

Nordic Resource Management (*NUNAVIS*, *Nunani avannarlerni isumalluutinik ingerlatsineq suliniut*) in cooperation with Arctic Council SDWG EALLU and Rievdan research project (Rapid change - challenges and/or opportunities for Sustainable reindeer husbandry)

### Field Report 2016 Norway

International Centre for Reindeer Husbandry

### SÁMI TRADITIONAL KNOWLEDGE TO IMPROVE MANAGEMENT LOCALLY REINDEER HUSBANDRY



Ravdna B.M. Eira Sara and Svein D Mathiesen

University of the Arctic Institute of Circumpolar Reindeer Husbandry at International Centre for Reindeer Husbandry, 9520 Kautokeino Norway.

### Content

INTRODUCTION – traditional knowledge to improve local management of natural resources in reindeer husbandry	3
2. LESSONS LEARNED so fare from this cooperation, the EALLU project has produced the follow recommendation approved by Arctic Council Sustainable development working group	
3. ACTIVITIES: To achieve the four objectives, the project has comprised the following activities	6
Community workshops and seminars:	6
Report	7
Course development	8
(i)Further development and testing of standards to incorporate traditional knowledge into decision-making on the use of resources as human food	
Traditional knowledge - Slaughtering processes and meat quality - from Sámi reindeer herders perspective	
Documentation of traditional knowledge of food culture in Sami Reindeer Husbandry - navigation towards future sustainability	
(ii) Improved capacity to use citizen knowledge	12
(iii) Communication of the experience	13
(iv) Learning from practice during the World Reindeer Herders' Congress	13
4. SUCCESS CRITERIA	14
Knowledge sources:	15
Budsjett 2017 aktiviteter	18

# 1. INTRODUCTION – traditional knowledge to improve local management of natural resources in reindeer husbandry

Changes in the environment in the Sami community are now unique in our long history in the North, and challenging for reindeer herders traditional living, reindeer herders well-being and food systems. The climate challenges threaten the reindeer herding economy in the north and future achievement of the UN's sustainability goals. In particular, adaptation to rapid unforeseen changes will be a challenge if we are unable to build resilience in indigenous reindeer herding communities. We believe it is important to engage indigenous peoples youth in traditional practices, and provide increased education and include the traditional knowledge of the Sami in the planning of the indigenous peoples' economy. This report discuss aspects of traditional knowledge related to animal welfare in reindeer, food culture and how herders economy resource management can be improved. The Nordic Resource Management (NUNAVIS) has been a part of the Arctic Council report to the Fairbanks Ministerial meeting May 2017: EALLU, Indigenous Youth, Arctic Change & Food Culture, knowledge and how we have thrived on the margins (Burgess et al., 2017). This report is about a part of the ongoing Rievdan studies at International Centre for Reindeer Husbandry (ICR) about increased use of traditional knowledge in management of reindeer meat. The report examples how tradition knowledge can be documented and used in the resource management. One example is how indigenous peoples knowledge can used in the sámi traditional slaughtering processes compared knowledge used in the industrial slaughtering processes to improve managment and herders green economy. This part of NUNAVIS is developing reindeer herders traditional knowledge standards for use in decision-making of food resources from reindeer to improve sustainable economy of the communities. We have also improved the capacity to use traditional knowledge through course development, (called 8j-100 course) and the delivery of the EALLU report to Arctic Council Ministerial meeting has provided a communication of the experience. Finally the project has used of traditional knowledge in indigenous peoples food production outreached through learning from practice in 31 community based workshops.

NUNAVIS will strengthen international collaboration aimed at promoting democratic community participation in decision-making on the use of natural resources, and the project will further develop and improve specific tools to support this while cooperation with EALLUs is to strengthen navigation towards future sustainability in reindeer husbandry with focus on the role of traditional knowledge in social-ecological Arctic food system. RIEVDANs major objectives is to research traditional cultural capabilities in Sámi reindeer husbandry and the opportunities embedded in traditional knowledge and scientific knowledge with focus on adaptation to change and reconciliation.

