

Securing the commons No.11

Pastoral dilemmas
in a European
context: the case
of reindeer
rangelands in
sub-arctic Norway

Andrei Marin

May 2005



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About the authors

Andrei Marin has an MSc in natural resource management from the Department of International Environment and Development Studies (Noragric) at the Norwegian University of Life Sciences (UMB). His research experience and interests include: human-environment vulnerability and resilience in a multi-stressor context; pastoralism in extreme environments, nomadism; socio-economic-ecological interactions, integrative approach to sustainable development; impacts of national and international policies/agreements on sustainable development. Currently, Andrei Marin is pursuing a PhD researching the vulnerability of pastoral communities in Central Mongolia (amarin@student.umb.no).

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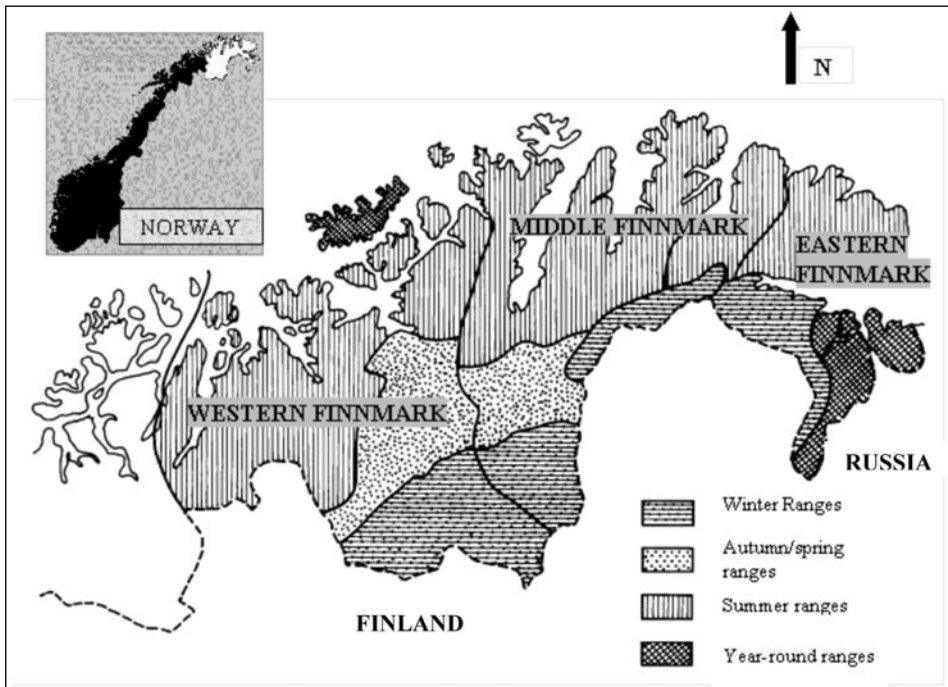
Photo: Josie Teurlings

Reindeer at Easter festival, 2002

Introduction

Pastoralism – broadly defined as the use of extensive grazing for livestock production (Behnke, 1993) – is one of the main production systems throughout the world. Thousands of kilometres apart, from the Sahel to the Himalayas and from the Andes to Siberia, living in different cultures and ecological features, nomadic pastoralists share very similar ways of life, values and mentality. As their rangelands are often prone to climatic fluctuations and variable grazing resources, pastoralists require land tenure systems that enable flexible arrangements while securing rights of access to resources (Fernández-Giménez, 2002).

Throughout the world, pastoral systems have been subjected to increasing pressure from many sources. Thus, they are very often affected by policy decisions that favour



interests like conservation and commercial farming. This often results in the exclusion of pastoralists from their traditional lands and in the degradation of the resource base (*ibid.*).

This paper describes an example from a very specific ecological and economic setting, yet relevant to pastoralism worldwide. The semi-nomadic reindeer herders in sub-arctic Norway are part of the Sami minority, which spreads all-over north-central Fennoscandia and part of the Kola Peninsula. The paper focuses on reindeer herding in Inner Finnmark.

