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Reindeer  
Herding and  
Resilience



# Reindeer Herding and Resilience Progress Report 2023

MARINA  
TONKOPEEVA



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# OVERVIEW AND MISSION

The Reindeer Herding and Resilience (RHR) project is a global initiative aimed at building a comprehensive knowledge base on the traditional practices of reindeer herders, focusing on land and pasture management. It is part of an international GEF-UNEP partnership for improving the provision of ecosystem services in peatland areas.

This project seeks to develop the capacity of reindeer herding youth and enhance the overall resilience of reindeer herding communities. By integrating indigenous knowledge with modern sustainable practices, the RHR project aims to create a robust framework for future land management and environmental stewardship.

Key actors in the project are Indigenous reindeer herders, as their knowledge of land and pastures is a base for future land management.

The mission of the RHR project is to establish a global, multi-dimensional knowledge base and enhance the capacity of reindeer herders to contribute to sustainable landscape management. This involves documenting traditional knowledge, translating it into actionable policies and practices, and raising awareness about the critical role of indigenous voices in environmental conservation.

Through various training programs and collaborative efforts, the project aims to build resilience within Arctic communities and promote sustainable practices in reindeer herding.

# PROJECT GOALS

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**The Reindeer Herding and Resilience project aims to create a sustainable future for reindeer herding communities, ensuring their traditional Indigenous practices are preserved and integrated into modern land management strategies.**



**01**

## **Empower Indigenous Communities**

Strengthen the capacity of reindeer herders to manage their lands sustainably and participate in global environmental governance.



**02**

## **Promote Sustainable Practices**

Integrate traditional knowledge with scientific research to address land degradation and promote sustainable rangeland management



**03**

## **Enhance Community Resilience**

Build resilience within Arctic Indigenous and nomadic pastoralist communities through education, training, and capacity building



**04**

## **Raise Awareness**

Include a brief description, rationale and intended impact. It helps to keep it concise yet concrete!



# PROJECT OBJECTIVES

## Document and Assess Traditional Knowledge

- Collect and evaluate traditional knowledge related to land uses, land degradation, and food governance from indigenous reindeer herders globally.
  - Develop GIS-based maps and future scenarios to support integrated rangeland management.
- 

## Enhance Training and Educational Opportunities

- Develop and conduct training curricula for reindeer herders and youth on traditional knowledge, sustainable livelihoods, environmental agreements, and data analysis.
  - Facilitate cross-learning events and dialogues between herding communities and other stakeholder groups.
- 

## Develop Sustainable Management Practices

- Institutionalize sustainable landscape management approaches for global reindeer husbandry.
  - Create and test global indicators for sustainable rangeland management and pastoralism.
- 

## Knowledge Dissemination and Communication

- Develop a comprehensive knowledge management and communication strategy.
- Establish an operational project portal to disseminate findings and facilitate replication.

# OUTCOMES

## **01. Sustainable landscape management approaches institutionalized for global reindeer husbandry**

- Gender-sensitive traditional knowledge on existing and past global land uses, land degradation, and Indigenous reindeer herders' food governance is globally collected, assessed, and made available for global stakeholder groups
- GIS-based maps of current land use and future scenarios are developed globally and compatible with traditional and scientific knowledge to support rangeland mobility
- Participatory mapping techniques and environmental monitoring systems are developed for the global stakeholder groups for an integrated rangeland management systems
- Global indicators of rangelands and pastoralism sustainable management are developed and tested

## **02. Enhanced Capacity of Nomadic Pastoralist Communities**

- Global training and educational courses for Indigenous reindeer herding youth, and field training and community-based workshops for herding communities
- Cross-sector knowledge exchange events organized.

## **03. Global Support and Implementation of Good Practices**

- Knowledge management and communication strategies are developed and implemented.
- Operational project portal is established for the dissemination and replication of project findings.
- Good practices and lessons learned documented and shared globally.

