

1 The Challenges of Modernity for Reindeer Management in Northernmost Europe

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1.1 Introduction: The Research Setting

This book presents the combined results of a research and development project funded by the European Union's 5th Framework Programme of 2001–2004. The full title of the project was “The challenges of modernity for REiNdeer MANagement: integration and sustainable development in Europe's subarctic and boreal regions (RENMAN)”¹. Within this Framework Programme, RENMAN was funded under the Key Action “Quality of Life and Management of Living Resources” (Contract QLK5-CT-2000-0745). This portion of the program mandated that funded research aim toward (1) “the design and negotiation of policies that will have a direct impact on the local conditions and prospects for securing an acceptable level of quality of living”, and (2) “the continuation of appropriate management regimes for the utilization of living resources locally and regionally within the European context”. As such, it called for a direct role for local stakeholders – in this case reindeer herders – in the process of policy-relevant research and for the use of historical trends to facilitate adaptation to future changes. In these aims, RENMAN is quite similar to other EU-funded research projects that focus on particular species in northernmost or Arctic Europe to provide stakeholders and policy makers with a predictive framework of outcome for land use in fragile ecosystems, such as the projects “HIBECO” (Wielgolaski 2005) and “FRAGILE”.

The purpose of RENMAN was therefore to develop new tools and models of participatory research and planning in reindeer management that would foster integrated and sustainable use of reindeer (*Rangifer t. tarandus* L.) and related living resources in northernmost Europe (for the natural history of the reindeer see Preface to Part I). Reindeer management is among the most

¹ The acronym “REN” (“ren” = “reindeer” in German and Scandinavian languages) stands for “reindeer” and “MAN” for “management”.

important mutually competing activities using natural resources and the environment in the Barents Euro-Arctic Region (BEAR). It is also one of the oldest and most resilient forms of livelihood in the region. Reindeer are a living resource central to the culture of many northern circumpolar indigenous peoples, including the Sámi, as well as non-indigenous peoples in some areas, e.g., in Finland and Russia.

RENMAN was conceived as a 36-month project comprised of 12 tightly integrated subprojects or “workpackages” (referred to as WPs in this book) divided among nine partner institutes in five countries.² The project investigated both the human dimensions and natural conditions of reindeer management in order to formulate sustainable future scenarios. To achieve efficient integration of the workpackages, an integrative systems analysis was conducted to assist the whole project in problem distinction, system identification, interdisciplinary understanding, and sustainability evaluation (Chap. 16). The results presented here therefore provide a complex picture of the position and role of reindeer management in both the physical environment and cultural landscape of the research region.

Local study areas were selected in subarctic and boreal Fennoscandia and the adjoining Kola Peninsula (Fig 1.1), with special emphasis on the traditional homeland of the Sámi, Sápmi.³ Multiple research localities allowed for comparisons through the application of standardized research methods. The precise study sites were selected in conjunction with herders during interviews and field excursions at the start of the project in winter/spring 2001 and aimed to represent the variability in management within a representative portion of the reindeer herding area. In fact, during each phase of the project – conceptualization, implementation, and reporting – herders were integral participants as practitioners and researchers alongside external scientists (Fig. 1.2). The project involved herders from northern Finland, Sweden, Nor-

² Arctic Centre, University of Lapland, Finland (coordinator, principal contractor); Department of Geography, University of Oulu, Finland; Finnish Forest Research Institute, Rovaniemi, Finland; Helsinki University of Technology, Espoo, Finland; Christian-Albrecht University, Kiel, Germany; The Norwegian Crop Research Institute, Tromsø, Norway; Dept. of Social Anthropology, University of Tromsø, Norway; Institute for Cultural Anthropology and Ethnology, Uppsala University, Sweden; Institute for Anthropological Field Research, New Bulgarian University, Sofia, Bulgaria.