Recently, the pastoral system in sub-arctic Norway has been portrayed as a typical example of the “tragedy of the commons” theory (Hardin, 1968). This theory states that whenever the behaviour of a group managing a common resource is not externally regulated, the individuals will pursue their personal interests at the expense of the group – they will increase their herds and thereby contribute to the degradation of grazing resources. This standpoint has been supported by a series of surveys (e.g. Orvik & Prestbakmo, 1990; Johansen & Karlsen, 2000) that point to a severe degradation of the common lichen ranges and explain it as a consequence of the excessive pressure imposed on the resource by too large stocking densities. This point of view, produced by the central administrative bodies (hereinafter ‘the State’) and reproduced by the media in dramatic tones like “environmental catastrophe” or “irresponsible management”, has provided the needed legitimacy for a strict state control of the reindeer herding industry as a whole. The Sami herders have a different view of the problem and propose a different solution. In the light of this, the paper reviews and challenges official “discourses”, and attempts to ‘tell a better story’ (Roe, 1999) about the sustainability of the common reindeer ranges in Finnmark.

The traditional rangeland management system

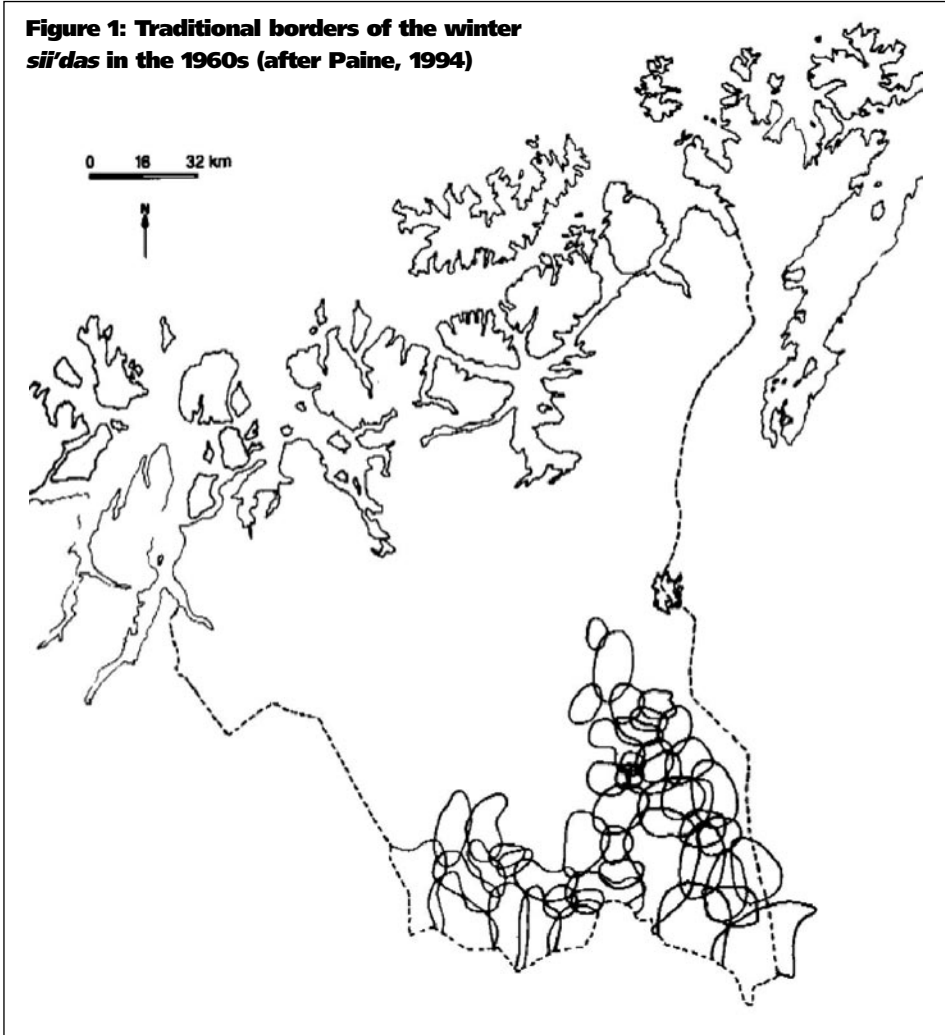
The interaction between hunters and reindeer in Finnmark is documented as early as 4000 B.C. (Bjørklund, 1990). The domestication of reindeer probably began with the seasonal migration of hunters following food resources available – reindeer and other game, fish – and trading opportunities with sedentary and coastal groups (*ibid.*). At this stage, herding constituted a complement to the main livelihood source – hunting.

