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## **Some Problems of Reindeer Husbandry in the area of Upper Lapland (Sámi Homeland)**

### **1. The reindeer Sámi and sustainable development**

The earliest written details concerning semi-domesticated reindeer date back to the year 499 AD in Baikal area. In the 800s, small scale reindeer husbandry existed also in Norway. Although further information is available from the 1300s, the fact is that the spread of reindeer husbandry into its present day region did not begin until the end of the Middle Ages.

However, the roots of reindeer husbandry go back to the wild forest reindeer, which was caught by the Sámi in traps. In what is now Finland, reindeer husbandry on any greater scale was introduced in the early 1700s in the region traditionally considered Lapland, as well as in most of Northern Ostrobothnia, although in the southern parts of the latter area only as a gradually dwindling form of livelihood.

In northernmost Lapland, right up to the shores of the Arctic Ocean, the mode of life of the Reindeer Sámi included migrating along with the reindeer herds to the coast for the summer, and then returning for the winter to the inland fells and forests. In herding of this type, the size of the reindeer population and primary production by the grazing areas over the long term remained in a state of equilibrium. If the number of head exceeded a certain limit, the condition of the grazing areas began to weaken, with the result that the reindeer population often crashed due to exceptionally snowy conditions making it difficult for the animals to locate enough of reindeer lichen from under the snow cover. With the population at its lowest ebb, the rangelands had time to recover, however, and the reindeer population then began to increase again.

The closing of the Finnish borders against Norway in 1852 and against Sweden 1889 had an enormous impact on the traditional reindeer husbandry as practiced by the Sámi, who were forced to abandon their annual migrations between the summer grazing grounds on the shores of the Arctic Ocean and the winter ranges in the inland, and to adopt a mode of reindeer husbandry based on a system of what are known as 'reindeer herding cooperatives'.

The last five hundred years have also altered the Reindeer Sámi's view of their own history. The traditional Reindeer Sámi society was governed by the annual cycles. Its rituals were geared to the changing of the seasons, to birth and death. Development took place so slowly that the most important changes experienced in a Sámi person's lifetime were famine or war.

The market economy and industrialization characterizing the 20<sup>th</sup> century have, however, also altered the Reindeer Sámi society, right down to its roots. The period following WWII brought radical changes to the Sámi society as much as any other. As regards the reindeer husbandry of the Sámi it has meant shifting from a nature based economy to modern technology and the era of global market forces. When we now, after the turn of the millennium, assess the past 500 years, it seems clear that our traditional understanding of history is still incomplete. The changes occurring at present are dangerous for our Reindeer Sámi culture overall; the process of change appears in many respects to be unstable.

Assisted by new technology, reindeer husbandry has become a modernized, specialized occupation, while being forced to adapt to regional changes caused by other forms of land use, like forestry, agriculture, hydro-engineering, traffic and tourism. In conjunction with such changes, the reindeer's feeding and grazing habits have also altered. Owing to the limited carrying capacity of the grazing areas, and especially the vulnerability and slow growth of lichen, many Reindeer Sámi have been forced to keeping their reindeer corralled, or supplying them with feed in the field. Again, many herdsman have been obliged to invest in expensive snowmobiles and other equipment.

Nowadays for many herdsman the expenditure associated with carrying out reindeer husbandry has become a serious threat to the profitability of the occupation, and thus for its continuation as a provider of income. This also throws down a gauntlet to those responsible for preserving the entire Sámi culture.

## **2. Current Sámi Homeland region in Finland**

Sámi reindeer husbandry is an unusual occupation in that it is able to take advantage of renewable natural resources that other forms of livelihood are unable to derive benefit from because of the exceptionally barren conditions. However, here lies the main weakness of this form of livelihood: production by the vegetation in the Arctic region is limited and easily disturbed. In many areas, overgrazing due to a surplus of reindeer has led to serious production disturbances in connection with which, instead of free food reserves, supplementary feeding has become necessary and ancient grazing traditions have been forsaken.

Despite this, it is still not too late to change the course of development and to create a society for the Sámi that is ecologically sustainable also in the sphere of reindeer herding, an activity that has been central to the original development of their culture, and is seen by them as central for its future. Reinstating the balance between people and their environment is a complicated process. As the arctic nature is highly vulnerable, this has to take place more rapidly in the Sámi region, if people desire to limit the damage. What then does the creation of a sustainable society call for?