#### Reindeer husbandry - an Arctic sivilisation - local management.

Reindeer husbandry is a traditional international indigenous livelihood in Norway, Sweden, Finland, Russia, Mongolia, China and North America, and Greenland involving close to 100 000 people and approx. 2.5 million reindeer. The Arctic and Sub-Arctic regions are today experiencing a historic rapid set of changes, that have profound impacts on both the natural environment, the lives and well-being of Arctic indigenous peoples, their traditional livelihoods such as reindeer herding, and their local communities. Climate change, land use change and socio- economic change occur simultaneously and in interaction, on top of every other challenge that local indigenous communities might be facing. The combination of change drivers constitutes a legitimate concern for the future of circumpolar reindeer herding societies, raising key concerns with regards to society resilience and adaptive capacities. Various aspects of these adaptations are reflected in a rich vocabulary of Sámi terms and concepts. Therefore, reindeer herders' traditional knowledge, culture, and language provide a central foundation for rebuilding resilience locally, to be used to navigate through future shocks and disturbances. Both scientific and traditional experience- based knowledge, knowledge transformation and the education are key factors in making new resilience strategies in local communitites (Huntington, H. et al., 2004; Krupnik et al., 1994).

# 2. LESSONS LEARNED so fare from this cooperation, the EALLU project has produced the follow recommendation approved by Arctic Council Sustainable development working group

Based on the implementation of the EALLU project in 2015-2016, we are:

Noting the range of ongoing profound changes in the Arctic not witnessed before in the long histories of Arctic Indigenous Peoples, Recognizing that economic freedom of Indigenous societies is a key foundation for their adaptation to Arctic change, and that any civilization is dependent on using the knowledge of its people to build its own societies, Recognizing that climate change is also about what we are going to eat in the future, Recognizing that the rich understanding and knowledge-base Arctic Indigenous Peoples food has not been fully utilized for innovation and local economic development, and that it thus represents an untapped resource for Indigenous Peoples' societies' self sufficiency, prosperity and adaptation to Arctic change, and underline the key importance of Indigenous languages and traditional knowledge. Underlining the need for food security for Arctic Indigenous Peoples based on their equitable access to and possibility to select their own resources, food empowerment through utilization of their Traditional Knowledge, sustainable use of all resources in accordance with their traditional food systems, food safety regimes adapted to Arctic realities and Indigenous cultures, focus on health and well-being, and local economic development and value-added from within their own societies, Noting that our human and natural resources

have the capacity to enable Indigenous Peoples to become more food sovereign and food secure, and support development of mechanisms and technology to back up and encourage this, Noting the need for more research, education and monitoring of traditional food availability, access, utilization, sustainability and health for Arctic Indigenous Peoples, Underlining that Arctic food governance, as well as marketing and supply chains, must be adjusted to better accommodate Indigenous traditional knowledge, family-based reindeer herding and other traditional Indigenous livelihoods, and Indigenous Peoples' local economies, Recognizing the need for special efforts to realize that Arctic Indigenous Peoples and societies are in position and able to utilize arising opportunities from Arctic change, on their own terms, based on their own needs, their own resources, knowledge base and people, so that the opportunities of our changing Arctic can be real opportunities for all.

The participating Arctic indigenous youth and project management of SDWG EALLU therefore make the following recommendations to the Arctic Council:

- 1. Encourage the Arctic Council through its relevant Working Groups to maintain a clear focus on Arctic indigenous food cultures and systems, and support activities on Arctic indigenous food systems, youth, food security, nutrition, health, economy and well-being.
- 2. Encourage further development of indigenous trans boundary knowledge networks to bridge the gaps between society and academia, between academia and business, and between science and traditional knowledge, focusing on Arctic indigenous peoples food culture, food sovereignty, food security and business development, and invite Arctic Council Members and Observers to contribute to this including UArctic, IASC and IASSA.
- 3. Encourage the establishment of an international multidisciplinary program for training of indigenous youth in food TK documentation, food entrepreneurship and innovation, based on the EALLU project, as a follow up of point # 20 of the Iqaluit Declaration from 2015.
- 4. Support in general that Permanent Participants themselves and Observers with the support of at least one Arctic State continue to initiate, plan and implement Arctic Council projects of relevance to their local societies in a rapidly changing Arctic, to secure both local engagement and capacity building. The participating Arctic Indigenous youth of EALLU therefore also identify the following additional opportunities and options for consideration:
- 1. Support a separate follow-up EALLU task to further investigate the possibilities for utilization of the Northern Sea Route and new slaughterhouse processing technologies for improving the economic base of Arctic indigenous peoples', in close cooperation with Association of World Reindeer Herders, Permanent Participants and Member States. Sakha Republic (Yakutia) in Russia will function as a pilot region.
- 2. Support establishment of Arctic standards of indigenous food production, based on food security and safety, but adjusted to Arctic indigenous cultures, food practices and traditional knowledge, as well as our Arctic food production realities.
- 3. Encourage development of a new branding system for Arctic indigenous peoples' products including fair trade and food specialties.

