Stortinget*) has defined a static maximum number of reindeer in Finnmark. Based on this, the Ministry of Agriculture now (spring 2005) plans “forced slaughtering” of reindeer. The logic applied in reindeer herding thus runs contrary to the logic otherwise applied in nature’s production. A bumper year in other crops – from fruits and berries to mushrooms – is a call for celebration. In reindeer herding a bumper crop is exclusively a call for alarm, because – in the static governmental analysis – good conditions of production are exclusively interpreted as a threat to “sustainability” of the reindeer moss.

Governance, management, and ideology

In 1976 the planned economy reached reindeer herding with a bang. In practice this meant that the Saami herders were alienated from the key elements in the value chain: from slaughtering and marketing. An eyewitness who was present at the time tells of how men in white coats from the meat cooperative moved in on the slaughtering spaces around Røros to take over the slaughter traditionally performed by the herders themselves. The purchasers, who traditionally gathered around these areas and constituted the existing market of reindeer herding, disappeared and were replaced by a “target price” established through negotiations with the government. An important part of the new regime of herding was a policy of equalization, whereby large reindeer owners through forced slaughter were forced to significantly reduce the size of their herds. At the same time, numerous new economically weak herding units with small herds were established. In this way, reindeer herding lost the most resourceful herders. In a personal communication, Professor Kirsti Strøm Bull, the leading expert on reindeer herding law in Norway, told me that she doubts any other industry would have accepted such a radical intervention and restructuring. Reindeer herders themselves call the 1976 law the “barnyard law”, a highly apt name. From now on, reindeer herding was to be governed by the same scientific Fordist principles according to which agriculture was managed, where the industrialised agriculture in Central Europe was the standard against which reindeer herding was held up and judged.

Herding policies of the Ministry of Agriculture were largely governed by the theoretical works of Dag Lenvik, initially employed in the Reindeer Herding Administration and subsequently responsible for reindeer herding in the Ministry of Agriculture. His was the logic of modern agricultural practices as taught in Norway at the Agricultural University at Ås. It is not our purpose here to criticize individuals, but Dag Lenvik represented an approach that was highly typical of the entire culture in the

Ministry of Agriculture, a culture that in our view is still strongly marked by the Fordist faith in mass production. During a conference at Gardermoen near Oslo, on February 14 2002, Minister for Agriculture Lars Sponheim criticized this culture, which he said was created and maintained by what he called "the Taliban regime at Ås", a group that he alleged worked under the slogan "One nation, one product, one brand". When we highlight the works of Lenvik, it is only because in reindeer herding he was the foremost representative of this widespread philosophy.

Lenvik's publications show to what degree herding is being forced into the mass production philosophy of "modern" agriculture (Lenvik, 1988, 1990). "Within normal sheep rearing, meat production based on old uncastrated rams is unthinkable. No sheep farmer would use the winter feed – the marginal factor – on a herd of rams that produce less meat than the ewes can produce through the yield of lambs. Today, the line of thinking should be the same in reindeer herding. Male animals that are superfluous from the point of view of procreation occupy grazing grounds that could alternatively be employed for cows . . . A herd of male animals larger than what is necessary for good insemination results should in that case be based on factors other than meat production . . . such as tourism or special management techniques" (Lenvik, 1990, pp. 31-32).

In this central article Lenvik makes no mention whatsoever of environmental or climatic variations, except when he excludes these as a factor that can explain differences in the development of herding between Finnmark and Trøndelag: "This is not due to predators or other natural circumstances" (ibid 34). Lenvik conducted his investigations in the southern reindeer districts, with much less climatic variation and much less problems with predators. Lenvik does not in his "barnyard model" consider the importance of male animals in the herd. A herd with few bulls is far more "nervous" and more exposed to predators than a traditional herd. Bulls, particularly the castrates or "the gentlemen of the tundra", also play an important role in digging up food for calves and cows. The older bulls are the ones that start the mating season, and they are important to keep predators at bay. Some local herders today claim that he was not aware that the district he was studying received many bulls from the neighbouring district Essand on the Swedish side of the border, others point out considerable problems with the weighing methods.

