



Alpine Milk Vetch, *Astragalus Alpinus*, Finnmark, Norway
 Photo: Johnny-Leo L. Jernsletten

Executive summary

Introduction

The project entitled *Family-Based Reindeer Herding and Hunting Economies, and the Status and Management of Wild Reindeer/Caribou Populations* is a direct follow-up of the *Sustainable Reindeer Husbandry* project. The latter received a very good response, and it was therefore decided that a follow-up project would be appropriate. *Family-Based Reindeer Herding and Hunting Economies, and the Status and Management of Wild Reindeer/Caribou Populations* was approved by the Arctic Council as a project under the Sustainable Development Programme at the Ministerial meeting in Finland in October 2002.

The *Sustainable Reindeer Husbandry* report uncovered important findings, resulting in several recommendations. Some of the recommendations pertaining to the different countries have been used as a starting-point for this report. The final report for *Family-Based Reindeer Herding and Hunting Economies, and the Status and Management of Wild Reindeer/Caribou Populations* had a formal starting date of November 2002 and was

presented at the Fourth Arctic Council Ministerial Meeting, held in Iceland in November 2004.

The significance of reindeer and caribou to indigenous peoples of the rural regions of the Arctic is clear, and should not be understated. Their value as a principal subsistence resource makes reindeer and caribou a keystone of the Arctic, one that is closely connected to human culture and socio-economic change. In this respect, the sustainability of family-based reindeer/caribou herding and hunting relates to resource ecology, socio-economics, human demographics and the transmission of cultural tradition from one generation to the next, as well as relating to political processes at a regional, national and international level, and to the growth and development of the reindeer/caribou herds.

One important objective of this project has been to provide a general overview of the socio-economic situation of the Arctic indigenous peoples who make a living from herding and hunting-based activities, as well as an overview of the status and management of wild reindeer/caribou. It is generally the case that

many women in reindeer herding and hunting families obtain work outside these activities, in order to generate more income for the family. It is nevertheless apparent that many indigenous peoples are, in fact, dependent on a reindeer/caribou-based economy for their livelihood. In many regions, moreover, families struggle to cope with the co-existence of domesticated reindeer and wild reindeer/caribou. Thus, conflicting interests exist between the indigenous reindeer/caribou herders and the hunters.

North America

In Canada and the United States caribou management is generally a provincial or territorial or state responsibility. The regional jurisdictions set and enforce harvest regulations and are responsible for environmental assessment, land tenure and habitat protection on lands under their administration. Lately there has been an increasing trend to form mutual agreements between Indigenous Peoples and governments to co-manage large barren ground caribou herds.

There are more than a dozen Indigenous culture groups of caribou hunters in North America who over time have developed an intimate relationship with and rich knowledge of caribou and caribou habitat. As the result of government policies and socio-economic development processes, these people today reside in permanent settlements and require cash jobs, formal education, professional health care, infrastructure, and other services.

In the Canadian North, indigenous caribou hunters retain a constitutional right to harvest and use caribou for subsistence purposes, with non-indigenous “resident hunters” holding more restricted harvesting rights. In Alaska, indigenous peoples are not recognized as holding special rights to caribou harvest, but instead assert their legal claims to harvest through a rural-use preference. The rural subsistence priority has increasingly been challenged and today we find a “dual management system” in which hunting regulations differ on US Federal lands and Alaska State lands.

The significance of caribou to indigenous families cannot be understated. Harvest levels of caribou, particularly by indigenous hunters, are not well documented, but its estimated replacement value is roughly 46 million to 54 million US dollars, not accounting for the cost of hunting, processing, and sharing meat. It is important to emphasise that for most Indigenous Peoples of the North American Arctic there is no mon-

etary replacement for caribou, and its value is mainly found in its cultural significance.

Of the total harvest of caribou in North America roughly more than 80 percent is by indigenous hunters for subsistence uses. As noted by many indigenous hunters, subsistence is best viewed as *a way of life* that links the production of wild food resources to indigenous livelihoods, identity, and well being. Indigenous subsistence caribou hunting is part of a mixed economy that is dependent on cash inputs from multiple sources. Although individuals commonly hold the ownership of hunting gear, modern-day subsistence hunting of caribou is not an individualistic endeavour because cooperation reflects systems of sharing among households of a community.

