VFA in reindeer. It is recommended that leafy timothy rich in easily digestible carbohydrates and proteins preserved as hay is used as emergency feed for reindeer in winter.

Olsen's studies were supported by grants from the Norwegian Reindeer Husbandry Research Council under the

auspices of the Norwegian Ministry of Agriculture, from the Norwegian Research Council, from the University of Tromsø, the Roald Amundsen Centre of Arctic Research, and from Kjellfrid and Helge Jakobsens Foundation at the University of Tromsø.

On June 22, Cand. Agric. Jan Åge Riseth successfully defended his dissertation "Sámi reindeer management under technological change 1960-1990: Implications for Common-Pool Resource Use Under Various Natural And



Institutional Conditions. A comparative analysis of regional development paths in West Finnmark, North Trøndelag, and South Trøndelag/Hedmark, Norway." for the degree Dr. Scient. at the Agricultural University of Norway (AUN), Dept. of Economics and Social Sciences.

His supervisor has been Professor Arild Vatn (AUN). The evaluation committee consisted of Prof. Daniel Bromley, University of Wisconsin, Madision, USA, Prof. Carl Erik Schultz, University of Tromsø and Assoc. Prof. Olvar Bergland, AUN.

The dissertation is a monography, and aims to explain why the development paths of reindeer management in Finnmark and Trøndelag have been so different in the period studied. While Trøndelag during the 1980s has prospered, most of Finnmark at the same time developed an accelerating overgrazing of vulnerable lichen pastures.

Riseth's basic approach is the multidisciplinary "Institution and Development (IAD) Framework". The framework analyses both ecological and socioeconomic factors, and is developed in the research environment around Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington, USA. For the ecological factors Riseth has developed a new herbivore-pasture model for grazing seasonally at lichen winter pastures and "green" summer pastures. The main ecological factors analysed are pasture balance and landscape structure, while hypotheses are developed for a series of socio-economic factors.

The empirical analysis is comparative contrasting West-Finnmark (denoted North) with Trøndelag (denoted South). Riseth finds that under technological change (motorization) in the North both ecological factors are in favour of herd-expanding strategies, while they in the South support herd-stabilising strategies. In the North both (1)summerpasture limitation and (2) a relatively open land-scape with weak natural borders between season pastures, facilitate a gradual out of season grazing from the midst of the 1970s and throughout the century.

For the socio-economic factors Riseth finds that the more extensive exposure to the pressure from the expanding Norwegian farmer society and the resulting Sámi organisation efforts from early in the 20th century, made South herder leaders better prepared for the changes from the 1960s than their fellows in the North. South herders have developed trust and co-operation with the extension service. In accordance with this the main adaptation strategy in the South seems to have been herd stabilisation and production increase, while the main strategy in the North seems to have been competitive herd expansion. In the North the influence of groups being the relative winners of the pasture competition also seems to have been an obstacle for the herder society to take action against the overgrazing.

Riseth was born in 1953 in Snåsa, North Trøndelag. He earned his master degree in natural conservation management at AUN in 1979 with a thesis within vegetation ecology and conservation. He also has studied land use planning, law history and public management. He was a co-worker of the Norwegian Reindeer Husbandry Administration (Reindriftsforvaltninga), Alta, for practically the whole 1980s as "Statskonsulent i reindrift" (Vice Director of Planning, Extension and Information Services) and editor of the Norwegian information journal of reindeer husbandry "Reindriftsnytt". He

has worked on many fields related to reindeer management. Most of his writings on the subject is reports, notes and case documents filed in Alta. In 1992 he published the textbook "Reindriftsforvalting" (Management of reindeer husbandry).

In 1990-1992 Riseth was a land use planner of Narvik municipality. Since 1992 he has been an Assistant Prof. at the University College of Narvik. From 1998 he has headed the Division of Environmental Engineering. Riseth has published on issues of waste management. His dissertation research was included in the Norwegian part of the UNESCO research program "Man and Biosphere" (MAB), where he had a scholarship (The Norwegian Research Council, NFR) for the period 1994-1997. In 1996 Riseth was a Visiting Scholar at Indiana University, Bloomington, USA. Since 1999 he has been a member of the working committee of Circumpolar PhD Network in Arctic Environmental Studies (CAES Network) and one of the

organisers and lecturers of the interdisciplinary and travelling Ph.D.-course "Reindeer as a keystone species of the North" arranged in Finland, Norway and Russia.

Riseth continues his work in Narvik as an associate professor lecturing ecology, land use planning and resource economics. He is planning further research on reindeer management both oriented towards traditional ecological knowledge and towards property rights issues.

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