The Sámi must, together with other people involved in the scenario, determine the limits to environmental resistance and, aided by the other stakeholders, strongly defend these limits through both national action and international cooperation.

Almost all the factors with an adverse impact on the environment – soil erosion, air pollution and climate change causing reductions in the grazing areas – at present also have an unfavorable influence on reindeer husbandry. At the same time, the unexploited opportunities available to the reindeer herdsman for improving the productivity of their grazing lands have decreased. Together, these factors affect the amount of reindeer meat produced. Although many reindeer research specialists have for long been aware that the present level of the reindeer husbandry exceeds the natural carrying capacity of the environment, very few Sámi representatives have dared to admit this fact publicly. They are ready to accuse external environmental factors, but not to admit any flaws in their own reindeer husbandry, not to talk about limiting the herds.

What kind of system, therefore, would be ecologically sustainable from the reindeer husbandry perspective? The answer to this question is well known to every herdsman who was around during the era when there were no snowmobiles, ATV's, motor cycles, aircraft and helicopters; it is a system that respects the limits of natural systems, i.e. the carrying capacity of the grazing areas.

There is general awareness of the ecological principles of sustainability, which enjoy solid scientific back-up. Recognition of the limits set by nature is frequently interpreted, however, as a step backwards. I feel that this is not so.

When food has been only sparingly available for reindeer, land use has become a major issue. Since there are no unused lichenous areas in existence in Finnish reindeer husbandry area, many people have begun either to look across the border as a source of lichen, or to approve supplementary feeding, partly with feeds imported from outside the region

The protection of the lichen lands has perhaps been most successful in the sparsely populated northern parts of Russia, where the lichen heaths have so far been spared from other forms of land use, and where the market economy has not so far affected the price of reindeer meat very much. But even in Russia the impact of factories and pollutants on the areas supporting a growth of reindeer lichen is evident. We should thus consider the matter of importing lichen from there very carefully indeed before embarking on such a course of action. Reports – factual or not – of feeding our reindeer with contaminated lichen could ruin the market for many years.

In association with reindeer, one cannot help but note that range management measures have become distanced from the way in which the ranges ought to be managed. It is not easy to understand the interaction between the ecosystem and the economic system. At present, the state of the natural rangelands used for reindeer husbandry in the Finnish Sámi region appears so poor, that it will most likely not be possible for the reindeer husbandry to proceed on the same path for much longer. Altering a course of development, that threatens the future calls for recognition of the present situation, and the mustering of all available resources for bringing about a change.

The time has come for the Sámi reindeer herdsman to take a step forwards and become aware that they themselves are responsible for achieving more than just short term economic gain. We Sámi can demonstrate through our own actions that we are capable of sustaining the dream of a better world. I do admit, of course, that the task of those Sámi engaged in reindeer herding is to practice an economically viable activity, while on the other hand admitting that it is to the reindeer herdsman's own advantage to create an economy in which economic development can continue on a sustainable basis.

### **3. Dilemma in northern Lapland: Too many reindeer, too many reindeer owners**

In recent public debate about forests in northern Lapland, it has been strongly suggested that forestry alone has brought reindeer husbandry to financial despair. However, no material evidence has been presented to prove that forestry carried out in the area would restrict the amount of reindeer or impede reindeer husbandry more than very locally and this only on a certain stage of the forestry.

The reindeer population has increased two-and-a-half-fold since the early 1970s. At its peak, at the turn of the 1990s, the reindeer population was more than three times what it was in 1970. During the same time period, the felling in state forests decreased by 20 percent. At its peak, at the turn of the 1980s, the volume of timber outtake was nearly one-and-a-half times what it was compared to the 1970s. Since then, fellings have decreased by a half, although Greenpeace and reindeer herders claim otherwise.

In northern Lapland, reindeer husbandry is most lucrative in the area of the Ivalo herding co-operative, where there are no old tree lichen forests at all. And in the same co-operative, where the most intensive forestry of all the northern Lapland co-operatives was practiced after WWII, reindeer husbandry is on the healthiest base, according to various indicators. It requires the lowest amount of supplementary feeding for reindeer, has the best does, the best calving percentage, etc.

Bearing that in mind it must be said that the difficulties of reindeer husbandry have more to do with the internal financial issues, such as fragmented ownership and increased feeding, of the co-operatives than with the activities of Metsähallitus (the national forest administration) in the area. The poor condition of lichen grounds is mainly due to too many reindeer.