# Measuring Progress

## Mid term output

## End output

Performance Indicators for Outcome 1

Concept cases & monitoring systems validated by stakeholders  
Direct benefit to 8,000 people  
50% of participants are women  
2 sub-national monitoring systems

2 documented cases validated by stakeholders  
Direct benefit to 14,000 people  
50% female participants  
3 sub-national monitoring systems

Performance Indicators for Outcome 2

At least 4 training courses provided for 150 herders  
2 communities

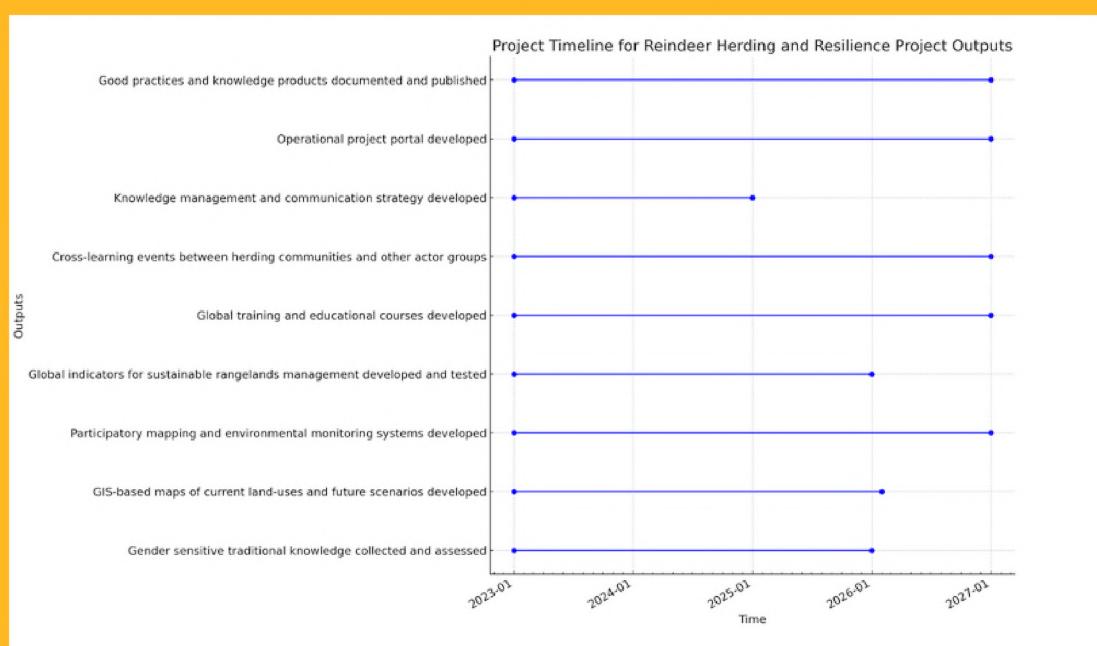
13 training courses provided for 250 herders  
4 communities

Performance Indicators for Outcome 3

Operational project website and knowledge hub  
2 KM products

Knowledge products and lessons learned shared with a variety of audiences and stakeholders  
4 KM products and one global forum to exchange good practices

## Overview of the project's schedule and key milestones





# Activities & Milestones 2023–2026

## Output 1: Gender-Sensitive Traditional Knowledge Collection

- Activity 1: Identify current and past spatial and temporal patterns of reindeer herding migrations; inventory and documentation of pasture habitats and indigenous food systems; and linkages between indigenous food cultures and landscape conservation using participatory mapping methodology undertaken with the herders.
- Completion Date: December 2025
- Activity 2: Gather additional knowledge from local knowledge-holders on past land use practices, biodiversity, etc., including gathering and interpreting historical photographs where possible.
- Completion Date: December 2025

## Output 2: GIS-based Maps Development

- Activity 3: Establish GIS-based maps (e.g., using the GLOBIO model) for land use and biodiversity for selected cases.
- Completion Date: January 2026
- Activity 4: Develop user-friendly maps and information on spatial and temporal land uses based on different knowledge systems, including GIS.
- Completion Date: December 2025

## Output 3: Participatory Mapping and Environmental Monitoring Systems

- Activity 5: Develop a participatory monitoring system of environmental indicators and other observations, fully incorporating herders' traditional knowledge to create a Circumpolar Local Environmental Observer (CLEO) Network Hub.
- Completion Date: January 2026
- Activity 6: Undertake annual training sessions for targeted reindeer herders to monitor selected indicators.
- Completion Date: December 2026