In the 18th century, demographic growth and pressure from outsiders (fur traders, Finnish immigrants) resulted in increases in herd sizes. The owners of larger herds gave up hunting altogether, as they had no time or need for it (Leem, 1767). With increasing herd sizes came the need for larger grazing areas and well-defined but flexible, territorial arrangements (Beach, 1981), which would allow herds to opportunistically use the most favourable ecological conditions. These territorial patterns were followed until recent times. This system, called *johtolat*, consists of transhumance tracks (*johtingeaidnu*) and grazing areas within a delimited zone (called *orohat*: *geasseorohat*, summer range, *dálveorohat*, winter range; Sara 2001). In Western Finnmark, there are three *johtolat*: Oar'jebealli ('Western'), Nour'tabealli ('Eastern'), Gow'dojotellit ('Middle') (*ibid.*).

Herds belonged to households (*báiki*), which grouped and regrouped during the year to form unions (called *sii'da*). The structure of a *sii'da* at any given moment is a consequence of both ecological requirements and social structure. During the summer, when the animals graze on islands and peninsulas on the coast, the *sii'das* should be large enough to exploit these resources. During the winter, pastures are spatially scattered and herds need to be smaller and more mobile. In spring (the calving season) it is very important (especially for the pregnant does) that herders take their animals to patches of good pastures (scarce by then) (Paine, 1994).

Over time, *sii'das* acquired collective user rights over pastures in a given area. Whenever the size of the herd held by a *sii'da* changed, the size of its grazing area varied accordingly. This resulted in overlapping boundaries and reciprocal

Figure 1: Traditional borders of the winter *sii'das* in the 1960s (after Paine, 1994)



arrangements (see Figure 1). For example, if a *sii'da* does not have enough animals to use all of its grazing resources, a neighbouring *sii'da* may use the surplus without the need for a formal agreement (Paine, 1994). Rules allowing and regulating seasonal herd movements (e.g. transhumance tracks and calendars) avoided pasture degradation.

3 The intervention of the State and its consequences

This flexible pattern of resource use has been undermined by the legislative and institutional arrangements established by the State. At the end of the 19th century, the State introduced a set of norms that are largely still in force today (Berg, 1994): a) *Reindeer districts*: grazing lands were subdivided between administrative districts; b) *Reporting requirements*: herders moving into a new district (even seasonally) had to inform the local authority; c) *Collective responsibility*: if a herder caused damage to crops in one area, all of the herders in that area had to compensate for the losses.

This approach was underpinned by the idea that herding was an inferior stage in the transition towards sedentary farming (Bull, 1997, Berg, 1994). In this context, herders became powerless in decision-making concerning how to use their resource, as control moved into administrative hands. Thus, reindeer district boundaries were set by commissions appointed by the government and composed mainly of representatives of government and landowners (Haarstad, 1992: 288).

A new law passed in 1933 reinforced these principles, favouring agriculture over herding. It gave more power to the central administration to define the boundaries between spring/autumn, summer and winter pastures, and the schedule of movement between them. Moreover, it capped the number of animals a herder could own; it limited the number of reindeer in a given district; and it retained the power to ban herding in certain areas upon proof of it damaging the agriculture, livestock, forestry or fodder resources (Severinsen, 1979).

However, after World War II, the attitude of the Norwegian State and of society at large towards the Sami herders improved. Although the unfavourable policy framework described above remained in place, the State introduced subsidies to support the Sami and promote a more 'efficient' production system (subsidies for fences, for slaughter houses and for the purchase of live animals and snow scooters etc.) (Falkenberg, 1985).