With this sort of research, a series of conflicts arose between the Administration and the herders concerning the organisation of reindeer meat production. Here Saami knowledge and theoretical knowledge from the Agricultural University at Ås clashed, and over the course of more than a decade the Saami understanding of their own meat production was completely trampled. "It is as though what we know is worth nothing", a Saami woman told me in the summer of 2001. The "confrontational model" of Norwegian reindeer herding leads the administration to produce a large quantity of highly detailed and constantly changing regulations, compared to the "self-management model" in Swedish and Finnish reindeer herding. As one of the herders put it: "Before, we were used to work with an unpredictable nature, now we also have to work with an unpredictable government administration". The frequent changes of the rules of the game – intended to fine-tune what the Ministry saw as the ideal plan – made rule-and-regulation-based entrepreneurship the most profitable form of Saami entrepreneurship. The price level was given by the monopsony to which most herders had to sell their animals, the leeway left for entrepreneurship became

maximizing profits by being as obedient to the ever-changing government rules as possible.

Another classic in the knowledge wars between the Agricultural University at Ås and Saami knowledge is the question of the role of large cows in meat production. Lenvik (1988) shows a clear relationship between the weight of cows and their reproductive capacity. Herders have insisted all along that the cows grew large because they did not have a calf the first year, and that large cows are less fertile and not, as Lenvik claimed, more fertile. After the Ministry of Agriculture has spent decades actively trying to influence herd composition according to Lenvik's principles, it now appears – as far as I understand it – that the herders were right all along. Large cows are on the average less fertile than small ones.

The traditional knowledge of herding was to be gradually replaced by “science”: “In 1976-1977 one had to resort to opinionating about many central issues during the negotiations concerning reindeer herding and the Reindeer Herding Act. Today, 12 years later, the subjects of biology, ecology, production theory, economics and politics are far more developed for herding. ‘Opinions’ can thus largely be replaced by expertise” (Lenvik, 1990, p. 34). The Reindeer Herding Administration was also going to be the institution that would ensure that reindeer herding in practice conformed to the new orthodoxy. Through very frequent changes in the regulations, which were often very inaccessible to the herders, the administration could reward herders who followed the correct path – for example in herd composition and calf slaughter – and punish those who didn't. During a 6,200 km trip in the summer of 2001, where I met with all the district branches of the National Reindeer Herders' Association, NRL, I found the bitterness was greatest precisely among those herders who had the greatest potential as independent business operators.

Also, through the forced “slaughtering down” of large reindeer herds and the establishment of numerous small and economically weak units, a system has been created that rewards obedient welfare recipients, but which “punishes” reindeer herders with entrepreneurial ambitions. Accusations that “disobedience” against the administration is punished in ways that have nothing to do with the disobedience in question, for example through reduced compensations for predatory loss, were too numerous during my travels through the reindeer herding districts of Norway to be dismissed as groundless. The Reindeer Administration in Alta to a surprising degree has functioned as “a state within the state” handling all issues dealing with reindeer herding. Just after the turn of the millennium, however, both the government ombudsman (Sivilombudsmann) and the Comptrollers Office (Riksrevisjonen) have focused attention on the practices of the Reindeer Administration, both pointing to practices that have not been in line with norms elsewhere in Norwegian public administration.

A key feature of Saami and other pre-capitalist economies is the absence of land ownership. Reindeer herding has traditionally been regulated through a complicated system of sequential usufruct, a system that can be compared to so called “time sharing” often found in modern holiday resorts. Norwegian legislators failed to understand this system, and much of the land was classified as “common pasture”. Herders tended to keep the old sequential use of rights, but some – protected by the legislation – were able to gain benefits to themselves by breaking the old rules. This is another “cultural” element that has led to tensions.