- 4. Acknowledge the importance of the economic freedom and economic basis of Arctic indigenous peoples' traditional livelihoods, and encourage their access to and ownership of the most profitable activities in the value chain.
- 5. Consistent with national laws, suggest that free trade of indigenous foods and products between indigenous peoples' business enterprises be investigated in order.

# 3. ACTIVITIES: To achieve the four objectives, the project has comprised the following activities

### **Community workshops and seminars:**

- EALLU/ AIPCI Biebmu Nordic Food Festival in Copenhagen. May 28-30, 2015
- EALLU/ AIPCI Nosgecher Khatystyr, Sakha Republic. August 22-24, 2015
- EALLU/ Gávnnadeapmi/ AACA, Inari, Finland. September 17-19, 2015
- CAFF Nomadic Herders Mongolia, Terelj National Park. September 18-20, 2015
- EALLU/ AIPCI/ RCN Rievdan, Kautokeino, Norway. September 20-22, 2015
- EALLU/ AIPCI Northern Sea Route Seminar, Reykjavik, Iceland, October 16, 2015
- EALLU/ AIPCI/ Nosegcher/ NF AGM, Yakutsk, Sakha Rep., Russia, Novem ber 4-5, 2015
- EALLU/ AIPCI/ Arctic College Chersky, Kolyma, Sakha Rep., Russia November 9-13, 2015
- EALLU/ AIPCI/ Nosegcher Uryung-Khaya, Anabar, Sakha Rep., Russia December 5-8, 2015
- EALLU/ AIPCI food event at the CAFF meeting in Kirkenes, Norway February 4, 2016
- EALLU/ AIPCI/ RCN Rievdan/ Geitmyra Food Culture Centre for Children, Food event at the celebration of the Sámi National Day, Oslo, Norway February 6, 2016
- EALLU/ AIPCI/ RCN Rievdan Indigenous Food Field Trip for International Food Journalists, Kautokeino, Norway, April 11-13, 2016.
- EALLU/ AIPCI/ RCN Rievdan International Festival of Traditional Indigenous Food Cultures, by Indigenous youth from different 7 Indigenous Peoples, Kautokeino, Norway, April 13, 2016.
- EALLU/ Nomadic Herders Sápmi International University Course on Traditional Knowledge and Biodiversity Conservation, Kautokeino, Norway, April 11-24, 2016.
- EALLU/ AIPCI Russian-Norwegian Arctic Food Business Cooperation Symposium. Hosted at the Norw. Embassy in Moscow, May 16, 2016.
- EALLU/ AIPCI Scandinavian and Russian Indigenous Food Reception, on the occasion of the Norwegian National Day May 17, Hosted at the Norw. Embassy

in Moscow, May 17, 2016.

- EALLU/ AIPCI Field Workshops, Tompo River, Sakha Rep., Russia, April 2-3,2016
- EALLU/ AIPCI Youth and Knowledge Transfer Workshops, Midnite Sun Rein deer Farm, Nome, Alaska, US, June 16-21, 2016
- EALLU/ Rievdan Food Culture Field Workshop, Khuranakh, Tomponsky, Sakha Rep., Russia, August 4-11, 2016.
- EALLU/ Rievdan food culture science workshop, with 18 young Indigenous students from Russia presenting food culture thesis and traditional food dishes. At Herzen University, St.Petersburg, Russia, September 12, 2016.
- EALLU/ Rievdan Science Discussion with Arctic Colleges of Russia on food culture and TK development. At Herzen University, St.Petersburg, Russia, September 13, 2016.
- EALLU/ Rievdan/ AIPCI food culture and business seminar Salekhard, Ya malo-Nenets AO, Russia, November 8, 2016.
- EALLU/ Rievdan/ AIPCI food culture seminar and reception Yakutsk, Sakha Rep, Russia, November 26-28, 2016.
- EALLU/ Rievdan/ NCM Nordisk ressursforvaltning workshop, Nuuk, Greenland, December 10, 2016.
- EALLU/ Rievdan/ AIPCI Sámi food culture demo workshop, Avzi, Norway, December 20, 2016.
- EALLU / Rievdan Knowledge and Indigenous Food Systems, Kautokeino, Norway. February 1-3, 2017
- EALLU Arctic Indigenous Cuisine EXPO. Arctic Territory of Dialogue Forum. Archangelsk. March 28-9, 201

EALLU Arctic Indigenous Cuisine EXPO. Arctic Council Ministerial meeting Fairbanks Alaska.

May 10<sup>th</sup> 2017.