In 1978, the Reindeer Management Act introduced three administrative levels: 1) the local District Boards (*Distriktstyret*), formed by reindeer herders, and responsible for coordinating management activities and for sanctioning violations, 2) Regional

Boards (*Områdestyret*), responsible for regulating relations between districts, and 3) the national Reindeer Herding Board (*Reindrifststyret*), to advise the government on policy and budget (Bull, 1997; Jentoft, 1998). While the Regional boards and the Reindeer Herding Board are appointed both by the Ministry of Agriculture and the Sami Parliament, herders are a minority in this apparatus.

The main aims of the 1978 Act were to increase meat production, maintain the Sami culture, help the herders have a stable economy and maintain a settled presence in the northernmost areas of Norway. The Act created a decision-making system based on economic and ecological data but without real links with the cultural identity of the Sami pastoralists (Karlstad, 1997; Paine, 1994).

Essentially, the 1978 Act was aimed at reducing the numbers of herders and herding groups (*sii'das*), assuming that a more equal distribution of animals between a smaller number of herders could provide the desired economic and ecological stability of the industry. To this end, the Act introduced the Herding Unit as the main administrative entity for the industry (Riseth, 2000) and required that all the domesticated reindeer in Norway belong to a herding unit. Only those that descend from a Sami family that had practiced herding as their main livelihood, and that are registered with a herding unit can own reindeer. The government retains discretion in deciding whether people meeting these two requirements should be allowed to practice herding. The law does not mention the criteria to be used in this assessment, leaving wide discretion to local District Boards. These boards are elected by and among the herders, larger units getting more votes and being thus better represented in decision-making. Therefore, larger units have both the incentive and the opportunity to hinder the acceptance of new herders. This situation has been in effect to the present day and is often considered an attempt at superimposing an "agriculturalist" management system upon the traditional one (Paine, 1994).

While the summer ranges are clearly delimited under the 1978 Act, the autumn/spring and winter ranges were declared as "commons" and left to traditional management practices (NOU, 1978). The provisions fail to mention what regulations are to be followed for this purpose, and what authority should be governing them. This situation led in effect to an erosion of the customary tenure systems and, in the absence of a functional alternative regime, created a situation of *de facto* open access to resources. This in turn led to a disparity of treatment: herders from the inner summer districts (i.e. those having grazing rights on the mainland, as opposed to on islands and peninsulas) have also access to the common autumn/spring ranges during the summer. They are able to use these ranges intermittently during summer against the schedules imposed by the administrative system and thus expand dramatically compared to the outer summer districts (Riseth, 2000).

From 1979 to 1989 the official number of reindeer owned in Norway increased from 124,000 to 247,200 heads (*ibid.*). In Western Finnmark, stocking levels fluctuated between 40,000 and 60,000 heads between 1800 and 1970. Here herd size constantly increased during the 1980's, culminating to at least 100,000 animals around 1990. While part of the increase can be explained by inaccuracy in reports (initially the Sami paid taxes according to the number of animals owned, so they had an incentive to under-report stocks), the increase is evident. However, in the 1990s, the numbers of



Photo: Josie Teurlings

Group with snow scooter

animals began to decrease, giving the State the opportunity to link it to the degradation of the lichen mats (documented by satellite pictures and field studies) caused by too many reindeer (Ims & Kosmo, 2001) and legitimising stock reductions as a solution to the degradation of the lichen ranges.

In 1998, a committee appointed to revise the law and propose changes in order to achieve the sustainability goal pointed out the need for stronger decision-making power for reindeer herders, under supervision of government authorities. It also suggested replacing the Herding Unit system with one based on *sii'da* units (*ibid.*). At the same time, it proposed the allocation of the remaining "commons" (the autumn/spring and winter ranges) to *sii'das* following agreements between these on rules for transhumance and other aspects (*ibid.*).