In conclusion, the “experts” in the Ministry of Agriculture have understood reindeer herding through the eyes of the industrialised agricultural production of Central Europe under stable climatic conditions. Their point of view fails to see pastoralists’ skilful and flexible adaptation to their extreme arctic environment as other than a huge disorganised barn, to be “civilised” and brought to order. A case in point is the contrasting views of the Saami and the Ministry of Agriculture on the role of reindeer bulls. Seen from a barn, the bulls are useful only for insemination purposes. To the Saami the male animal serves many other purposes: the bulls are the watchmen that scare away the predatory animals, and, the castrates especially, are the “gentlemen” who are strong enough and also willing to dig in hard snow to provide food for the females and calves. Since the castrates shed their horns later than the other males, they are most useful in the defense against predatory animals. Any reindeer herder will testify to the calmness and high productivity of a herd with many bulls. The Ministry of Agriculture has a policy of slaughtering the bulls as if reindeers were in a barn, a policy, which – in vain – has been contested for years by the Saami. After many Saami became dependent on what in effect are welfare payments, the government has been able to impose this and other policies that are logical in traditional sedentary farming, but are often counterproductive in the extreme environment facing the reindeer herders.

Saami herding and Norwegian governance

In a recent article, reindeer anthropologist Bjørklund has framed the history of the relationship between the Saami reindeer herders and the rest of Norwegian society in terms of the passage of the reindeer herding industry from one ministry to the next, according to how and where reindeer herding at the time appeared as a “problem” from the point of view of Norwegian society (Bjørklund, 2000). Reindeer herding entered Norwegian politics in an important way only in the 1850s, at a time when Norway was busy defining her borders with Sweden and Finland. From the summer pastures on the Norwegian coast the same ethnic group had since times immemorial migrated to winter pastures towards the East, often into what became Sweden and Finland. The reindeer herders knew no borders, and their sequential use of ecologically distinct pasture grounds throughout the year had been granted in a 1751 treatise. However, crossing borders that had only been lines on a map gradually became an issue of both geopolitics and nation building.

The Saami reindeer herders thus started their trajectory within the Norwegian governmental administration in the Ministry of Foreign Affairs, as a problem regarding national borders and national sovereignty. As in Africa, national borders became dividing lines across ethnic boundaries, artificially dividing what had previously been large kinship groups. Sweden had been forced to cede Finland to Russia in 1809, and in 1852 Russia declared that they no longer saw themselves bound by the 1751 treatise. This meant that herders in Finnmark were prevented from moving into Finland, which – in periods of unusually warm winters – would have been a pastoral strategy in order to find pastures that were not “locked” by ice.

In 1905 the union between the kingdoms of Norway and Sweden was peacefully split up, giving Norway full independence. The secession was exemplarily peaceful, and the only unsettled question – a question that would be semi-permanently settled only in 1919 – was the question of reindeer migration (Berg, 1994; Lae, 2003). Since the

seventeenth century Sweden had been an empire extending towards the South into Germany and to the East into the Baltic countries and Finland. As an empire Sweden was used to harbouring different ethnic groups within its borders. Norway's project – on the other hand – was a nationalistic one, in which rights of foreign subjects and ethnic minorities were much less part of history.

Throughout the nineteenth and twentieth centuries, the reindeer herders gradually came to be seen as an obstacle to the movement to create homesteads in Northern Norway. The administration of herding was therefore transferred from the Ministry of Foreign Affairs to the Ministry of Agriculture. Then in the 1990s, Saami reindeer herding again entered into Norwegian public discourse on new terms, as Norwegian authorities and media interpreted another cyclical upturn of the reindeer population and the apparent problem of overgrazing as the result of a “tragedy of the commons” (Hardin, 1968). Reindeer herding became a problem of ecological sustainability. As a visible marker of how Norwegian national interests had shifted from the problems of agricultural settlements in the North to environmental issues, in 2001 a sum of 25 million kroner towards the annual Reindeer Herding Agreement came from the budget of the Ministry of the Environment. Once again, newly redefined national interests of Norway led the reindeer herders in under the umbrella of a new sector of the government administration.