The goal of the Sámi Parliament and environmental organizations is to shut forestry down in order to secure the interests of reindeer husbandry. Unfortunately, that will not be the salvation of reindeer husbandry: its problems lie beyond the activities of forestry, and have more to do with the increased subsidization of an already subsidized livelihood.

The profits of forestry benefit not only the Sámi, but also the economic life of the area in general, by bringing more economic activity to the area. If reindeer husbandry is seen only as a means of livelihood, it seems absurd to attempt to support it by suppressing another, more profitable, means of livelihood.

In northern Lapland, the real problem of reindeer husbandry is not forestry, but rather that there are simply too many reindeer owners. There are currently about 1100 Sámi reindeer owners in the Sámi home district, 60 percent of who own fewer than 50 reindeer. The average annual income those owners make of their reindeer is about 3.500 euro, which means that an increasing number of Sámi reindeer owners are forced to supplement their income by means other than reindeer husbandry.

The fragmentation of reindeer ownership has, in part, led to the current situation of over-grazing, which can be seen in the excessively worn lichen areas and in the lack of new birch offshoots in the national park areas of northern Lapland, where reindeer herding is allowed.

#### **4. The traditional reindeer husbandry was different from the current one**

Earlier reindeer herding communities lived apart from one another, so the kind of over-grazing problems we see today were locally rather restricted. Only the period following WWII has been a time of far-reaching changes in the whole reindeer herding area, including the reindeer co-operatives of northern Lapland. There is no longer anything traditional about reindeer husbandry in the area aside from freely grazing herds. Work in the ranges is done with snowmobiles and two- and four-wheel all-terrain vehicles, and even slaughtering has been transferred, by EU regulations, to well-managed and hygienic slaughterhouses. Furthermore, intensive feeding never was a part of traditional reindeer husbandry.

Nowadays, in many reindeer herding co-operatives, the reduction of natural grazing is compensated by bringing in additional fodder from outlying areas more than ever before. This means that the once self-supporting reindeer husbandry has increasingly been transformed so that it is now dependent on external resources.

Traditional reindeer husbandry was in harmony with the natural environment, satisfying all the subsistence needs, including food, clothing and shelter, of each member of the community. The

requirements of reindeer herding families in those days were more modest than they are today, and communities could live well within the limits of natural grazing.

## **5. The cause of the pasture crisis**

This no longer works in reindeer husbandry today, by any means. I believe that the most important factor behind the current grazing crisis is the continual fragmentation of reindeer ownership due to internal issues in reindeer husbandry. The result is that ever-fewer reindeer owners can rely on their herds as a primary source of livelihood. Reindeer owners for whom their herds are the most important source of livelihood have a different outlook from the majority who own just a few reindeer. Today's reindeer husbandry and support systems do not work towards supporting natural grazing for the long term.

Reindeer herders and ecologists see the current problems facing reindeer husbandry differently. A reindeer herder observing the reindeer-meat market sees the lowest real rates for meat in 15 years. Pasture researchers, on the other hand, have, for many years, observed extreme deterioration in lichen areas, which are important as winter ranges, throughout the reindeer husbandry area. Because the researchers know that maintenance of the current reindeer herds is done with the help of over-grazing and supplementary feeding, they are worried about how the continued deterioration of lichen producing grounds will affect the condition of the reindeer winter ranges and the profitability of the entire livelihood.

## **6. Research knowledge**

The goal of forest management and reindeer husbandry, respectively, is to efficiently produce wood and reindeer meat, both of which are the result of physiological processes. I believe that attention must be paid to what is ecologically necessary, technically possible and economically feasible in the management of forests and reindeer grazing lands. The latter two principles have apparently dictated most of the solutions adopted in forestry and reindeer husbandry, but in recent times ecological points of view have also increasingly been taken into account along with the rising awareness of the problems that have been partly hidden until now.

Taking proper consideration of the ecological point of view in forest and rangeland management also requires research directed to determine what effect activities will have on the forest ecosystem as a whole. The current state of reindeer rangelands in areas where felling was conducted in the 1950s and 60s should also be looked into as part of the soon-to-be-launched research project initiated by the Finnish Forest Research Institute (Metla).