#### Report

Philip Burgess, Elena Antipina, Svetlana Avelova, Anna Degteva, Andrey Dubovtsev, Binderiya Dondov, Alena Gerasimova, Svein D Mathiesen, Anders Oskal, Mikhail Pogodaev Eilene Adams, Roksana Avevkhay, Burmaa Batkhishih, Khoschimeg Bayandalai, Olesya Bolotaeva, Karrie Brown, Máret Rávdna Buljo, Anna Chuprina, Sonita Cleveland, Rávdna Biret Márjá Eira Sara, Sarantuya Ganbat, Bayarmagnai Ganbold, Inger Marie Gaup Eira, Nadezhda Gerasim- ova, Tsetsegmaa Gombo, Chantal Gruben, Maxim Gulyaev, Jacey Firth-Hagen, Kia Krarup Hansen, Cyrus «Naunġaq» Harris, Vlada Kaurgina, Zhanna Kaurgina, Mikkel Anders Kemi, Aleksandr Krasavin, Irina Krivoshapkina, Elvira Okotetto, Marta Okotetto, Nikolay Osenin, Maria Pogodaeva, Alena Prokopjeva, Udval Purevjav, Elna Sara, Nechei Serotetto, Lyubov Sidorova, Inger Anita Smuk, Anatoly Sorokin, Marjorie Tahbone, Sandy Tahbone, Valentina Tokhtosova, Issát Turi, Suanne Unger, Maria Yaglovskaya, Olesya Yakovleva, So a Zakharova, Uudus Zolzaya, Zagalmaa Zorigt 2017. Inddigenous youth, Arctic Change and food culture, knowledge and how we have thrived on the margins.

An Arctic Council Sustainable development An ARCTIC COUNCIL SDWG REPORT 2015–2017 pp: 160.

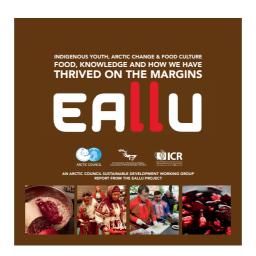
### **Course development**

A tailor made course on university level was made on traditional knowledge and Arctic food resources management called 8j-100 course in April 2016 in Guovdageaidnu where also students from Greenland was invited to participate. A total of 29 students finished the course which focus on use of traditional knowledge for improved management of biodiversity locally.

Experimental slaughtering of reindeer to document use of reindeer herders traditional knowledge by Sara, RBE, I. Turi and SD Mathiesen, in preparation.

### (i) Further development and testing of standards to incorporate traditional knowledge into decision-making on the use of resources as human food

Standard templates for the use of community observation of traditional food resources will be further developed and tested so that community members are able to strengthen their documentation and communication of knowledge on the status of natural resources. This will help to improve the local people's and authorities' decision-making on the use of natural resources based of the outcome of the EALLU report:



Traditional livelihoods are critically important for the diversity of Indigenous Peoples in the Arctic and Sub-arctic living within the present day nation states of Sweden, Finland, Norway, Russia, Canada, Alaska, Greenland, and Mongolia Their nomadic life ways have enabled the use of barren Arctic mountain, tundra, and taiga areas for food production since time immemorial (Oskal et al 2009). In this report we present the traditional food systems of Nenets,

Sámi, Chukchi, Koryak, Dolgan, Evenki, Even, Yukagir, Dukha, Aleut, Athabaskan, Inuit, Iñu- piat, Gwich'in and Yup'ik peoples.

This book is the intermediary report from the Arctic Council EALLU project (SDWG EALLU: Indigenous youth, climate change and food culture 2015-2019). This project is colead by Canada, Denmark/Greenland, Norway, Rus- sia, USA, the Aleut International Association and the Saami Council, and is managed by the Association of World Reindeer Herders (WRH) and the International Centre for Rein- deer Husbandry (ICR). A central aspect of the project is that it is co-managed by Indigenous youth themselves, as a capacity building e ort. The EALLU project is a direct follow-up of ear- lier projects of the Arctic Council, notably the SDWG/ IPY EALAT Reindeer Herding, Tradi- tional Knowledge and Adaptation to Climat Change and Loss of Pastures Project (2007-2011) (Magga et al 2011) and the EALLIN Rein- deer Herding Youth Project (2012-2015) (Po- godaev, et al 2015). This time, we combine our understanding of Arctic change and our methodology of Indigenous youth engagement with a focus on food, economic and societal development, and youth leadership. The EALLU project is a follow up of point 22 of the Igaluit Declaration on the occasion of the 9th Arctic Council Ministerial Meeting in Igaluit, Canada, April 24 2015, that states: [we] «... Welcome the work of the Arctic Council on reindeer herding and youth, and further welcome the promotion of food culture and leadership opportunities for Indigenous youth.