Today in Alaska and Yukon, all commercial meat sales of caribou (and other wildlife) meat are prohibited, although small-scale (individual-to-household) informal exchanges of caribou for cash meat do occur in some regions as part of the subsistence economy. In Northwest Territories, Nunavut, and Quebec, hunting for the resale of caribou meat is legally permitted, given there are no conservation restrictions barring harvesting.

There are currently over 3 million caribou (wild reindeer) in North America divided into four subspecies: First there are the large barren ground herds (*Rangifer tarandus groenlandicus*); second there is the Woodland caribou (*R. t. caribou*), which occupy a geographically broad band of scattered groups; third, the herds of Grant’s caribou (*R. t. granti*) in northern Yukon and Alaska and fourth the Peary caribou (*R. t. pearyi*) on the arctic islands.

The herds are monitored by satellite collars which give researchers good information about the annual movements of the caribou and can therefore refine knowledge of caribou ranges and of overlap between herds. Many factors influence the development of the herds: Disturbances of calving grounds affect the well-being of the large migratory herds, because the caribou need not to be disturbed before, during and after calving. Another factor is the development of Arctic regions that has the potential to disrupt caribou populations as well as caribou hunting. Although there is development within the ranges of all herds, the intensity of activity varies considerably and is considered light in comparison to activity in Russia and northern Europe. Climatic factors such as the timing of river and lake freeze-up, break-up, autumn snow fall, and icing events is a third factor that affect the movement of animals as well as people’s access to them.

There is also reindeer herding in North America, which is much smaller in scale as compared to other regions of the North. Currently, the practice of reindeer husbandry in North America is restricted to a small number of areas, including the Mackenzie Delta region of the Western Canadian Arctic, St. Paul Island, and the Seward Peninsula of Alaska. At present there are 18 permitted “owners of reindeer” on Seward Peninsula of Alaska, two of whom are women. Ownership is legally held by individuals and conveyed by government agencies through the issuing of permits to grazing areas, with average acreage of large operations being one million acres. Following from the Reindeer Herding Act of 1937, participation in the herding industry in Alaska is an exclusive right of Native Alaskans. Recent challenges to that act have allowed non-indigenous reindeer operations in other regions, but only if the stock of reindeer for those operations is acquired from outside of Alaska.

The marketing of reindeer meat in Alaska is at present primarily for local consumption. In many villages of the region, reindeer has become the preferred meat. Reindeer herding on the Seward Peninsula has been and continues to be family- and community-based. Men generally serve as the head of a herder’s household, although women assume an important role in the operations of the family industry. Many of these women also hold seasonal or full-time jobs outside the husbandry. The expansion of the range of the Western Caribou Herd onto the Seward Peninsula has contributed to problems of co-existence between domesticated and wild herds.

Social conditions for indigenous hunting and herding families suggest that while the relationship with this resource remains important and progress is being made to improve the overall living conditions in northern communities, there remain significant problems that have implications to their sustainability. We find lower income and a lower degree of education among the indigenous peoples than other groups in the North American society. Hardship in the cash sector of the economy among rural indigenous peoples implies that access to and the on-going health of caribou and reindeer continue to be important to those with limited alternatives. See recommendations from the ISC pp. 169 - 170.

Russia

The stock of domesticated reindeer is owned by collective and state reindeer enterprises, and by reindeer

herder families (about half the total stock belonging to each). The Russian Ministry of Agriculture manages the reindeer economy at a federal level. The Department of Agriculture within each Regional Administration is responsible for reindeer management at a regional level.

