



Course Plan

Short Course: Co-Management of Natural Resources

An in service education course offered by **the University of the Arctic**

Course Summary. This course is an introduction to fundamental aspects of collaborative management and monitoring of living resources. The participants are people in public natural resource management positions, with a focus on community-based approaches, and Master's students. The course will provide participants with an overview of collaborative management in theory and practice. Moreover, it will explore how to use indigenous and local knowledge to promote equitable and environmentally sustainable management of living resources. The course will also provide participants with an opportunity to consider how to successfully promote sustainable, natural-resource based economic development in rural communities. It will engage the participants in scientific debates about collaborative resource management and indigenous and local knowledge and, at the same time, provide them with real-world experience in using methods to document and collaboratively manage living resources in the Arctic.

When. 22-24 October 2019.

Venue. Greenland Institute of Natural Resources in Nuuk, Greenland.

Background. In Greenland, as in other parts of the Arctic, discrepancies between the authorities' perceptions of the status of the environment and the local peoples' knowledge and perceptions have, in some areas, led to frustration among community members and to limited local acceptance and understanding of government decisions (Polar Geogr. 37:69, 2014).

Collaborative management and monitoring can facilitate adaptation of the livelihoods of the indigenous and local fisher and hunter communities in the Arctic to the rapidly-changing environment, while at the same time ensuring protection of biodiversity and the sustainable use of resources and ecosystems (Coastal Mngt. 35:143, 2007; Mar. Pol. 35:440, 2011). It can increase local capacity and engagement in natural resource management and strengthen the dialogue between resource users, scientists and managers (Cons. Biol. 23:31, 2009). Indigenous and community-based knowledge is an indispensable and important contribution to effective management of living resources. The use of indigenous and community-based knowledge and scientists' monitoring can supplement each other and, together, provide for a more timely and effective management and use of resources. Up-scaling, and extending and promoting collaborative management and monitoring require that an increasing number of resource managers and scientists are able to facilitate, implement and operationalize participatory approaches to natural resource management in practice.

The distribution of life on Earth is experiencing dramatic and far-reaching effects from the most rapid climate-driven change for 25,000 years. When the local environment changes, species move up the mountains, deeper into the sea, and towards the poles. Across the planet, global species re-distribution is impacting economies, trade, human wellbeing, governance, ecosystems and even the

climate itself (Science 355:1389, 2017). A short response time from observation to action is required to adapt natural resource governance to the rapid changes in the distribution of species. One proposed solution is to improve decision-making by cross-weaving indigenous, industry, community-based and formal/academic science through collaborative monitoring and management of resources.

The University of the Arctic (UArctic) is establishing an international partnership, a UArctic Thematic Network, on interdisciplinary training in collaborative natural resource management in the Arctic. One of the activities of the partnership is to pilot an interdisciplinary course in Greenland. The course is being developed by Nordisk Fond for Miljø og Udvikling (NORDECO), Greenland Climate Research Centre, Hokkaido University, National Institute of Polar Research Japan, and University Alaska Fairbanks in cooperation with the Association of Fishers and Hunters in Greenland (KNAPK). The experiences from this pilot course will be used by UArctic to improve and scale-up the undertaking of further capacity development across the Arctic. The revised course curriculum will be promoted by the UArctic web for free use by UArctic partners.

Course Aim and Objectives. The course is intended to build and improve the capacity of the participants in collaborative management and monitoring of living resources. The participants are people in public natural resource management positions, with a focus on community-based approaches, and Greenland-based Master's students.

The course will provide core skills and develop critical thinking for achieving widespread collaborative natural resource management and sustainable community livelihoods in the Arctic. It will particularly draw on successful Greenlandic and Arctic experiences and skills. Though the course draws on relevant international science and thinking it particularly encourages participants to evaluate and share experiences from within the Arctic.

The aims of the course are to:

- Understand basic collaborative natural resource management and monitoring for promoting sustainable economic development in rural communities
- Develop personal professional skills in using indigenous and local knowledge to promote natural-resource based economic development and equitable and environmentally sustainable management of resources
- Develop understanding of the wider natural-resource based governance context affecting or supporting community livelihoods in Greenland and the Arctic through participation in discussions among course participants and resource persons

The specific objectives of the course are to give participants the ability to:

1. Be familiar with the various approaches to natural resource management and monitoring for promoting sustainable, natural-resource based economic development in rural communities;
2. Use a range of participatory tools in support of natural resource management and monitoring including the cross-fertilization of scientific and indigenous and local knowledge;
3. Appreciate and understand the need for community facilitation, leadership skills, critical thinking, strategic planning; and know the roles and functions of a range of collaborative management and monitoring tools; and
4. Navigate within the major national and international policies and strategies related to collaborative management and monitoring of natural resources, and indigenous and local knowledge, their inter-linkages and their relevance to Greenland and the Arctic.