## Traditional knowledge - Slaughtering processes and meat quality - from Sámi reindeer herders perspective

It is common that a reindeer herder chooses to slaughter a good animal for itself. There is a certain way of choosing the right reindeer for the purpose and a method on how the reindeer is slaughtered. Usually the reindeer is killed by stabbing a knife straight to the heart so the blood runs out a little bit and then tie the esophagus/throat so the contents of the stomach do not come up in the mouth. Then the reindeer is left for a while, to "baggat" or "virrat". When a reindeer is being slaughtered in a Sámi home a traditional slaughtering method is used. The slaughtering method is common in all Sami region but with some variations. These methods have been used and passed over to the younger generations for a long time. The knowledge embedded in the method and words used during the slaughtering explain the slaughtering process, names of different way of slaughtering and parts of the reindeer. In Konrad Nielsen's (1979) systematic part of the dictionary there are listed 207 words only about the slaughtering process. Each word has an explanation in the dictionaries that explain what the word means. The slaughtering process in the systematic part of Nielsen's work is divided into seven categories, 1) killing 2) killing place 3) the process of killing, slaughter -reindeer, killing method and killing implements, 4) skinning, 5) dismemberment and dividing up, 6) terms of carcase, and parts of carcase and 7) treatment of the flesh and other parts of the carcase. This show that the knowledge embedded in the words connected to slaughtering are of importance and each word has a meaning that a traditional slaughterer use and should know. There are even more words connected to preparation and conservation of reindeer meat in these dictionaries.

Pilot project - «baggat» or «virrat»





Saami reindeer herders Issat Turi from Guovdageaidnu said when we were working with this project last winter that «the way you kill the animal depends on the way you are going to use the meat after». This means that there a several methods killing a reindeer and it also indicate that there are several slaughtering methods. It depends on what the meat is going to be used for, as Turi said. For instance, "giđaniestti" means "food for spring". When choosing reindeer for "giđaniestti", often fat females are chosen to be slaughtered for that purpose. A 4-5 year old female that do not have a dalf that year is called "rotnu". Also other type of reindeer that are in good shape and are fat are slaughtered for this purpose, like males that are castrated or not. The meat of a fat reindeer is of good quality and is the best to salt and dry. "Giđaniestti" is meat that is usually dried and easy to eat during the spring migration. The meat should be very fat so the reindeer herder can last for a long time herding during the nights in the spring when the pregnant females must be watched over do they do not start spring migration before it's time for it.

Traditionally the slaughterer lets the womb of the reindeer blow up after killing it and before removing the skin. In Konrad Nielsen's dictionaries (1979) we can read several explanations for the "baggat"-process. "Baggat" means that the reindeer "become very much swollen, full of wind, distended" (ii galgga njuovvat ovdalgo bagga). "Virrát" have two explanations – 1) lie in convulsions (of animal that has been killed) 2) let (a reindeer that has been killed) lie for some time unskinned, so that the flesh may become tender, lie unskinned, so that the flesh becomes tender (of reindeer that has been killed). Other words connected to slaughteringand killing of reindeer that are of importance are "virrádit" means "kill quickly and easily (of knife or other implement) (de liggestii gieđain niibenjuni vai buoret lea virradit dat niibi)", "oppástuvvot" means "deterioate through lying too long unskinned (or carcase)". "Beđđot" is also used in relation to slaughtering process, for example if the stomach is blowned up too much – 1) get a hole through being pierced or cut 2) be made to explode (of someone in a bad temper). Slaughterer in a slaughtering film made by Sami University of Applied Sciences (SUAS) says that if the stomach is blown too much then it must "suođahit" – let the air out by

sticking a small hole in the stomach with the tip of the knife. (Slaughtering film, 2005) "Orččás" - slender, but in good condition (especially of a horse, but also of reindeer)