Many of the families are united into so-called clan communities and other new forms of constellations. Reindeer husbandry has adopted several forms during the past century. The reindeer economy has undergone a collectivization process and the industry developed for many years under a planned economy, with strong state support during the Soviet period. Most of the reindeer were placed in large collective/state enterprises that were subject to state ownership. At the same time, the government implemented policies that had the purpose of making nomadic families move into permanent settlements. A consequence of this process has been a disintegration of family-based reindeer husbandry in many regions. Many reforms were implemented in the 1990’s (post-Soviet period), resulting in both positive and challenging consequences. Opportunities for private ownership of reindeer opened up, for instance, as well as the possibility of establishing private enterprises, and so on. On the other hand, state support ceased. This change resulted in a dramatic decrease in the domesticated reindeer population, at the same time as costs became subject to market forces in the transition to a market economy, with the consequence that these escalated considerably. All of this has led to a drastic reduction of income and subsequently poverty for many families.

The historic form of reindeer husbandry practice, where the whole family takes an active part in the different tasks, is dependent on a nomadic way of life. Such participation and co-operation is based on traditional models of herding, where men tend the herd, hunt and fish, while women cook and make clothes, shoes, etc. A nomadic lifestyle still forms the basis of reindeer husbandry and maintains the traditional culture of indigenous peoples living in the Russian North.

One tendency observed over the past few decades is a gradual transition from a nomadic migration of the whole family, together with the herd, to a situation where the women and children spend most of their time in the villages. The main result of this transition has been a reduced female participation; this has consequently transformed the reindeer husbandry into a male-dominated economy, with many bachelors and less participation on the part of the children. A close



Close-up of a traditional brelie goathi construction
Photo: Johnny-Leo L. Jernsletten

correlation between the number of nomadic households and the number of domesticated reindeer has been confirmed by statistical calculations. During the 1980's and 1990's, it was evident that the number of reindeer increased in regions containing large numbers of nomadic families, while the number of reindeer decreased in all other regions. An equal participation on the part of men and women in the reindeer husbandry is only to be found in the nomadic families.

Another challenge is a lack of vital knowledge. Herding and hunting are learned by experience and practice, and it is necessary to take an active part in herding and hunting activities in order to become a professional. However, children now receive formal schooling, which has become a necessary foundation of herding and hunting economies and is perceived as valuable for the children's future. One new concept is the establishment of small nomadic schools in the tundra and taiga regions; these are viewed as a positive element in the goal of establishing/re-establishing family-based reindeer husbandry.

The reindeer herding and hunting families live under difficult socio-economic conditions. Today it is clear that most family-based reindeer economies in Russia are founded on a subsistence economy. In

the 1970's and 1980's, families received relatively high salaries from the reindeer enterprises, but their salaries became insignificant after the transition to a market economy in the 1990's. A consequence of this transition has been poverty for many families.

The income for the families could be much higher if there were better opportunities for value-added production, but present conditions make this difficult. The reindeer herding and hunting areas are far away from the external market. Most of the exchange therefore takes place at the reindeer herding and hunting community's local market. Another important challenge is the lack of infrastructure. Given the large distances between the tundra/taiga and the urban centres, there is a need for modern refrigerator equipment and a rapid means of transportation from the reindeer herding and hunting areas to appropriate storage spaces, in order to maintain a high quality of meat.

Reindeer owners, herders and hunters are also struggling with complicated formal regulations that are difficult to understand, and many indigenous people lack the skills and knowledge required for organizational management. In addition, a situation exists in which the Russian government offers financial support only to the reindeer enterprises; there is therefore a lack of

capital for initial investment. It is clear that conditions are not favourable for indigenous herders and hunters in Russia to establish family businesses. The main commercial meat production is mostly carried out by the reindeer enterprises. These enterprises are therefore the main meat producers within a commercial economy, while families with privately owned reindeer practise a subsistence-based reindeer economy. Most of the meat products and handicrafts that derive from privately owned reindeer are used in the reindeer herder families' everyday life. Handicrafts are a potentially good value-added production resource among the reindeer herder families, but one that is still to be realized.