While these proposals appear to grant greater recognition to the traditional system, they are still based on the old management model: they assume a univocally determined "carrying" capacity and the need for individualized property rights over rangelands. These assumptions are challenged by many Sami reindeer herders, who stress the need for a system based on flexibility and opportunism, where resource use is affected by variable resource quality as a result of geology, topography, and fluctuating climatic conditions such as snow characteristics and rainfall.



Photo: Josie Teurlings

Reindeer taking a break at a traditional festival, Spring 2002

4 Conflicting management views

Herders point out that the ecological, economic and social model used by the State does not reflect the reality on the ground. The model is the outcome of a failure to understand the herders' way of life. State regulations, they argue, replaced local management systems based on local culture and reciprocal social relations with a system of administrative bodies. In so doing, they have undermined traditional systems without providing a functional alternative. For instance, while herders may be best placed to monitor compliance with management rules, they cannot impose sanctions, as this power is not conferred to them by the law. On the other hand, the boards created by legislation to mediate on disputes between herders lack real power and enjoy little legitimacy among herders.

On the other hand, State authorities promote a discourse that draws legitimacy from two sources. First, it is the right and duty of the State to protect the lichen ranges from ecological degradation. Secondly, as the State has to ensure the well-being of all its citizens, it is its duty to ensure the economic sustainability of the livelihoods and culture of the Samis. State institutions maintain that for large parts of the commons in Finnmark, the crisis is a fact, and requires strict regulation. This approach is in line with the theory often used in rangeland management throughout the world: the "tragedy of the commons".

This theory is based on three assumptions. First, the resources (ranges) are open to all; second, the individual herders behave so as to maximise their benefits at the expense of the group; third, the resources are limited and cannot sustain the ever-increasing demands of the herders. Thus, individual interests of the herders (owning as many animals as possible) and the collective interest of the group (having "sustainable" resources) do not coincide, and no internal institution has the power to ensure that they do. Consequently, without external control, the situation will lead to the degradation of the resource.

Therefore, efficient use of the resources requires a limitation of the herd size and a careful distribution of the pastures. However, since the herders will not limit the size of their herd unless all the others do, this course of action requires an external organisation (i.e. the State). The situation will only be stabilised under an enforced

optimal distribution of resources in the best interest of both individuals and the group.

This paradigm has received strong support and shaped policy-making regarding pastoralism all over the world. Its advocacy for privatisation of common-property resources as the best way of managing the resources appealed within the political climate of the Cold War and perpetuated to recent years in the paradigms of mainstream sustainable development approach (Adams, 2001:103). In Finnmark, it forms the basis of the regulation mechanism implemented by the State, manifested not only in the concepts and models accepted but also in explicit statements used to justify the need for intervention:

“Such is the situation today, that large parts of pasture resources in Finnmark are managed in principle as a common resource with open access for a larger number of herders. This brings about a ‘game’ between common and individual interests, which are conflicting. The common interest is to ensure a maximum sustainable yield, while individual interests are concerned with how this yield is distributed. This game is governed by the fact that the advantages from appropriating more from the resource accrues only to the individuals while the disadvantages are equally divided to all. If the ‘game’ doesn’t come under control, it will sooner or later end up in a resource crisis for every one. For large areas of the common ranges in Inner Finnmark this resource crisis is now a fact.”(Reindriftforvaltningen, 2002: 34-my translation).

Beyond the opposing views of the State and of the Samis, the “tragedy of the commons” has also been at the centre of a range of arguments put forward by researchers and commentators. Berg (1995), for instance, argues that the Norwegian State played an important role in the degradation of natural resources by allowing other interests to gradually encroach onto the areas traditionally used for reindeer herding. This argument is supported by the evidence of an increased number of fences, huts, roads and power-lines built in Finnmark during the last 40 years. This increase determined both a reduction of vegetation cover and, more importantly, it fragmented the reindeer grazing ranges and constrained herd mobility, leading to significantly increased grazing pressure along fences and other infrastructure (Vistnes & Nelleman, 2001). Loss of access to strategic grazing resources (resulting from constrained movement) has important negative consequences for both rangelands and herds. For instance, at the end of the winter, the higher, sunnier ridges are snow-free first, and if the winter has been ‘bad’ (plenty of snow, frost, etc.), this key resource can make the difference between life and death for the reindeer. Moreover, if a cabin is built on the ridge, the reindeer would avoid the valley underneath as well (Sara, 2001), increasing the loss and decreasing the quality of the range from the perspective of varied landscape (*souitãe*) important for the herders.