In this report we are not going deeply into explaining the slaughtering method but will continue to discuss the importance of the process of "baggat". Maret Ravdna Buljo, a reindeer herder who has her own slaughterhouse with her husband and family. She is a woman who is strong on her traditional knowledge about reindeer husbandry and especially in reindeer meat. She means that the Sami traditional slaughter method could be implemented in a slaughterhouse. By Sami traditional slaughter method she means that killing a reindeer is done with the traditional way by stabbing directly into the heart and that the carcass is left to "baggat" for a while. Regulations allow stomach to stay in the carcass for 45 minutes before removed. One minute after killing a reindeer it needs to bleed out. Traditionally blood stays longer in the carcass and by stabbing the reindeer directly into the heart, blood will be gathered in the carcasses chest. By sticking straight to the heart some blood is let out, but not all of it. In a slaughterhouse all the blood is removed since carcass is hanging upside down and is cut in the throat to remove all blood. In that way there is no blood within the carcass and in the meat. Buljo means that with the traditional way, by letting the blood stay a while in the carcass and that it is left to "baggat" for a while makes the best quality of meat. Usually in a slaughterhouse the carcasses hang for 3 or more days in a certain temperature, but with way the carcass do not need to hang to tenderize the meat. In this work we have been slaughtering two females in February 2016, the so-called "giđaniestti" as explained earlier. Usually a "giđaniestti" reindeer is a 4-5 year old female that did not have a calf that year, or a castrated male that is very fat.

### Documentation of traditional knowledge of food culture in Sami Reindeer Husbandry - navigation towards future sustainability

Traditional knowledge in Sámi reindeer herding related to reindeer welfare, handling of animals and Sámi food culture is rich and will be documented until November 2017. Reindeer herders' traditional knowledge and scientific knowledge about slaughtering, processing of meat, conservation of meat will be investigated to find out if there two sphere of knowledge affect reindeer herders ability to adapt to rapid change? It is important to document traditional food-culture within reindeer herding communities to maintain the knowledge embedded in the language of food used. Sámi reindeer herders' diet is mostly reindeer meat and other parts from reindeer in different varieties; smoked, cooked, dried and roasted. By focusing on traditional food culture and scientific knowledge in reindeer husbandry, there might be new ways of developing the economy of reindeer herders by highlighting the traditions within food and use of reindeer and that way gain recognition for the traditional ways of harvesting, storing and preserving reindeer meat, using traditional knowledge navigating for future sustainability. Delivery from this working packed is article about 1) A study of Sámi reindeer herders' traditional methods to kill reindeer for local food production related to season, category of reindeer (calves, spáillit, rotnu), herders value (árvvut) and traditional knowledge and scientific knowledge reflecting specific food cultural

requirement, animal categories and seasons - two ways of knowing about slaughtering of reindeer, 2) The Sámi reindeer herders - two spheres of knowledge about tenderness of reindeer meat, 3) Reindeer herders specialized language about the anatomy of reindeer, muscles, tendons and skeletal - their stories and knowledge, 4) Comparative investigations of different traditional methods to preserve and store reindeer meat, bone and blood for local food production in Sámi reindeer husbandry based on herders value (árvvut) and traditional knowledge reflecting specific food cultural requirement, animal categories and seasons, including stories connected to the bones and meat (Biehtarašdilljá, gánis) of reindeer and how they express knowledge about animal welfare and herders cultures and world view, 5) Sámi traditional butchering technics compared to modern standards slaughtering of reindeer two ways of knowing and effects on meat, blood and fat quality from a traditional herders perspectives affecting food and people.



#### (ii) Improved capacity to use citizen knowledge

International Centre for Reindeer Husbandry and Sami University of Applied Sciences arranged a common international course last April, "Biological Diversity in a Circumpolar Indigenous Perspective (8j-100)" in Guovdageaidnu with 35 students from seven different reindeer herding peoples attended. In relation to this course we had a workshop together with the students discussing meat quality and what methods reindeer herders have to get the best quality to the meat. The discussions show that these seven reindeer herding groups, Sami, Dukha, Dolgan, Chukchi, Nenets, Eveni and Evenki have quite similar methods to get the best meat quality to the meat. This course is now being developed online in the framework of University of the Arctic. Development of education course for Sami reindeer herders in Nordic countries related to traditional knowledge and food culture. The project seeks to develop a course for building competence in the Nordic Countries related to adapting to rapid changes and reindeer herders food culture and traditional knowledge. We will in the 3 years project provide different training courses for Sami student providing insights in methods to document traditional knowledge, indigenous peoples food culture, and adaptation to climate change. Some of these courses will also be provided online from in a close cooperation with International Centre for Reindeer Husbandry and Sami University College. Furthermore, we plan to develop an exchanges students program for Sami students in the Nordic Countries. Training packages, seminars will be developed within the framework of UArctic EALÁT

Institute.

#### (iii) Communication of the experience

Seminar about traditional knowledge and reindeer herders food culture at - local management of natural resources at the World Reindeer Herders Congress in Jokkmokk Sweden August 2017.