As an advisor to the Reindeer herders' Association during their negotiations with the government in this period, I was surprised by the attitude by the Ministry of the Environment towards the reindeer herders. The rapidly increasing number of predatory animals feeding on the reindeer is a major issue to the Saami, but during the negotiations the Ministry of Environment flatly refused to share their estimates on the number of predatory animals in Finnmark with the Saami, a stance that was supported by the main negotiator nominated by the Ministry of Agriculture. Norway has signed two international agreements that bear on the case of reindeer herding: the Bern Convention of 1979, ratified by Norway in 1986, aims at keeping the number of predatory animals at their 1986 level; ILO Convention 169, on the other hand, safeguards the rights of indigenous and tribal peoples to their livelihood. Any reasonable debate would have to involve the trade-off between these two international commitments made by Norway. However, only the former was ever discussed during the annual Reindeer Herding Act negotiations. Predatory animals and moss and lichens have their strong lobby groups in Norway: national lobby groups for the rights of indigenous peoples tend to be concerned with indigenous peoples far away from Norway.

Prevented as they were by new regulations from slaughtering their animals themselves in the traditional manner, and having seen the price of their meat halved, for a while it seemed that the next ministerial stop for the reindeer herders would be the Ministry of Social Welfare, with a small department in the Ministry of Culture, showcasing in museums what was once a strong and thriving indigenous culture. In economic and political terms the relationship between the Saami reindeer herders and the Norwegian government has developed many of the features described by Paine under the heading “welfare colonialism” (Paine, 1977). A once thriving aboriginal industry has become dependent on government welfare, and the subtle control that results from this dependence is all too obvious.

The import regime is a last element where the combination of the planning paradigm and the vested interest of Norsk Kjøtt and the two main private slaughterhouses have had a negative impact on herders' income. In the traditional system, the decision of whether to import or not was in practice made by the two private slaughterhouses in agreement with Norsk Kjøtt. With short lead times, brief periods permitting imports were agreed upon. The duty to be paid was in principle the difference between the foreign and the Norwegian price level. The short lead-time gave considerable advantages to the two established private slaughterhouses that were represented in the marketing board, one based in the north and one in central Norway. A small importer, for example, complained to me that the Finnish producer just across the border from him always slaughtered during early December, but no import permits were ever given in this period. In practice, only importers who already had deals done in Sweden and Finland were able to participate in this business. Barriers to entry to outsiders were huge. The international prices, on the basis of which the tariffs were established, were provided by the same two importers who dominated both the national and international trade in reindeer meat.

In the annual Reindeer negotiations the herders pressed to change this procedure into a system more compatible with the recommendations of the WTO. Again, it is somewhat of a paradox that the herders would benefit from rules aiming at "more markets". In this case, however, a larger number of buyers, creating more competition, would increase the price level for reindeer meat. It was also argued that more competition would force the monopsony into doing a better job both in product development and in marketing. Traditionally all funds used for marketing came over the annual Reindeer Agreement negotiations with the government, where the herders saw the money coming out of their own budget in order to subsidize the monopsony.

The period of rapid production increase from 1999 to 2002 testified to the usefulness of this new import regime that came into effect towards the end of the period. The Marketing Board for Reindeer Meat (Reindriftens Markedsutvalg) would estimate the import volume needed, and twice annually quotas for the import of reindeer meat were auctioned out. This new regime brought new actors into the market, and the permissions to import one kilo of reindeer meat – subject to traditional duties – were sold at up to 17 kroner per kilo. As nature's cycle again turned upwards, increasing the volume of production of reindeer meat by 89 percent (measured in number of reindeer slaughtered) and by 94 percent (measured in tons) from 1999-2002, the new import regime proved its worth.

The 1978-1987 period had shown an almost identical doubling in the volume of production of reindeer meat as from 1999 to 2002. During the first period the increase in production led to prices (in constant kroner) falling by 36 percent. During the period 1999-2002 the doubling of volume of production was accompanied by an average price increase of 6.33 kroner, while in Western Finnmark prices rose by 11.94 kroner or 29 percent. In just three years, the combined effect of nature's increasing productivity and a new import regime doubled the value of reindeer meat produced in Norway. It had been proved that loosening the iron fist of the Ministry of Agriculture – allowing for more competition – had most beneficial effects to the herders' economy. However, after 2002 Norwegian production continued to increase even more, and when the country again became self-sufficient in reindeer meat the import regime could no longer perform the same function.