# Activities & Milestones 2023–2026

- Activity 7: Establish a system for regular collection of monitoring results.
- Completion Date: January 2026
- Activity 8: Revise/refine the monitoring system based on implementation and lessons learned.
- Completion Date: December 2026
- Activity 9: Conduct participatory mapping workshops to collect data and knowledge, and to present and assess the data and information collected (ground-truthing).
- Completion Date: December 2026
- Activity 10: Undertake participatory workshops to develop land-use and environmental change scenarios (2–3 future perspectives) and explore effects on rangeland ecosystems and nomadic livelihoods.
- Completion Date: January 2026
- Output 4: Development and Testing of Global Indicators
- Activity 11: Undertake an assessment to identify different understandings of sustainable management of rangelands and pastoralism.
- Completion Date: December 2025
- Activity 12: Identify and test indicators through co-production for assessing sustainable management of rangelands and pastoralism, to be used to review the implementation of the UN Sustainable Development Goals (SDGs).
- Completion Date: December 2025
- Output 5: Training and Educational Courses for Indigenous Reindeer Herding Youth
- Activity 13: Develop a field training curriculum for reindeer herders on issues related to traditional knowledge, land use, and sustainable livelihoods, including food systems.
- Completion Date: January 2025



# Activities & Milestones 2023–2026

- Activity 14: Conduct field trainings and community-based workshops for reindeer herders on issues related to biodiversity, land degradation, and traditional knowledge.
- Completion Date: December 2025
- Activity 15: Develop a training course on environmental agreements, international diplomacy, and communication.
- Completion Date: January 2025
- Activity 16: Carry out training of youth in environmental agreements, international diplomacy, and communication.
- Completion Date: December 2026
- Activity 17: Develop a summer field training course for youth and university students in monitoring, collecting, and analyzing data related to environmental change.
- Completion Date: January 2025
- Activity 18: Conduct summer field trainings for youth and university students from reindeer herding families in monitoring, collecting, and analyzing data related to environmental change.
- Completion Date: December 2026
- Activity 19: Develop an accredited course on the concept of traditional knowledge, resource management, and landscape conservation.
- Completion Date: December 2026
- Activity 20: Conduct a course on the concept of traditional knowledge, resource management, and landscape conservation.
- Completion Date: December 2026
- Activity 21: Conduct model training dialogues (role plays) representing different rights-holders and stakeholders, such as herders, conservationists, industrial developers, and government officials.
- Completion Date: December 2026

# Activities & Milestones 2023–2026

- Output 6: Cross-learning Events Between Herding Communities and Other Actor Groups
- Activity 22: Carry out “lavvo dialogues” for knowledge exchange between reindeer herders and other sectors and international stakeholders.
- Completion Date: December 2026
- Activity 23: Develop a certificate field training course for other sectors (e.g., industry, local and regional authorities, tourism) and international stakeholders on traditional knowledge and indigenous peoples, and related land degradation issues.
- Completion Date: December 2026
- Activity 24: Conduct field training courses for other sectors and international stakeholders.
- Completion Date: December 2026
- Output 7: Knowledge Management and Communication Strategy Development
- Activity 25: Design a knowledge management strategy and plan for the project, which guides the collection and management of information and its storage on the information portal.
- Completion Date: December 2024
- Activity 26: Conduct regular (yearly) updates and revisions of the knowledge management strategy and implementation mechanisms.
- Completion Date: December 2024
- Activity 27: Design and develop an online information portal (website/database).
- Completion Date: December 2024
- Activity 28: Carry out regular updates to the information portal, including news articles, project documents, reports, media, etc.
- Completion Date: December 2024

# Activities & Milestones 2023–2026

- Output 8: Operational Project Portal
- Activity 29: Design a joint project Communications and Outreach Strategy together with an action plan.
- Completion Date: December 2023
- Activity 30: Present the strategy and action plan to relevant project partners for discussion and approval.
- Completion Date: December 2024
- Activity 31: Carry out and make available video interviews, collect film footage, and write blogs/social media posts about the project.
- Completion Date: December 2026
- Activity 32: Ensure the participation of the project team members in international events or conferences.
- Completion Date: December 2026
- Output 9: Documentation and Dissemination of Good Practices, Lessons Learned, and Knowledge Products
- Activity 33: Gather relevant information and lessons learned from the project at regular intervals, guided through the Communications and Outreach Strategy and Knowledge Management Strategy.
- Completion Date: December 2026
- Activity 34: Organize and deliver international workshops on traditional knowledge and land use, land degradation issues, and sustainable livelihoods.
- Completion Date: December 2026
- Activity 35: Organize and deliver side events at international forums such as UNEA, UNCCD COP, UNPFII, or Arctic Council meetings to share results from the project.
- Completion Date: December 2026
- Activity 36: Disseminate briefs through channels identified in the Communications, Knowledge Management, and Outreach Strategy, including UNEA, UNCCD COP, UNPFII, or Arctic Council.
- Completion Date: December 2026