We plan to implement an international seminar on Arctic indigenous food culture, involving Arctic indigenous reindeer herding youth, contributing to competence building, and bridging knowledge gaps between the generations of indigenous elders and youth on food culture in the circumpolar north. The seminar will include insights in to indigenous peoples understanding of biodiversity and food cultures and contain the following topics: Reindeer meat quality from an Arctic Indigenous perspective, Reindeer meat quality two spheres of knowing, Tools and methods to document reindeer herders traditional knowledge about meat quality and food culture, Sami concepts and language related to documentation of food culture, Gender perspectives of Sami reindeer herders food culture and the value of reindeer meat, blood and bones.

#### (iv) Learning from practice during the World Reindeer Herders' Congress

Every 4th year, all the reindeer herding peoples of the world have their own Congress -The World Reindeer Herders' Congress - the most important meeting and democratization arena for world reindeer herders. In addition, the Congress is an important engagement arena for authorities, researchers, educators, and others with an interest in reindeer husbandry. The Congress represents the superior body of WRH, the international CSO/ NGO for all reindeer herding peoples. Earlier Congresses have been held in Nadym, Yamal AO, Russia (1997), in Inari, Finland (2001), in Yakutsk, Sakha Rep., Russia (2005), in Kautokeino, Norway (2009) and in Aoluguya, China (2013).

The 6th World Reindeer Herders' Congress (6WRHC) will be held in Sweden in 2017, gathering representatives from all different reindeer herding regions of the world. The decision to ask Sweden and Swedish Sámi to host this important Arctic event was made by herding representatives at the 5<sup>th</sup> World Reindeer Herders' Congress held in Inner-Mongolia in China in July 2013.

#### 4. SUCCESS CRITERIA

One could say that "an opportunity should be an opportunity for all" in management of local resources in the Arctic. The project will develop methods for documenting traditional knowledge and improve adaptive skills while enhancing livelihoods economy. The project is liked to International Nomadic Herders project, supported by UNEP and GEF and the Arctic Council, Conservation of Arctic Flora and Fauna (CAFF), and will be linked to Arctic Council Action Adaptation in a Changing Arctic (AACA). International Centre for Reindeer Husbandry are participating in all these projects. We believe that this people- to-people initiative will help build local expertise in operations in reindeer herders community. The Arctic Council EALLU will improve the social ecological resilience in reindeer husbandry in Nordic Countries and the cooperation with Nordic Resource Management (NUNAVIS) and provided a unique comparative analysis of how traditional knowledge is used in local management of resources in the Nordic Countries.

Development of standards based on traditional knowledge into management of increased use of resources for reindeer as human food: These traditional knowledge tools developed will constitute the success criterion for increased economic sustainability. This will followed up in fieldwork until November 2017 carried out by Ravdna BM E Sara and Kia Hanssen.

*Improved capacity to use traditional knowledge:* The success criterion will be increased the use of EALLU recommendations in local reindeer herders communities.

Communication of experience: The workshop at WRHC6 will be one success criterion in communication of use of traditional knowledge in sustainable development.

*Learning from practice*: The success criterion will be that the project can demonstrate a significant increase in how traditional knowledge of use of food resources is incorporated into decision-making procedures, and

- Are being used systematically by reindeer herders.
- Are reaching the institutions responsible for natural resource management.
- Are being used in practice for management decisions related to food production.

### **Knowledge sources:**

Svein D. Mathiesen, Mathis P. Bongo, P. Burgess, Robert W. Corell, Anna Degteva, Inger Marie G. Eira, Inger Hanssen-Bauer, Alvaro Ivanoff, Ole Henrik Magga, Nancy G. Maynard, Anders Oskal, Mikhail Pogodaev, Mikkel N. Sara, Dagrun Vikhamar Schuler, and Ellen Inga Turi. Indigenous Reindeer Herding and Adaptation to New Hazards in the Arctic Accepted for publication Cambridge University Press under publication.