In addition, the increase of the wild reindeer population has resulted in serious conflicts between reindeer husbandry and wild reindeer in some regions, because domesticated reindeer often follow after the wild herd. In the most vulnerable regions, many reindeer owners/herders have had to give up their reindeer husbandry altogether. It is therefore important for the herders to know the size and whereabouts of the wild herd, in order to prevent such conflicts. The main method of monitoring wild herds is through aerial surveys, but exact estimations are difficult without new methods and proper equipment. Management of wild reindeer includes the protection of small herds and a balanced use of the Rangifer resource. Harvesting is the main factor in regulating wild reindeer populations. Commercial hunting is well developed and, unlike reindeer husbandry, both indigenous and non-indigenous people engage in wild reindeer hunting.

Russia does not have any constitutional legislation regarding the reindeer economy at a federal level. We have, in fact, been able to discover only seven regions that have special laws pertaining to reindeer husbandry. The lack of a basic legal framework prevents reindeer husbandry from elevating its status, and there are no legislative acts to ensure the priority of indigenous peoples in the reindeer herding and wild reindeer hunting economies. The lack of land rights for the reindeer herders is also a serious problem.

Based on the background information collected for this project, we should like to make the following recommendations:

- It would greatly help the situation if legislation was developed further, notably:
 - To determine the status of reindeer husbandry at a federal level, and to prioritize the use of the Rangifer resource on the part of indigenous hunters

- To guarantee indigenous reindeer herders and/or owners rent-free pasture rights, as well as hunting and fishing rights
- To strengthen the protection of the interests of indigenous families who have a private reindeer stock, and the rights of nomadic families.
- The development of legislation pertaining to reindeer husbandry and wild reindeer hunting should be confirmed by bylaw acts and regulations that are adapted to the needs of indigenous herding and hunting families.
- In order to enhance the status of the people involved, and to achieve a more positive socio-economic and political development for the reindeer husbandry, it is recommended that the various reindeer herding organizations be awarded some degree of political participation and involvement in decision-making, as well as financial support from the government within reasonable limits.
- In order to establish family-based reindeer husbandry in Russia, it is recommended that active support be given to the group of herders who are private owners of reindeer, on a level with the support received by the reindeer enterprises. This relates especially to the tundra areas of Yamal-Nenets Autonomous Okrug, a unique region with a high number of nomadic reindeer herder families in the circumpolar area.
- An improvement in the school system would be a helpful step, perhaps along the lines experienced by the establishment of small “nomadic” schools: in this way children gain more practical experience of reindeer husbandry, as well as traditional knowledge.
- In order to make the reindeer economy sustainable, indigenous families should be given responsibility for a larger part of the value-added production. Special regulations for the support of small-scale family businesses for the indigenous reindeer herders and hunters, as well as the development of opportunities for trading in reindeer meat, skins, handicrafts and other traditional products might have a positive impact on the economy.
- Reindeer are the main symbol of traditional cultures in the Russian North. In areas where reindeer husbandry has recently been lost, many indigenous families would like to re-establish family-

based reindeer husbandry. In order to allow this to happen, special support needs to be provided for families who intend to restart this activity.

Sweden, Finland and Norway

In Sweden and Norway, the state management of reindeer husbandry is vested with The Ministry of Agriculture, and in Finland, The Ministry of Agriculture and Forestry, while local and regional management is delegated to institutions, which are reporting to the Ministries. From the 1960s and 1970's onwards, the industry has been fully subjected to and managed by the laws of the nation states. During the past few decades there have been many socio-economic development processes within the reindeer herding communities. Whereas the families used to live in camps close by the reindeer, they now reside in permanent settlements living in the same way as society at large. Despite this development, however, most reindeer herding families still live according to traditional values in modern society. The family/household is the smallest production unit in reindeer husbandry today, and the families live in small local communities with their kin close by. In this way, kinship relations are still highly important to the herding communities, even though the extended family no longer lives in the same home. Despite the changes in living conditions that the reindeer herding communities have experienced, many reindeer owners still maintain a nomadic lifestyle by living in different places during the summer, autumn, winter and spring. In addition, some reindeer owners practise cross-border migration between the different Fennoscandian states, living in one country during the summertime and another in the wintertime.