# PROJECT SCOPE

## Document and Assess Traditional Knowledge

- Collect and evaluate traditional knowledge related to land uses, land degradation, and food governance from indigenous reindeer herders globally.
  - Develop GIS-based maps and future scenarios to support integrated rangeland management.
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## Enhance Training and Educational Opportunities

- Develop and conduct training curricula for reindeer herders and youth on traditional knowledge, sustainable livelihoods, environmental agreements, and data analysis.
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## Develop Sustainable Management Practices

- Institutionalize sustainable landscape management approaches for global reindeer husbandry.
  - Create and test global indicators for sustainable rangeland management and pastoralism.
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## Knowledge Dissemination and Communication

- Develop a comprehensive knowledge management and communication strategy.
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# PROJECT REPORT 2023

Reindeer Herding Component represents a global effort to build a comprehensive knowledge base on the traditional knowledge and practices of reindeer herders regarding land, pastures, and thawing permafrost. Its aim is to enhance the capacity of indigenous reindeer herders, focusing on youth, through learning and training, with the overarching goal of increasing community resilience. This initiative is integral to a partnership between GEF and UNEP dedicated to enhancing ecosystem services in peatland areas.

In 2023, the Reindeer Herding Component made significant strides in its mission to empower Indigenous reindeer herders and enhance sustainable landscape management. The year began with foundational activities aimed at building capacity and fostering collaboration among global stakeholders. In January, the International Centre for Reindeer Husbandry (ICR), in partnership with the UArctic EALAT Institute, Harvard Kennedy School's Arctic Initiative and Tufts University Fletcher School of Law and Diplomacy, launched two training courses for Indigenous and reindeer herding youth. These courses focused on indigenous knowledge, sustainable development, and leadership skills, set the stage for empowering future leaders within reindeer herding communities.

Throughout the year, the Reindeer Herding Component was prominently featured at various international forums and events, including Arctic Frontiers, Arctic Science Summit Week, High North Dialogue, Sámpí as Homeland Research Ethics seminar, Arendal Week, GEF Assembly, World Food Forum and UN Global Indigenous Youth Forum, Arctic Circle Assembly, along with multiple meetings bringing global youth from indigenous reindeer herders together for dialogue and cooperation. These platforms provided opportunities for stakeholders to discuss innovative approaches to sustainable reindeer husbandry and showcase the contributions of indigenous knowledge to global resilience efforts. Notably, the project's participation in the Arendal Week underscored its commitment to engaging policymakers, researchers, and the public in discussions on Arctic sustainability and indigenous empowerment.



# PROJECT REPORT 2023

As per the work plan, project activities in 2023 included collection and assessment of the gender-sensitive traditional knowledge on existing and past global land-uses, land degradation, and indigenous reindeer herders' food governance; preparation of various mapping systems, including GIS-based and participatory land-use maps; development of global resilience indicators for assessing sustainable management of rangelands and pastoralism; developing and conducting trainings, workshops, and sessions for and by reindeer herders on traditional knowledge, co-production, land use, sustainable development, leadership and diplomacy along with other cross-learning events between reindeer herding communities and other actor groups.

In February-March, pivotal meetings took place in Geneva and Ulaanbaatar, Mongolia, underscoring the project's international scope and collaborative spirit. Discussions at the International Environment House in Geneva organised by the UNEP Europe Office highlighted the urgent challenges facing reindeer herders due to climate change and environmental degradation, emphasizing the need for global cooperation. Meanwhile, in Mongolia, the ICR team engaged with key stakeholders including the Taiga Nature Society and UNEP focal point, Dr. Tserendulam Shagdarsuren to outline project plans and coordinate future activities in the region. These consultations laid the groundwork for subsequent field visits and workshops focused on knowledge exchange and capacity building.