More broadly, it has been argued (Brox, 2001) that the subsidy policy of the State and broader social change have increased the pressure upon the ranges. First, the profound changes in the society (sedentarisation, permanent schools for children, etc.) have changed the nature of herd mobility: in order to spend more time with the sedentary family, herders needed faster transport than that provided by reindeer. This underpinned a spread of snow-scooters, 4-wheel drives, and other mechanised means of transport. While this change would have probably taken place anyway, the subsidies paid by the state have arguably increased demand for such means of transport. This brought about increased pressure on the lichen ranges and possibly degradation, as scooters and four-wheel drives reduced accessibility (through snow packing) and breaking of lichen mats.

Nevertheless, the effects of mechanisation go far beyond pressure on lichen: mechanisation increased the need for a monetary economy, and the costs related to herding (fuel, maintenance, etc). Thus, households had to increase the size of their herds in order to survive. Furthermore, as the traditional rules of use were undermined by the new laws, access to common rangelands is *de facto* on a 'first come, first served' basis, triggering a 'race' from summer pastures to autumn and winter ranges. Thus the scooter became indispensable for any herder, not only for the ones with larger herds.

This is the position argued by Ottar Brox (2001) regarding the use of the tragedy of the commons paradigm: "Most tragedies start to develop and are attended to when the commons are no longer accessible to the commoner, but only to the select minority that has been able to stay in the rat race for what remains of the free natural resources." Thus, the present resource problems have not come about through horizontal (population) growth but through vertical growth (the transformation of exploiting units into expansive economic actors as a result of the government policy stimulating expansion).

Here a series of unexpected results seems to come into play as a result of the cultural and strategic differences in the two discourses. As the subsidies decreased the need for money, the herders increased their herds. This acted as an insurance against the fluctuating environment, and followed economic and cultural motivations (traditionally, prestige was derived from having a 'properly acquired' large herd, that is from having the knowledge and stamina to maintain control over it) (Paine, 1994). The subsidies intended to reduce the numbers of animals, were used opportunistically: while the total number of animals decreased, the number of does increased creating potential for a new, and constant increase (Mosli, 1996).

The demands of the Sami herders converge toward a central theme: stronger rights over the ranges, and a system of property rights that puts the traditional ways of

management on the legal map. The herders stress the need to have private rights for the territory of each *sii'da* but resent the idea of exclusivity *as such*, they argue instead for excludability. In other words, the regime should provide legal recognition for the collective rights each *sii'da* has to their own traditional ranges but, equally important, it should introduce a system of 'management boundaries' adjustable to the size of the herds of each group at any given time. As a consequence, each group would have clearly recognised traditional borders and inside these, fluid management borders that would allow neighbouring *sii'da*'s to use the remaining pasture on the ranges of neighbours.

The regime proposed by the Samis is basically an expression of the traditional herding system and their interpretation of the dangers of privatisation for the interests of different groups of actors involved in managing the ranges. As Brox (1998) explains, armed with the "tragedy of the commons" theory, the largest reindeer owners have argued for the privatisation of pastures and formed coalitions with strong market-liberalist forces of the Norwegian political centre. They have influenced the decision to build reindeer fences between the summer districts and the commons (autumn/spring ranges), thus providing material infrastructure for privatisation. This course of action was possible as it was in line with the policy to induce as many owners of smaller herds to leave the industry, thus leaving the bigger herders better off. The same policy has been employed in the fishing industry in Norway, where small-scale fishing has been constantly undermined and eliminated with the goal of promoting a 'viable and sustainable' filleting industry. The result was the depletion of the stocks of cod and the degradation of the industry as a whole. The fear is that the same thing would happen with the reindeer trade should the rights to graze be privatised (*ibid.*).