Two *Weltanschauungen*: mass production vs adaptive Arctic pastoralism

Norway's policy towards indigenous peoples has clearly been a case of seeing the mote in your neighbour's eye, but failing to see the beam in your own. The traditional manning of the government offices in charge of reindeer herding testifies to the indifference with which a sequence of Norwegian governments have continued to deal with this problem. No anthropologists are engaged in the government organisations dealing with the Saami reindeer herders, and in the central office of the Reindeer Administration, located in Alta, there was in 2000 only one employee who has a background in reindeer herding. In the Ministry of Agriculture, which determines reindeer policy, there are none. My own observations of the annual "Reindeer Negotiations" support the view that these are two cultures that essentially fail to communicate, principally because the Norwegian side fails to consider the Saami points of view in its own contextual logic, outside a context of modern agricultural mass production. The good news is that the Ministry of Agriculture less than before harbors a missionary zeal to "modernize" the pastoral practices of the Saami herders. However, this potentially promising development creates problems because the qualitative understanding in the Ministry remains frozen in the previous mold of "static sustainability" and fordist mass production.

The Norwegian government's preparation for "forced slaughtering" in the winter and spring of 2005 in order to reduce the number of reindeer in Finnmark exemplifies this. Based on a worldview where sustainability in the Arctic is static, the government is threatening these measures never before used. Completely in line with the old socialist-planning paradigm, the present and otherwise very neo-liberal Norwegian government plans to reduce the number of animals disproportionately, so that the large herds are reduced more than the small herds. The newspapers[6] leak government information suggesting that herds will be reduced to a maximum size of 250 animals. As was the case with the expropriation of the largest herds in the late 1970s, this again creates the risk of culling the most professional, dynamic and entrepreneurial herders in order to support the weakest.

For many years this Norwegian policy has run contrary to the principles on which both Swedish and Finnish reindeer policy – and general European agricultural policy – are based. Normally subsidies and support would be given to herds large enough to provide a reasonable income. Norway has always had an upper limit of animals beyond which no support is given, in Sweden and Finland the opposite is the case; a minimum limit of animals is required to achieve support. Contrary to their Norwegian colleagues, reindeer herders in Sweden and Finland have a large degree of self-management. Most of the work carried out in Norway by the Reindeer Administration – the prolonged arm of the Ministry of Agriculture – is in Sweden and Finland left to the herders' own organizations. Aside from an entrenched practice that contains strong elements of "welfare colonialism"; few objective reasons seem to exist as to why Norwegian herders should not be given the same degree of autonomy.

In 1999 – in front of cameras he thought were turned off – Swedish minister of industry Bjørn Rosengren called Norway the "last Soviet State". From the point of view of the Saami reindeer herders he certainly had a point: starting in the late 1970s owners of large herds had many animals expropriated, and most herders – for all practical purposes – lost their right to sell their own meat to anyone outside the government-appointed monopsony. The planned centralisation removed the cultural

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core of their economic activity, slaughtering, and reduced herders to suppliers of raw material on hoof. A new and acceptable treatment of the Saami herders requires that the present analytical framework of Fordist barn production be abandoned. In addition to existing biological analyses, the foundations for a government policy ought to be based on the type of analysis exemplified in the works of Carl Troll (geography and microclimates) and John Murra (anthropology of production). Additionally, “sustainability” must be analyzed as it is experienced in the Arctic: as a cyclical phenomenon. Fixing a permanent number for a sustainable population of lemmings is a meaningless exercise, as it is for reindeer. Norwegian governance of the reindeer-herding sector over the last 25 years – as regards production, processing and marketing – is based on principles created in completely different contexts than the one facing the herders. Reindeer herding therefore remains a rare case where the standard government support structure for agriculture, rather than helping has actually hurt the industry.