In May and June, 2023, the project team conducted field visits to Mongolia's Tsagaannuur region, where they met with Dukha reindeer herders to address community concerns and plan future initiatives. These interactions highlighted the importance of preserving traditional knowledge and adapting to environmental changes while fostering youth involvement in sustainable practices. The establishment of a communication center for Dukha reindeer herding youth emerged as a critical initiative to ensure the continuity of traditional practices and community resilience.

# PROJECT REPORT 2023

As the year progressed, the Reindeer Herding Component continued to facilitate cross-learning and capacity-building activities. In July–August, it hosted training programs and dialogues at the the Arendal Week in Arendal, Norway, emphasizing the role of indigenous youth in preserving biodiversity and adapting to climate change. ICR, in cooperation with the Arctic Initiative at the Harvard Belfer Center Kennedy School, Woodwell Climate Research Center, and the University of the Arctic, organised training for Indigenous and reindeer herding youth: “Exploring Arctic Sustainability: Enhancing Resilience, Addressing Land Degradation and Permafrost Thaw through Indigenous Youth Empowerment”.

The program welcomed students from Alaska, Canada, Mongolia, Norway, Sweden, and Russia. Three students in the courses were representing Dukha reindeer herders from East and West Taiga, Tsagaannuur. These training sessions not only fostered knowledge exchange but also reinforced the project's commitment to empowering young leaders within reindeer herding communities globally. In Arendal, Dukha reindeer youth made a film which was presented at the GEF Assembly 2023.

The Reindeer Herding Component was prominently featured at various global assemblies and forums in 2023, showcasing the resilience and traditional knowledge of indigenous reindeer herders. At the 7th GEF Assembly in August 2023, a pivotal side event titled "Reindeer Herding and Resilience: Enhancing Pastoral Ecosystems and Nomadic Societies," organized by UNEP, brought together young nomadic herders from around the world. Their discussions centered on indigenous herders' capacity to combat land degradation and enhance ecosystem services through community resilience. The event underscored the crucial role of traditional knowledge in sustaining reindeer herding as a livelihood and as custodians of biodiversity.

A noteworthy cross-learning initiative occurred in August 2023 when young Dukha reindeer herders from Mongolia visited Sámi reindeer herders in Norway. This exchange facilitated a rich dialogue on reindeer herding practices, land use strategies, migration routes, and indigenous food systems.

# PROJECT REPORT 2023

The Dukha-Sámi exchange also exemplified the project's commitment to fostering mutual learning and cultural exchange among diverse reindeer herding communities.

The project continued its advocacy at the World Food Forum and UN Global Indigenous Youth Forum, where it organized sessions highlighting the importance of traditional knowledge in preserving biodiversity, health, and culture. Discussions among young herders from various indigenous groups addressed pressing issues such as climate change and sustainable livelihoods, further emphasizing the resilience and adaptive capacity of nomadic communities.

In October 2023, during the Arctic Circle Assembly in Reykjavik, Iceland, the Reindeer Herding Component featured prominently in sessions such as the NOMAD Indigenous FoodLab and discussions on pasture resilience. These sessions facilitated innovative approaches to traditional food systems and addressed challenges like competing land use and infrastructure development threatening reindeer herding pastures globally.

