

Project information

Project title

Climate & reindeer

Year

2011/2012

Project leader

Marius Warg Næss, CICERO

Participants

- Marius Warg Næss, CICERO (project leader)
- Bård Jørgen Bårdsen, NINA
- Ruth Mace, University College of London (UCL; participant)

Flagship

Terrestrial - Theme: Capacity for adaptation in indigenous people and local societies

Funding Source

Fram Centre

Summary of Results

As stipulated in the project proposal, the project resulted in (1) one project proposal, titled "Modelling adaptive strategies in northern socio-Ecological systems" submitted to the Norwegian research council (under consideration now, see previous report for details) and (2) a workshop/seminar held at the UCL in London.

Summary of the proposed project:

Northern socio-ecological systems are characterized by unpredictable and harsh climates. Future climate change is expected to have major impacts on both ecosystems and human societies worldwide, but these changes are expected to happen both sooner and more pronounced in the northern hemisphere. It will, therefore, be of special importance to assess how climate change may affect systems like the Saami reindeer husbandry. The necessity for improving our understanding on how these systems may respond to climatic perturbations is important both from basic and applied science perspectives. We propose to do this by combining knowledge on how both animals and humans respond to current climate with simulation models including different-2-climatic scenarios. Specifically we want to assess how livestock and pastoralists can adopt strategies that may counteract negative climatic effects. Models are suitable tools for this as our research questions cannot be answered solely by collecting more empirical data, and the reindeer husbandry is a suitable biological/anthropological system for answering these questions as: (1) it is well-studied; (2) large regional contrasts in environmental conditions show that both pastoral and reindeer adaptations are plastic; and (3) it is regulated where management initiatives affect both the reindeer and their owners.

Main objective of the proposed project: To understand the relative importance of social and ecological factors (e.g. human competition and harvest vs. negative density-dependence) in shaping livestock productivity, population dynamics, and consequent household viability under different climatic scenarios.

Published Results/Planned Publications

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Communicated Results

1. Næss, Marius Warg and Bård-Jørgen Bårdsen, 2011. Pastoral herding strategies: Risk management among reindeer herders in Norway. UCL Biological Anthropology seminar series 18.10.2011, University College London, Dept of Anthropology.
2. Bårdsen, Bård-Jørgen and Marius Warg Næss, 2011. Ongoing projects within the reindeer husbandry - presentation of available data. Climate and Reindeer seminar 18.10.2011, University College London, Dept of Anthropology.
3. Næss, Marius Warg. 2011. Tverrfaglig Reindriftsforskning. CICERO's opening seminar 21.10.2011. Fram Centre, Tromsø.

1 & 2: presentations were given in relation to the workshop/seminar at UCL, while 3 was a presentation in connection with the opening of a CICERO department in Tromsø.

Interdisciplinary Cooperation

The stipulated project aimed at developing an interdisciplinary project proposal along the axis social science (anthropology) and ecology. The workshop/seminar was used to develop future interdisciplinary research ideas (see below). Disciplines involved: Anthropology and ecology.

Budget in accordance to results

Without the funding the project proposal would not have been developed and submitted and the workshop/seminar would not have taken place.

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Could results from the project be subject for any commercial utilization

No

Conclusions

Future climate change is expected to have major impacts on both ecosystems and human societies. Consequently, to really understand the effects of climate change it will be necessary to develop interdisciplinary perspectives that consider both ecological and social consequences. Since the relationships between human resource use, climate and ecological conditions are complex, models can provide insights beyond what is possible to get from empirical studies alone. Previous modelling studies pertaining to the management of natural resources have more often than not focused on ecosystems or other biological systems neglecting socioeconomic processes. The submitted project proposal, which incorporate both social and ecological processes within a common modelling framework, will therefore fill an existing gap in the literature.

The workshop/seminar was important in developing our collaboration with Ruth Mace, which is a highly renowned international researcher within the field of evolutionary ecology and anthropology. The discussions at the workshop/seminar also lead to the development of several new ideas for future publications and research applications.