Reindeer herders nowadays participate in reindeer husbandry via a system of reindeer herding co-operatives. The large-scale adoption of modern technology by reindeer husbandry since the 60s, coupled with the strong growth in the number of reindeer since the 70s, changed the Sámi reindeer husbandry communities more than anything ever had before. With the help of supplementary feeding, they were able to bring greater amounts of meat to the market – the storage and distribution of which the herders' own Poro ja Riista Oy (Reindeer and Game Company) played a central role in.

I affirm that things went well for the herders for as long as the company existed. Following its bankruptcy, blame for the problems faced by reindeer husbandry has been laid on the administration, research, Finland's accession in the EU, or on other things.

To date, it is still unclear what consequences a reindeer husbandry based on continuous supplementary feeding will have. To what extent will it lead to cultural and environmental instability? Will it weaken, together with other problems, the ability of reindeer herding cooperatives to survive future political and social problems? I will be expecting answers to these and many other questions faced by reindeer husbandry in the project soon to be launched by Metla.

## 7. Notes on the coordination of forestry and reindeer husbandry in the Sámi homeland

During the year 2003 the Finnish Game and Fisheries Research Institute (FGFRI) completed two reports on research projects which focused on the impact of forestry on reindeer grazing grounds and on reindeer grazing (*Kumpula et al. 2003, Kumpula 2003*). Felling has the biggest negative consequences, at least in the short term, on arboreal lichens and reindeer lichen grazing grounds. However, in the long term the reindeer lichen is likely to benefit from more light, since this type of lichen generally grows better in better light conditions. The Ivalo reindeer herding cooperative is a good example of this, in that the rangelands are in good condition despite decades of felling.

In the Sámi homeland, most of the areas that have been protected to preserve biodiversity lie in areas where reindeer husbandry is practically the only form of land use. It follows that natural biodiversity in a national park may be reduced as a consequence of over-grazing by reindeer, without any significant contribution by forestry.

In Northern Lapland, the real problem for reindeer husbandry is not so much forestry as the fact that reindeer ownership has become too fragmented to allow for profitable reindeer husbandry, whether by Sámi people or anyone else. Simply put, there are not only too many reindeer, but also just too many reindeer owners; in the Sámi homelands, there are at present about 1100 Sámi reindeer owners; 60 % of whom own less than 50 reindeer.

*Reindeer owners according to no. of counted reindeer,  
during the reindeer herding year 1998/99  
in Inari, Enontekiö and Utsjoki  
(source: FGFRI Reindeer Research Unit)*

| Reindeer | Inari | Utsjoki | Enontekiö | Total |
|----------|-------|---------|-----------|-------|
| 1-49     | 384   | 138     | 207       | 729   |
| 50-99    | 166   | 123     | 47        | 336   |
| 100-199  | 34    | 39      | 29        | 102   |
| 200-     | 50    | 15      | 8         | 73    |
| Total    | 634   | 315     | 291       | 1240  |

The average income derived by the above reindeer owners from reindeer husbandry came to about 3.500 euro a year, which means that a growing number of Sámi reindeer herders are forced to seek additional incomes outside reindeer husbandry. It is partly due to this fragmentation of reindeer ownership that the present situation of over-grazing has emerged, something which is evident in excessive wear on all lichen grounds in the national parks in Northern Lapland, as well as an absence of new birch saplings.

Even a cursory examination will reveal that the five reindeer herding cooperatives in the Inari area which have featured in the media due to the forestry operations taking place there, also had more than 60.000 reindeer in excess of the maximum numbers permitted during 1980–1993. Keeping such numbers of reindeer has worn the remaining summer and winter rangelands to an extent which has made it necessary to increasingly introduce supplementary feeding of the reindeer.

There is no unambiguous proof that forestry operations would have limited the number of reindeer it was possible for these herding cooperatives to keep, or prevented them from practicing reindeer husbandry. The Ivalo reindeer herding cooperative, which has been subject to the most intensive forestry operations of any of the herding cooperatives in Northern Lapland since the war, has the healthiest foundation for reindeer husbandry of all, measured with several different indicators; it has the shortest time of supplementary feeding, the best female reindeer, the highest calf rate etc.

This indicates that the current problems in reindeer husbandry are caused more by economic factors within the herding cooperatives (the high costs arising from fragmented ownership, increased supplementary feeding and the motorization of the business) than by forestry operations in the area.