While the recommendations put forward by the government appointed committee call for a central role to be given to the *sii'da*, they maintain old assumptions regarding the tragedy of the commons and the need for state regulation. On the other hand, herders' counter-narrative argues for the devolution of power to the local level and for the creation of a forum with real powers that can mediate between herders and enable them to solve their problems internally. This is in line with the traditional system that allowed local decision-making in the face of continuous change, and a well-informed, opportunistic behaviour to make the best of the unpredictable ecological context.

Conclusion

5

The situation presented in this article is alas not unique: across latitudes, pastoralists are confronted with challenges in the form of poverty, insecurity, marginalisation or segregation. In Finnmark, today, both herders and State acknowledge the need for a change in the management system. A commission of legal experts, herders and administrators has been appointed to produce a proposal for the new regulation system.

This paper has tried to shed some light on the challenges confronting common reindeer rangelands in Finnmark and on the competing narratives about them. On the one hand, the present management system and legal provisions rest on the assumptions of 'the tragedy of the commons' in the absence of state-intervention and regulation. This management strategy is based on the formalisation of an individualised tenure system, rather than an opportunistic one responding to complex variation.

On the other hand, Sami herders emphasise their need for secure access to resources, more than for a formalised tenure system. They call for a system that allows flexibility in using the resources according to variability, and that at the same time provides an effective way of regulating resource access. This system is a response to the fluctuations affecting the resource, and presents the relation between reindeer and pastures as fluctuating in time and space.

These two competing narratives raise the need for further research to establish scientifically the relevance and applicability of those narratives. And, herders must be in a position to define the development of their enterprise by setting its goals (which can be as varied as meat production or culture preservation) and the ways to achieve them.



Photo: Josie Teurlings

Reindeer at Easter festival, 2002

Bibliography

- Adams, W., 2001: *Green Development: Environment and Sustainability in the Third World*. London: Routledge.
- Behnke, R. H. et al., 1993: *Range Ecology at Disequilibrium. New Models of Natural Variability and Pastoral Adaptation in African Savannas*. Overseas Development Institute, London.
- Berg, Bård A., 1994: *Fra veidekultur til Reindriffts Avtale: on tamreindriften historie i Norge*. Bodø: Bodø.
- Berg, Bård A., 1995: Government Intervention into Reindeer Management in Norway: Has it Prevented or Provoked "Tragedies of the Commons"? Legalising the Commons, IASCP Conference in Bodø, Norway.
- Bjørklund, I., 1990: *Sami reindeer pastoralism as an indigenous resource*. In *Development and Change* 21(1), p.75-86.
- Brox, O., 1998: *The politics of common resource management. In Commons in a cold climate. Coastal fisheries and reindeer pastoralism in North Norway- the co-management approach*. Jentoft, S. (ed.). UNESCO-Paris, 1998.
- Bull, K. S., 1997: *Studier i Reindrifftsrett*, Oslo, Tano Aschenhoug.
- Falkenberg, J., 1978: *Om Øremerking av rein hos Røros-smene*. In *Kultur på karrig jord: festskrift til Asbjørn Nesheim*. Oslo: Norsk Folkemuseum.
- Féranandez-Giménez, M.E., 2002: *Spatial and Social Boundaries and the Paradox of Pastoral Land Tenure: A Case Study from Postsocialist Mongolia*. In *Human Ecology* 30 (1), 2002.
- Galilea, P., 1998: *The Unsuccessful Privatization of Common Property in Spain: Forests and Pastures (A Law and Economics Perspective: The Galicia Case)*. <http://dlc.dlib.indiana.edu/documents/dir0/00/00/00/50/dlc-00000050-00/galilea.pdf> (accessed, May, 2003).