Learning Outcomes. By the end of the course, the participants will be able to:

- Facilitate collaborative management and monitoring of living resources for promoting sustainable economic development in rural communities
- Play an effective and active role in relation to promoting sustainable use of the resources
- Encourage positive actions to promote dialogue and cooperation on the management of living resources across sectors, as well as between resource users, indigenous peoples' organizations, scientists and the local and central government

Sessions. The course will comprise four sessions:

- Session 1. Existing management and monitoring of living resources in Greenland, the Arctic and beyond
- Session 2. Collaborative management and monitoring of living resources in Greenland, the Arctic and beyond
- Session 3. Practical understanding of collaborative monitoring of living resources
- Session 4. Discussion and understanding of governance related to collaborative management and monitoring in Greenland, the Arctic and beyond

Teaching Methods. There will be some direct teaching, interspersed in most sessions with active exercises (individual, paired or group exercises) of varying lengths. Presentations, discussion and reviews will reinforce the active learning component. Taught elements will be illustrated by case studies and examples from the Arctic and from other regions. The course language will be Danish with translation services to Greenlandic and to English.

Workload. Eight hours per day for 3 days.

Teachers and Resource Persons.



Dr.scient. [Finn Danielsen](#). Finn is an ecologist with a passion for participatory monitoring and community-based natural resource management. He works in Nordisk Fond for Miljø og Udvikling (Denmark).



Social Scientist [Martin Enghoff](#). He works with local development, institutional performance, participatory tools development and capacity-building in Greenland, Arctic Russia and beyond.



Research Scientist [Lene K. Holm](#). Lene has extensive experience of community-based research and monitoring in Greenland and the Arctic, both in her previous worked with the ICC and in [Greenland Climate Research Centre's](#) Climate and Society programme. She is a partner in the Research Coordination Network of indigenous Arctic researchers.



[Mark Nuttall](#) is professor of Climate and Society at Ilisimatusarfik/University of Greenland and the Greenland Climate Research Centre. He has worked extensively in Greenland and other parts of the Arctic on community-based initiatives.



Ababsi - Bjarne Lyberth is a Biologist and Senior Advisor at the Association of Fishers and Hunters in Greenland ([KNAPK](#)) since 2014. In KNAPK he is coordinator for the Council on Greenland Halibut Fishery and the Council of Land and Sea-based Hunting.



Dr Shuhei Takahashi, (community-science collaboration expert) Hokkaido Sea Ice Museum

Indicative Reading List

Armitage, D., Berkes, F., & Doubleday, N. (Eds.). (2010). *Adaptive co-management: collaboration, learning, and multi-level governance*. UBC Press.

Berkes, F., & Armitage, D. (2010). Co-management institutions, knowledge, and learning: adapting to change in the Arctic. *Etudes/Inuit/Studies*, 34(1), 109-131.
<https://www.erudit.org/en/journals/etudinit/2010-v34-n1-etudinit3992/045407ar/>

Danielsen, F. et al. (2009). Local participation in natural resource monitoring. *Conserv. Biol.* 23: 31–42.
<http://www.monitoringmatters.org/publications/Danielsen%20et%20al%20%202008%20Local%20participation%20%20%20%20ConsBiol.pdf>

Danielsen, F., Topp-Jørgensen, E., Levermann, N., Løvstrøm, P., Schiøtz, M., Enghoff, M. and Jakobsen, P. (2014). Counting what counts. *Pol. Geogr.* 37: 69–91.
http://www.monitoringmatters.org/articles/CountingWhatCounts_PISUN_PolarGeography372014.pdf

Danielsen, F., Fidel, M., Johnson, N.J. et al. (2018). *Community based monitoring programmes in the Arctic: Capabilities, good practice and challenges*. Bergen: INTAROS.
https://intaros.nersc.no/sites/intaros.nersc.no/files/D4_1_updated_1.pdf

Holm, L. K. *Kalaallit Nunaanni piniakkanik iluaquteqarneq*. Grønlands Naturinstitut.

Nuttall, M. (2018). Self-determination and indigenous governance in the Arctic. In *The Routledge Handbook of the Polar Regions* (pp. 93-106). Routledge.