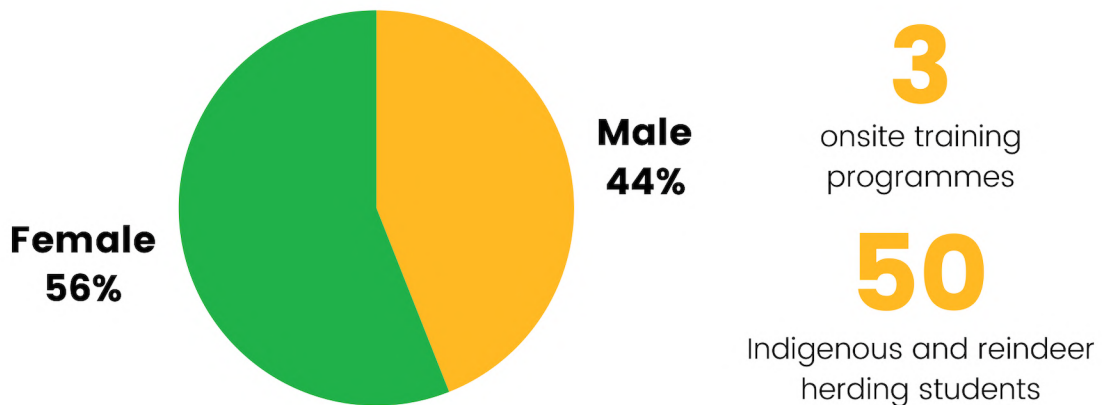
Publications like the second volume of "Reindeer Husbandry: Resilience in the Changing Arctic," presented during these gatherings, highlighted ongoing research and contributions by key stakeholders, including the International Centre for Reindeer Husbandry (ICR) and Uarctic EALÁT. Overall, the Reindeer Herding Component in 2023 has significantly advanced its mission to empower indigenous reindeer herders by amplifying their voices, sharing best practices, and advocating for sustainable practices amidst environmental challenges. These efforts are crucial in ensuring the continuity of reindeer herding as a sustainable livelihood and in preserving the rich cultural heritage of Indigenous communities worldwide.



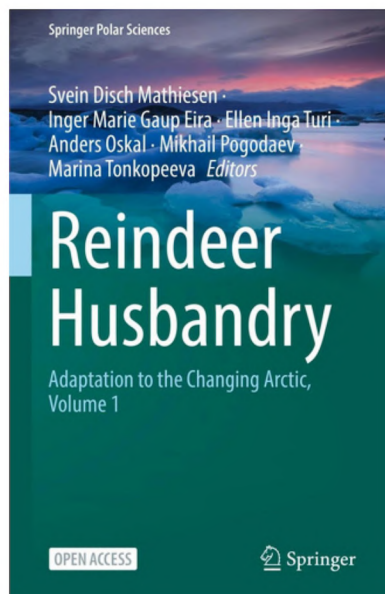
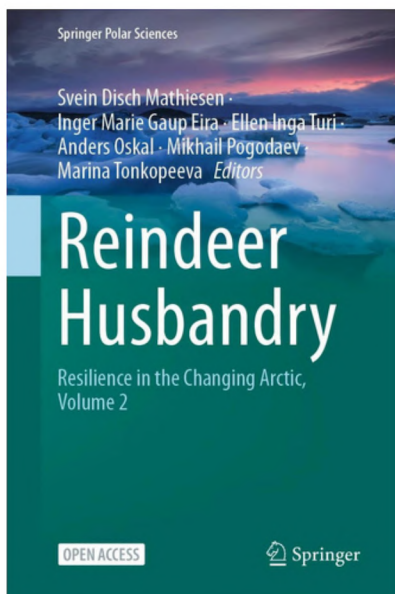
# 2023 in numbers

The project's success is measured through mid-term and end goals, including the validation of monitoring systems, direct benefits to thousands of individuals, and the establishment of training courses for herders.

**The project delivered 3 global onsite training programmes with 12 courses and 8 seminars in the US and Norway for 50 reindeer herding and Indigenous youth with more than 50% female participation.**



The project's knowledge management efforts include two peer-reviewed Reindeer Husbandry books as an in-kind ICR contribution totalling more than 45,000 accesses.



**>45k** accesses

# ACKNOWLEDGEMENTS

We would like to express our deepest gratitude to all reindeer herders, partners and stakeholders in Sápmi and Mongolia who have contributed to the success of the Reindeer Herding and Resilience project.

This invaluable support, collaboration, and expertise have been instrumental in achieving our goals and advancing the project in 2023.

- Indigenous and reindeer herding youth and knowledge-holders
- International Centre for Reindeer Husbandry
- UArctic EALÁT Institute
- World Reindeer Herders
- Global Environment Facility
- United Nations Environment Programme
- Harvard Kennedy School Belfer Center
- Fletcher School of Law and Diplomacy
- Sámi University of Applied Sciences
- Woodwell Climate Research Centre

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## Contact

Hjalmar Johansens gt., 14  
Tromsø, 9007  
[mt@reindeercentre.org](mailto:mt@reindeercentre.org)

Marina Tonkopeeva  
International Centre for Reindeer  
Husbandry