- Haarstad, K., 1992: *Sørsamiske historie: ekspansjon og konflikter i Rørostraktene 1630-1900*. Trondheim: Tapir.
- Hardin, G., 1968: *The Tragedy of the Commons*, in *Science*, 162:1243-1248.
- Ims, A. & A.J. Kosmo 2001: *Høyeste reintall for distriktene i Vest-Finnmark- Høringsdokument*, Reindriftsforvaltningen.
- Jentoft, S., 1998: *Allmenningens Komedie: Medforvaltning i fiskeri og reindrift*, Oslo. Ad Notam.
- Johansen, B. & S.R. Karlsen, 1998: *Endringer i lavdekket på Finnmarksvidda basert på Landsat 5/TM data*. NORUT IT/ Rapport; IT475/1-98. 12s.
- Karlstad, J. K.H., 1997: *Reindriftspolitik og Samisk Kultur- En Uløselig Konflikt?*, University of Tromsø, Tromsø, Norway.
- Leem, K., 1767/1978: *An account of the Laplanders of Finnmark*. London: University Microfilms.
- Mosli, J.H., 1996: *Reindriften i Finnmark, hvorfor kom den i ulage på 1980-tallet?* In *Ottar* 211 (3): 39-42. Tromsø. University of Tromsø.
- NOU (Norges Offentlige Utredninger), 1978: 18 A: *Finnmarksvidda: Natur-Kultur*. Oslo.
- NOU (Norges Offentlige Utredninger), 2001: 35: *Forslag til endringer i Reindriftsloven*, Oslo.
- Orvik, P. and H. Prestbakmo, 1990. *Beiteundersøkelser. Fellesbeiteområdene i Vest-Finnmark*. Reindriftsadministrasjonen, Alta.
- Paine, R., 1994: *Herds of the Tundra: A Portrait of Sami Reindeer Pastoralism*, Washington D.C., Smithsonian Institution Press.
- Reindriftforvaltningen, 2002: *Ressursregnskap for reindriftnæringen. For reindriftsåret 1 april 2000- 31 mars 2001*, Alta. http://www.reindrift.no/filarkiv/ressursregnskap_00-01/ress1.htm (accessed March, 2003).
- Riseth, J.Å., 2000: *Sami Reindeer Management under technological change 1960:1990. Implications for common-pool resource use under various natural and institutional conditions*. PhD. Thesis- IØS/NLH, Aas.

Roe, E., 1999: *Except-Africa: Remaking Development, Rethinking Power*. New Brunswick, NJ: Transaction Publishers.

Sara, M. N., 1993: *Reindriftnæringens Tilpasning og Reindriftspolitik*, Del 2.

Sara, M. N., 2001: *Reinen- et gode fra vinden. Reindriftstilpasnings former i 'Kautokeino*. Davvi Girji, Karasjok.

Severinsen, A., 1979: *Oppretelse av reinbeitedistrikt i Sør-Norge- overgrep eller tilrettelegging*. In *Ottar* 116-117: 38-54. Tromsø.

Vistnes, I. & C. Nelleman, 2001: *Avoidance of cabins, roads, and power lines by reindeer during calving*. *Journal of Wildlife Management* 65: 915-925.

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Co-govern brings together institutions working on the governance of common property resources (CPRs) in Europe and Africa and has three main objectives:

- To examine the changing status and availability of CPRs in Africa, and to review experience with different forms of institutions for managing these resources.
- To investigate current processes of legislative and policy change affecting land and CPR management in Africa, and to identify how lessons from local practice can inform and influence policy design and implementation.
- To share information, experience and ideas on land matters and CPR management across Europe and Africa.

Co-govern pursues these goals by building on the research and networking activities of its partner organisations, by providing opportunities for dialogue and exchange and by supporting the dissemination of knowledge and information.



The programme involves seven partner institutions: IIED, which acts as programme coordinator; Caledonia Centre for Social Development, Scotland, UK; Noragric, Norway; Roskilde University, Denmark; Programme for Land and Agrarian Studies (PLAAS), University of the Western Cape, South Africa; Resource Conflict Institute (RECONCILE), Kenya; GRAF, Burkina Faso.

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For more information and submission of manuscripts please contact: Drylands Programme, IIED, 3 Endsleigh Street, London WC1H 0DD, United Kingdom.
E-mail: drylands@iied.org

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