³ We gratefully acknowledge the active participation and tremendous input of the many reindeer herders, their families, communities and organizations that are not listed in the formal authorship of this book, but who contributed to our collective understanding of reindeer management in many important ways. Without this generous assistance and mutual trust the project would not have been possible. We are pleased that this experiment in participatory research has been deemed a success in the local communities involved and sincerely hope that the new approaches to research tested here, and the resulting management proposals, can lead to further discussion and implementation in the future.

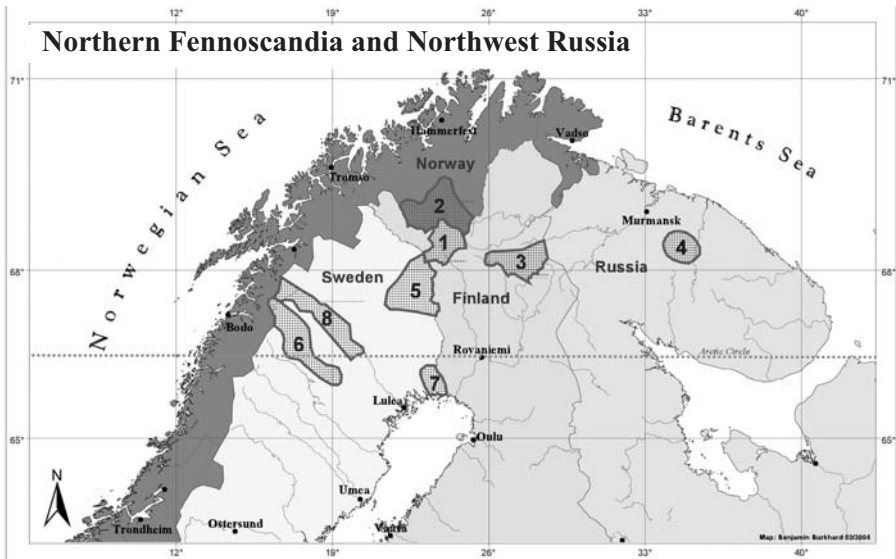


Fig. 1.1. Map of the intensive RENMAN study areas in Sweden, Norway, Finland and Russia are as follows: 1. Näkkälän paliskunta; 2. Kautokeino common winter pastures district 30; 3. Lapin paliskunta; 4. Lovozero region; 5. Muonio Sameby; 6. Tuorpon Sameby; 7. Liehittäjä concession Sameby; and 8. Sirkas Sameby. Many other districts within Finland also took part in the project via a series of annual participatory workshops (Chap.3)



Fig. 1.2. RENMAN project participants in Oteren, Norway, discussing the selection of study sites along the Norway/Finland border in May 2001. In the photo from left are as follows: Johan Mathis Turi, [former] President of the Association of World Reindeer Herders, Kautokeino; Dr. Christian Uhlig, researcher from the Norwegian Crop Research Institute; Heidi Kitti, Ph.D. student from Arctic Centre, University of Lapland; and Timo Kumpula, Ph.D. student from Department of Geography, University of Joensuu. *Photo: B.C. Forbes*

way, and on Kola Peninsula, Russia. We are not aware of previous projects in Europe of this magnitude that have involved local stakeholders to such an extent in all aspects of the research.

1.2 Semantics and Book Structure

The terminology treating livelihoods involving the keeping and use of reindeer has been somewhat variable over time and from country to country. We attempt to differentiate here between reindeer husbandry, herding, and management, all of which are relevant in contemporary northernmost Europe. To be sure, there is a certain degree of conceptual overlap in the terms husbandry, herding, pastoralism, and management as discussed by different authors (Ingold 1980; Krupnik 1993; Paine 1994; Anderson 2005). In general, herding encompasses the day-to-day work with a herd. It concerns the relationship between a herd and its pasture as directed by herders for the welfare of the animals and, if necessary, to the exclusion of the comfort of the herders themselves. Husbandry, on the other hand, has more to do with a herd as the “harvestable” resource of its owners. According to Paine (1994), “herding” is about the control and nurture of reindeer within their terrain and “husbandry” is more related to the growth of capital (“on the hoof”) and profit. In addition, he argues that husbandry includes social mechanisms such as dowry and inheritance. To this we would add that husbandry clearly also deals with reproduction and breeding.