In examining trends in reindeer numbers, it is clear that they have multiplied several times since WWII. However, reindeer husbandry cannot continue to grow indefinitely if the natural rangelands that it is dependent on continue to decrease at the present rate. The fall in natural rangelands is striking even in the herding cooperatives in whose areas there is no forestry.

## **8. About the Sámi livelihood**

In addition to natural economies, forestry and tourism have also been practiced in the Sámi homelands for decades. There is no other extensive industrial activity. The vast areas of land which have different types of protected status is a limiting factor for the introduction of other commercial operations. All the municipalities in the area in question suffer from high unemployment.

The general change in the economic structure has reached the municipalities in the Sámi homelands, too, over the past few decades. The economic structure has changed, especially in Utsjoki and Inari, from basic natural economies to services and other contemporary business.

In fact, a look at the Sámi homelands as a whole reveals that the percentage of service sector and similar enterprises is several times that of all primary production sectors put together. Services are by far the biggest source of income in the Sámi homelands. Over 60% of the employed workforce earns its living in that sector. Social income transfers (pensions and unemployment security) provide an income for a significant percentage of the population, too.

In 1984, the Sámi still derived their income from primary production to a greater extent than the rest of the Finnish population, but since then, their income structure has come closer to the average for the Province of Lapland.

In Utsjoki, for instance, the Sámi population in primary production accounted for 24.1 % in 1984, a figure which had fallen by about 5% by 2002. A similar change is seen in Inari.

Meanwhile, in Enontekiö and Vuotso, Sámi people are still involved in primary production to a greater extent than the rest of the population. In Inari and Utsjoki, the percentage accounted for by primary production sectors has fallen noticeably and the income structure of Sámi people is more or less identical with that of the rest of the population.

## **9. Sámi and Finnish reindeer owners**

The Sámi homelands (31.941 km<sup>2</sup>), which admittedly are not defined in the Finnish Reindeer Husbandry Act (1990), cover 27.9 % of the reindeer herding area and 64 % of the special reindeer herding area (total 49.739 km<sup>2</sup>). In the reindeer husbandry year 1998/99, herding cooperatives in the Sámi homelands consisted of a total of 1.370 reindeer owners and over 71.400 reindeer. There were 1.107 Sámi reindeer owners and they owned a total of 62.000 reindeer, i.e. 86.5 % of the reindeer in the Sámi homelands and one third of all reindeer in Finland.

The herding cooperatives in Paatsjoki, Ivalo, Hammastunturi, Muotkatunturi and Muddusjärvi consist of a total of about 450 reindeer herders (32.8 %) and about 25.500 reindeer (41 %). In some herding cooperatives in the Sámi homelands, a great proportion of reindeer are owned by Finns; this is the case in Ivalo (57 %), Paatsjoki (one in three reindeer) and Hammastunturi (one in five reindeer). In Muotkatunturi, Finns owned 5.6 % of the reindeer.

The turnover of forestry operations in the Inari area is EUR 7.9 million and that of reindeer husbandry is EUR 2.8 million. It is probable that reindeer husbandry alone cannot compensate for the impact that a reduction in forestry would have on the area's economy. In my opinion, the best economic benefits could be obtained by permitting both kinds of operations.

The combined output of forestry and reindeer husbandry together will naturally produce a better result than either of these operations on their own. In principle, the optimization of combined production in forestry and reindeer husbandry can be solved, based purely on principles of economic science. The present political leadership of the Sámi Parliament in Finland appears to be unwilling to do so, however, despite the fact that most of the forestry workers in the area are of Sámi extraction.

Practically all the problems that forestry causes for reindeer husbandry are linked with the felling of old forests (i.e. forest renewal of over 1,000 hectares per year). Thus the area of forest destined for final felling each year represents only 0.03 % of the total area available for reindeer husbandry in the Sámi homelands. Consequently the claim that the over dimensioned felling plans would threaten Sámi culture are clearly exaggerated.

In the herding year 1998/99 Sámi reindeer owners produced 0.6 million kilos of reindeer meat or about 28.5 % of the total production of reindeer meat in Finland. This brought an estimated income of a total of EUR 3.4 million for the Sámi. When compensation for reindeer killed by predators and by traffic, financial subsidy per animal and other subsidies are taken into account, this rises to EUR



5.5 million. In the Sámi homelands, the income from slaughtered animals makes up a lower proportion of the income from reindeer herding than in other areas.