The seasonal migration of the reindeer herds, as well as the tending, round-up, calf marking and harvesting of reindeer, are events in which almost all family members participate. There is a high degree of co-operation in and between families, as the reindeer are individually owned, but herded collectively. The socio-economic development processes of the past few decades have caused several tasks and employment opportunities in reindeer husbandry to decrease. The rationalization process experienced in Fennoscandian reindeer husbandry has led to a situation where the production units focus more on the production of meat, causing

the processing of by-products to become less relevant. At the same time, the introduction of technology has increased industrial expenses, consequently decreasing the economic surplus for each family. Today, a reindeer owner's average income is lower than the average income among other groups in society. In order to compensate for this lower income, many family members – most often the women – work outside the industry in order to make ends meet. The totally family-based reindeer husbandry, in which all income originates from within the industry, has diminished; nevertheless, reindeer husbandry is still based on a high degree of family co-operation.

Family-based reindeer husbandry is dependent on internal recruitment. Today, most women work outside the industry and they constitute a low degree of ownership within the reindeer husbandry, compared to the men. In Finland, women make up about 25 percent of all reindeer owners, and they generally have smaller herds than men. In Sweden, women own 12 percent of the husbandry units and 7 percent of all reindeer. A similar situation is to be found in Norway as in Finland and Sweden. In Norway, women comprise about 45 percent of all reindeer owners and they own 17 percent of all husbandry units. A woman's average number of reindeer is 51, while that of a man is 141. We also find that women are often involved in the reindeer husbandry on a more formal than practical level, because women are often the main financial contributors, as well as heading the administrative work. In addition, a woman may support her husband during hectic periods, by educating and taking care of the children, and by producing and buying necessary clothes and articles for daily use. Moreover, it is often the case that where there are women there are also children, since women often have the main responsibility for childcare, so participation on the part of young children is dependent on the participation of their mother. The families therefore stress the importance of female participation in reindeer husbandry. This creates a difficult situation, because the family's cash income depends on the woman maintaining a job outside reindeer husbandry.

Another important factor is the children's schooling. There has been an increase in the level of education among children from reindeer herding families, especially among the girls. However, the school year is not compatible with the yearly and seasonal tasks in reindeer husbandry. School knowledge is most often learned at the expense of practical knowledge, although both are important for a future in reindeer

husbandry. Recruitment in the industry depends on children being able to participate in activities that relate to reindeer husbandry. Children are able to participate at weekends and during the holidays. In addition, many schools provide the children of reindeer herder families with the opportunity of taking time off from school, to participate in special tasks such as round-ups, herd separation, marking calves, harvesting for family consumption, etc. Even so, families emphasize that more schools should, as far as possible, give special consideration to these activities, for the sake of the children and the future of the industry. For most families, reindeer husbandry is perceived as a way of life and it is therefore important for family members to take part in one way or another.

In order for family members to be able to take a more active part in reindeer husbandry, it has been suggested that the industry should increase its labour opportunities. The main obstacle to increased participation is the regulation of population numbers. Formal regulations in Sweden, Finland and Norway prohibit an increase in the number of animals in most reindeer herding areas. Even though the reindeer herd is the foundation of the reindeer economy and reindeer activities, there is a general agreement that an excessive number of reindeer is not sustainable for the industry; nor is it thought to be a sustainable use of natural resources. A consequence of such restrictions is that young people are prevented from starting a career in reindeer husbandry, which has consequently increased the average age of the reindeer owners. Value-added production has therefore proven to be one way of increasing labour opportunities, by reviving a more modern type of family-based reindeer husbandry, in which additional family members can take part. The reindeer owners are able to increase the value of the production offered by each reindeer by processing the different parts of the animal themselves, both in terms of meat processing and handicrafts. The reindeer owners are also in a position to establish tourist enterprises.