In this book we generally adhere to the terms herding, as defined above, and management. Management is used in the broadest possible sense, and is intended to encompass all practices pertaining to the keeping of reindeer. This term is not perfect. For example, individual herders may not feel they are actually “managers” of their own herds, which are allowed to range freely much of the time. However, in a comprehensive discussion treating ecological, sociocultural, political, and economic issues within four different countries, we are certainly dealing with management at several scales, from local *siida* and landscapes to the wide region of northernmost Europe. Furthermore, the RENMAN project was funded in part to tackle issues of policy relevance within Europe. As such, we adopted a participatory approach in an attempt to address management holistically.

The book is structured in three main parts, reflecting the various research topics and approaches. Part I covers first the geographic and social evolution of reindeer herding as a form of livelihood (Chap. 2), and the development of participatory approaches to management (Chap. 3). The next few chapters address, respectively, the different conceptions of “environmental management” (Chap. 4), the dilemmas of so-called concession reindeer management in modern-day Sweden (Chap. 5), and post-Soviet changes in property

regimes on the Kola Peninsula (Chap. 6). Together, the chapters in this book section outline the main sociocultural and economic conflicts that lie at the heart of contemporary reindeer management within the region.

Turning to the natural and physical sciences in Part II, Chapter 7 provides a suitable transition as it treats a question right at the nexus of the natural and social sciences – what is the best way to characterize pasture “quality”? Assessments of forage quantity and quality derived primarily from satellite surveys have provided the basis for pasture inventories and policies concerning population regulation in recent years (e.g., Kumpula et al. 1997, 1999, 2004). Yet, herders have their own sets of indicators that vary in space and time, combining ecology, geography, and social relations, all of which bear heavily on their patterns of pasture use. Chapters 8 and 9 contrast vegetation cover and structure patterns on either side of the Finnish–Norwegian border, where strongly divergent management systems have been in place for nearly 50 years. Chapter 10 focuses on common forage species in wetlands and reveals their individualistic short-term responses to ultraviolet radiation, an important component of global change. The remaining contributions address questions surrounding: the long term effects of grazing and trampling in mineral (Chap. 11) and organic (Chap. 12) soils, as well as microbial ecology (Chap. 13), and the hygienic status of both soils and surface waters (Chap. 14).

The final section, Part III, provides an integrative overview, beginning with an analysis of the various drivers underlying recent population trends of semi-domestic reindeer in Fennoscandia (Chap. 15). A systems analysis of reindeer management balances some of the different social, economic, and ecological interactions within reindeer management. Such analysis also simulates future scenarios based on trade-offs that develop when certain inputs are altered (Chap. 16). Finally, Chapter 17 provides a multidisciplinary synthesis, drawing conclusions from the combined findings of all the authors.

1.3 Research Problems, Questions, and Regions and Sites

Changes in reindeer systems that adversely impact small and dispersed communities involved with herding include, among others, reductions in grazing land and forage resources. Such losses may occur as a result of large-scale exploitation by the expanding forestry and hydroelectric power industries, mining, and competition with tourism or crop-based agriculture, as well as of future habitat alteration due to global warming. Reindeer themselves have long been critical constituents of the northern portions of the BEAR, with marked capacities for affecting ecosystem structure and function (Oksanen 1978; Helle and Aspi 1983; Fox 1998; Helle 2001; Moen and Danell 2003). Large areas in northern Norway, Sweden, and Finland and portions of the adjoining Kola Peninsula have been grazed for millennia (Staal and Nieminen 1993;

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