Compensation for reindeer killed by predators makes up almost 14 % of income in the Sámi homelands, whereas it is only about 4 % elsewhere. Compensation for reindeer killed by traffic is lower, but financial subsidy per animal accounted for as much as 16.7 % of income in the sector in the herding year 1998/99, compared with only 12.4 % elsewhere in the reindeer herding area. Other subsidies received also accounted for a higher percentage (about 6 %) than elsewhere.

The taxable income of the Sámi came to a total of EUR 2.7 million, and on average of EUR 6723 per person. However, only a total EUR 789,915 of the earned and capital income of the Sámi derived from reindeer husbandry, i.e. only 29% of the total taxable income (*Kemppainen & Nieminen* 2001). Most reindeer owners in the Sámi homelands have incomes of less than EUR 2000 these days. This means that the majority of Sámi reindeer owners must supplement their income with processing of reindeer products, tourist services, other occupations or social income transfers such as pensions and unemployment benefits.

Aside from these statistics, there are few differences when one examines the special characteristics of Sámi and Finnish reindeer husbandry. In the Sámi homelands, reindeer density on average is 2.4 reindeer per km<sup>2</sup>, compared with 2.2 in the special reindeer herding area and only 1.4 in the remainder of the reindeer herding area. Inventories of winter grazing grounds have shown that the biggest amount of reindeer lichen and horsehair lichen per reindeer in the Sámi homelands was found in the surroundings of Lake Inari. The lichen grazing in the Utsjoki and Enontekiö herding cooperatives was in poor condition.

The biggest amount of wavy hair-grass was available to reindeer in the central and western parts of Inari (*Kumpula et al.* 1997). Although access to enough winter grazing is the real 'bottleneck' in reindeer herding, access to summer grazing has also begun to limit the productivity of reindeer husbandry, particularly in fell (mountain) regions.

In the southern reaches of the reindeer herding area there may be even six times the amount of summer nutrition per reindeer compared with the fell regions (*Kumpula et al.* 1999, *Kumpula* 2001). Natural reindeer husbandry is becoming rare even in the Sámi homelands due to inadequate grazing. During the herding year 1998/99, about 2 million kilos of supplementary feed was taken out to the reindeer, and 6 % of all reindeer are in fact fed in enclosures (*Kemppainen & Nieminen* 2001).

## **10. About Sámi rights**

The Finnish Constitution secures the right of the Sámi people to practice their own culture and indigenous occupations in their homelands. In addition to the rights enshrined in the Constitution, the Sámi have been demanding ownership rights to State land and exclusive rights for Sámi people to engage in reindeer husbandry, hunting and fishing.

However, in autumn 2002, the Constitutional Law Committee stated that protection of Sámi cultural autonomy by law does not change the legislation currently in force which regulates who is allowed to practice traditional occupations in the Sámi homelands. These provisions can only be changed through amendment of the legislation currently in force.

The Committee further underlined that if amendments are proposed to the right to practice certain occupations, they must be based on valid research results. The Ministry of Justice has commissioned a study on Lapland land rights from the Universities of Oulu and Lapland together. It is probable that the Ministry of Justice will use the study as a basis for establishing guidelines for the measures to be taken in the Sámi land ownership dispute in 2005.

Provisions under the Reindeer Husbandry Act which entered into force in 1990 allow the Sámi to draw up guidelines for the reindeer husbandry practiced by their herding cooperatives which prevent 'outsiders' from making incursions into Sámi reindeer herding and thereby their source of livelihood.

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This article is by Mr Jouni Kitti, a former member of the Sámi Parliament and retired civil servant of the Finnish state administration in the fields of reindeer husbandry, fisheries and hunting. He is nowadays an independent writer. The article, originally written in 2009, has been slightly edited for publication in 2014, without changing the content or adding any fresh statistical data. The author sees no significant changes to the better in the situation. As the natural lichenous rangelands have deteriorated during the five years from the writing of the article, foraging for the reindeer has to be done even further outside the area where the animals graze. The percentage of ensilage and industrially produced feed has increased, and some owners have resorted to methods that are nearer farming than herding. Also the number of reindeer owners has increased, having a negative effect on the profitability of reindeer husbandry. Reindeer owners have reported 36 different auxiliary means of getting their livelihood. Reindeer husbandry has ceased to be the core element supporting the Sámi culture.