In general, reindeer herder families seem to find many opportunities for value-added production within the industry. The market for reindeer meat is positive and its potential is increasing steadily. The governments of both Finland and Norway have implemented special programmes to help families establish production enterprises of this kind. Norway has a specific programme for all primary industries, with a sub-programme specially geared to reindeer husbandry. This programme focuses on meat produc-

tion and handicrafts: tourism is not included in this programme. Tourism is a relatively new activity in the reindeer husbandry and Finland has focused on tourism to a greater extent than either Norway or Sweden. Finland has made good progress in the development of tourism, using the reindeer and Saami cultures to promote tourism, and the Association of Reindeer Herding Co-operatives runs a project to assist reindeer owners who want to establish a tourist enterprise.

There are challenges to be faced in the process of establishing a family-based reindeer economy. Many reindeer owners stress the problem of complicated national and EU legislation relating to commercial meat production. EU regulations are very specific with regard to the kind of processing that may be undertaken, and strict rules are in force concerning hygiene and waste handling. Many reindeer owners find it difficult to get an overall sense of these rules and regulations. Another challenge for many reindeer owners is the fact that the regulations are incompatible with the specifics of reindeer husbandry. The characteristics of reindeer husbandry are different to those of agriculture, where the animals are kept in farm buildings. The families emphasize that this difference should be noted in the various regulations. Some families succeed, while others do not, but most families have not yet attempted value-added production.

Wild reindeer are also to be found in Finland and Norway. Finland has wild forest reindeer (*Rangifer tarandus fennicus*), with a population of approx. 2 500, of which individual animals are killed only in order to minimize interaction with domesticated reindeer. Norway has wild reindeer (*Rangifer tarandus tarandus*), with a population of approx. 22-29 000 individuals and seasonal hunting of this species.

Based on the background information collected for this project, we should like to make the following recommendations:

- We should like to lend our support to these recommendations from the *Sustainable Reindeer Husbandry* report:
- The (--) reindeer husbandry is based on the family as a social and economic unit. The development during the last 30 years has reduced the family members' rights and, as a consequence, their involvement in the industry. It is important to strengthen the position of the family through a family-based reindeer husbandry, and reverse the development of the reindeer industry into a special branch of agriculture.

- The positive development of value-adding production must continue in all countries. The reindeer meat is a highly valued product, and the opportunities within the domestic markets are favourable.
- To increase the value-adding production, all relevant information about the rules and regulations applying to meat production and the start-up of small scale productions must be made more easily accessible for the industry and the local governments.

(*Sustainable Reindeer Husbandry* report, 2002, p. 7)

- Historically, reindeer husbandry was carried on by means of cross-border migration between the Fennoscandian states, and this is still the case in many areas. A stronger degree of co-operation between the Fennoscandian states, with a mutual downscaling of national border impediments with regard to reindeer husbandry, could have a positive affect on the industry, which might subsequently result in a positive impulse to strengthen the economy as well.
- Reindeer husbandry has its own specifics, in which climate change and local conditions play a direct role in the annual cycle of production; these set the industry apart in terms of standardized national and international rules and regulations, which assume more or less static working conditions. For this reason, reindeer owners should be given greater flexibility in the specific application of governmental rules and regulations, in order to make reindeer husbandry more efficient as an industry.
- Meat producers are – like everyone else in the food-processing industry – subject to strict regulations concerning hygiene and waste handling. Although the EU criteria are logical and rational, they are mainly intended for large-scale production, which requires sound safety margins. As far as the reindeer industry is concerned, the national authorities' attention should be drawn to ways of combining formal national and international demands with the specific requirements of the reindeer husbandry, in order to avoid unnecessary restrictions being imposed on reindeer owners.
- To ensure its future, the family-based reindeer husbandry is dependent on internal recruitment. Because the upper limit of the permitted number of animals has already been reached in many geographical areas, it is difficult for the younger generation to obtain a footing in the business. Older people are currently responsible for the dominant part of the reindeer husbandry. There is consequently a definite need to secure recruitment from the younger generation, in order to ensure continuity within the industry.
- The splitting up of families due to schooling is a two-headed issue. A more flexible school system might prove positive for the families, if this can meet the children's need to be better prepared for reindeer husbandry without compromising their formal education. It is important that reindeer herder families should be informed about legislation, and the possibilities that exist in combining these two conflicting needs, but also that the necessary legislative adjustments should be made to provide a viable solution.