In 2001 the labour Minister of Agriculture, Bjarne Håkon Hansen, started a slow process of reversal, involving the replacement of key personnel and policy changes (Søyland *et al.*, 2002) that may improve the herders’ situation. The neo-liberal government following the labour government did little to change the situation, “laissez-faire” in practice largely meant keeping the old monopoly structures intact. This same government now (mid-2005) threatens with measures that in all other contexts would be labeled “socialist”. Too often, reindeer herding is not treated as a business, potentially enabling herders to make a living in the market economy, but rather as an isolated economic reservation where ideologies and attitudes otherwise extinct are allowed to live on.

In spite of some favorable changes in the incentive system after the turn of the millennium, today’s situation is not easy. In addition to being under constant siege by a government administration that fails to see the world of production and marketing from their angle, herders are in effect split between those favoring a more active part in slaughtering, marketing and sales – including the commercial revival of traditional meat products (e.g. jerked meat) – and those who are fairly satisfied with the role as providers of raw materials under government tutelage. The problem, however, is that the “planning paradigm” in the Ministry of Agriculture is under strong pressure both nationally and internationally, and whether they like it or not the Saami reindeer herders are likely to face increased market integration. Herders thus confront a problem not unlike that of the east Germans following the 1991 German re-unification, who after decades of life under a planning paradigm had unlearned basic entrepreneurial mentality, skills and networks, and were therefore vulnerable to the vicissitudes of a non-planned economy. Only by bringing the Saami out of the “planned economy” that still reigns in Norway’s Ministry of Agriculture – by for the first time looking at reindeer herding as an economic activity on par with others – is there still a possibility of saving the Saami culture, by saving its unique way of producing what perhaps is the most luxurious meat in the world under shifting arctic conditions.

Notes

1. All values in this section are in Norwegian kroner (NOK) of constant 1990 value, and as such directly comparable. The source is Totalregnskapet (1996). In mid 2005 the exchange rate is about NOK6.20 to 1US dollar.

2. In 1976 total government subsidies to reindeer herding were about 9 million kroner, in constant value 1990 kroner (Totalregnskapet, 1996, p. 64).
3. In theory, by formalising their relations with the government, this move was intended to put the Saami reindeer herders on an equal footing with the Norwegian farmers. In practice, however, the structures had radically different effects. One important difference lay in the question of relative power. The two farmers' organisations are very powerful and backed by the political influence of Senterpartiet, one of the political parties in Norway, and the one that traditionally represents farmers' interests. Compared to the farmers' organizations, the Reindeer Herders' Association was an economically weak organisation, with two employees, highly dependent on the support of its partner in the negotiations. Second, cultural and linguistic barriers were obvious handicaps for the herders. For many years the herders in vain requested simultaneous translation between Saami and Norwegian in order to be able to negotiate in their own language, but translation was only introduced with the 2002 negotiations, when Ellen Inga Hætta took over as head of the Reindeer Herding Administration.
4. This is the same mechanism used by the English government when the Indian competitors to the Manchester woollen manufacturers were brought out of business. In India one company with one fixed low non-negotiable purchasing price also had devastating effects.
5. In the sphere of biology, an unlikely but very serious disagreement exists as to what reindeer actually eat. While the official line is that reindeer hardly survive without reindeer moss (*Cladonia* sp.), the herders themselves – backed by other researchers – are of the opinion that present government policy is based on an exaggerated view of the importance of reindeer moss in the animals' nutrition. Reindeer inhabiting the Northern archipelago of Svalbard (Spitsbergen) for an estimated 40,000 years have had no access to reindeer moss at all. This is a key issue because the political pressure towards "forced slaughtering" is essentially based on an effort to save reindeer moss.
6. *Sagat*, a Saami newspaper published in Norwegian (the other Saami newspapers are published in the Saami language), in May/June 2005 continuously brought leaks from government sources on how the herd sizes were to be reduced through "forced slaughter".

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