Nuttall, M. et al. (2005). Hunting, herding, fishing and gathering: indigenous peoples and renewable resource use in the Arctic. *Arctic Climate Impact Assessment*, 649-690.
http://www.acia.uaf.edu/PDFs/ACIA_Science_Chapters_Final/ACIA_Ch12_Final.pdf

Plummer, R. (2009). The adaptive co-management process: an initial synthesis of representative models and influential variables. *Ecol. Soc.* 14(2). <https://www.ecologyandsociety.org/vol14/iss2/art24/>

Indicative Assessment. Participants who successfully complete the course will obtain a PDF Certificate of Achievement from the UArctic Thematic Network on Collaborative Natural Resource Management and Community Observing. The individual assessment will be based: on a) Mid-way course exercise (25%); b) End-of-course evaluation (75%). Time will be build into the course for doing the assessment. The evaluators will be the teachers and resource persons.

Selection Criteria. Participation at this course will require on-going commitment to collaborative management of natural resources. The participation of personnel who are involved in facilitating work that engage local people in collaborative natural resource management at the "hands on" level will be encouraged. Participants will be expected to describe how their attendance will improve a collaborative management process in their area of work. The following criteria will be used by UArctic when selecting candidates for the course:

- Being in a position where the applicant is able to further strengthen use of collaborative approaches
- Qualifications and experience of each applicant to implement and transfer to others what was learnt at the course
- Work program of applicant - will it allow for the additional load of using the skills and knowledge back home after the course
- Interest level and motivation of the applicant - has the applicant shown initiative in his/her own area of work in issues relating to collaborative management of natural resources?
- The applicant must be currently or planning to be involved in assisting with the collaborative management of natural resources which involves training others
- Level of support from the candidate's organization
- Sufficient guarantee that the applicant will return to apply the newly learned skills after completion of the course.

Gender equality is a factor in the selection of participants for inclusion in this course.

Funding of Applicants. The course will mainly be funded by Kingdom of Denmark UArctic Project Funds and the [EU INTAROS](#) project.

Applications. Please forward all completed applications to Finn Danielsen (fd@nordeco.dk). Application deadline is July 29, 2019.

Logistical Arrangements.

Accommodation, meals and incidentals. Accommodation for participants who are not based in Nuuk will be provided at nearby lodgings and will be confirmed nearer the course commencement. Funds will be provided at an appropriate rate to cover meals not provided at venue and for incidentals.

Airfares and transfers. Sponsorship is available for flights at economy class for participants who are not based in Nuuk. Excess luggage, any other incidental costs and any flight alterations will be the responsibility of the participant.

Insurance. Participants are responsible for their own insurance while travelling to or from the course venue and the organisers shall not accept liability for any injury suffered by a person attending the

course. We strongly recommend that participants take out personal insurance (at employer's/her /his own expense) for the period in which s/he is sponsored or is travelling to or from the course.

Program. Please note that this is subject to preparation by UArctic and partners and will be circulated as soon as it is finalized.

Course costs. Costs of the course including tuition will be covered. Accommodation (for participants not living in Nuuk already) will also be covered.

Further Information. For further information, please contact Finn Danielsen (fd@nordeco.dk).

How do I apply for the course?

You can apply by filling in the application form below and send with required support letter by the closing date, **July 29, 2019**. This flyer is to announce the course and encourage people to start applying.

APPLICATION FORM

Purpose of this Form

- To help in the identification of participants who will be most able to use the skills gained for use in their own work.
- To help ensure that resources are targeted where they will be most useful.

Deadline for Submission. Submit this completed Form (and attach support letter) via email to fd@nordeco.dk by **July 29, 2019**.

1. Title Mr/Ms (specify) _____
2. First name _____
3. Surname: _____
4. Name of Organisation _____

Department or Ministry or _____

Postal Address: _____

Telephone: () _____

Email address

Work Designation/Title _____

Job function (Provide a brief description of the activities that make up your work).

(NB Kindly include support letter from employer)

Funding Support Requested: Travel

Qualifications (include tertiary degrees/diplomas and relevant in-service training or prior experience)

Qualification	Institution	Date Received

Motivation. Please write why you want to participate in the course and how you would use the learning.

Content of Training Course (optional). In addition to the topics listed in the Course Plan, are there any other related topics you would like to see covered at this course?

Name and email contact of your work supervisor _____.

Declaration

I certify that all information given in this application is complete and accurate to the best of my knowledge that the Course Directors reserve the right to deny me admission if the information is incorrect or incomplete. Kindly remember to include support letter.

Signature of Applicant

Date