Magga OH, S.D. Mathiesen, R.W. Corell and A.Oskal, (eds), Rasmus Benestad, Mathis P. Bongo, Philip Burgess, Anna Degteva, Vladimir Etylen, Inger Marie G. Eira, Ravdna Biret Marja Eira, Ole Isak Eira, Nils Isak Eira, Eirik Førland, Christian Jaedicke, Inger Hanssen-Bauer, Dagrun V. Schuler, Ditte Hendrichsen, David Griffiths, Jennifer Gebelein, E. Carina H. Keskitalo, Vladimir Kryazhkov, Roza Laptander, Anne-Maria Magga, Nancy G. Maynard, Lars Moe, Christian Nellemann, Eli R. Nergård, Helena Omma, Nils Oskal, Øyvind Ravna, Mikhail Pogodaev, Kirsti E. Præsteng, Erik Reinert, Monica A. Sundset, Ellen Inga. Turi, Johan Mathis Turi, Elna Sara, Mikkel Nils Sara, Nicholas J. C. Tyler, Ingunn I. Vistnes and Mattias Åhren. 2011: Reindeer Herding, Traditional Knowledge and Adaptation To Climate Change And Loss Of Grazing Land. A project led by Norway and Association of World Reindeer Herders (WRH) in Arctic Council, Sustainable Development Working Group (SDWG). Ministerial Report 2011, International Centre for Reindeer Husbandry and Association of World Reindeer Herders. International Centre for Reindeer Husbandry Report 1:2011. Fagtrykk Idé AS, Alta, reindeer herding, traditional knowledge and adaptation to ...reindeerherding.org/wp.../EALAT-Final-Report.pdf

Magga, OH., Mathiesen, S.D., Corell, R.W., Oskal, A., Benestad, R., Bongo, M.P., Burgess, P., Corell, R.G, Degteva, A., Ethylin, V., Eira, I.M.G., Eira, R.B.M., Eira, O.I., Eira N.I., Frøland E., Gebenlein, J., Griffiths, D., Hanssen-Bauer, I., Hendrichsen, D., Henriksen, D., Jaedicke, C., Keskitalo, C., Kyrhackov, V., Laptander, R., Magga A.M., Maynard, N., Moe, L., Nellemann, C., Nergård, E.R., Omma, H., Oskal, N., Pogodeav, M., Præsteng, K.E., Ravna, Ø., Reinert, E., Sundset, M.A, Sara, E., Sara, M.N., Schuler, D.V., Turi, E.I., Turi, J.M., Tyler, N., Vitsnes, I. and Åhren, M. 2011: EALÁT Noe å leve av. 139 -. 145. Report to Norwegian Research Council IPY Programme. in Orheim O & K Ulstein (eds) Polaråret 2005-2008 Det Norske bidraget. Norges Forskningsråd Oslo. In Norwegian.

Naikanchina, A., Elle Bals, Anna Degteva, Ol- Johan Gaup, Alexander Grigorev, Inger Marie G. Eira, Kathrine I. Johnsen, Rebecca Lawrence, Anne-Maria Magga, Svein D. Mathiesen, Helena Omma, Konstantin Oshchepkov, Anders Oskal, Mikhail Pogodaev, Ellen Inga Turi, Philip Burgess, Johan Mathis Turi, Johan Daniel Turi, Issat Turi, Ravdna B. M Eira, Ivan Tuprin, Igor Slepushkin, Alexander Serotetto, Mattias Åhrén and Björn Alfthan (2012): "Study on loss of grazing land in circumpolar reindeer husbandry". UNPFII Special Report submitted by Special Rapporteur Anna Naikanchina. United Nations Permanent Forum on Indigenous Issues (UNPFII), Tenth Session, New York, . http://reindeerherding.org/wp-content/uploads/2013/01/UNPFII-2012-Reindeer- Husbandry Final 23Nov.pdf.

Mikhail Pogodae, Anders Oskal, Svetlana Avelova, Piere Bergkvist, Philip Burgess, Anna Degteva, Rávdná Biret Márjá Eira, Inger Marie Gaup Eira, Ol Johan Gaup, Alena Gerasimova, Yunting Gu, Kia Krarup Hansen, Mikkel Anders Kemi, Anne-Maria Magga, Svein Disch Mathiesen, Helena Omma, Per Jonas Partapuoli, Vadim Parfenov, Elna Sara, Nechei Serotetto, Igor Slepushkin, Anne Silviken, Petter Stoor, Ksenia Tibichi, Johan Daniel Turi, Issat Turi, Ellen Inga Turi, Elena Walkeapää 2015. Youth Future of Reindeer Herding Excecutive summary EALLIN EALLIN is an Arctic Council project of the Russian Federation and Norway in partnership with the Sámi Council, UArctic and others. EALLIN is led and implemented by the Association of World Reindeer Herders in cooperation with the International Centre for Reindeer Husbandry. International Centre for Reindeer Husbandry (ICR) & Association of World Reindeer Herders (WRH) in cooperation with the UArctic EALÁT Institute (UEI). http://library.arcticportal.org/1804/1/253000367-EALLIN-Youth-the-Future-of-Reindeer-Herding-Peoples%20(1). pdf

Mikhail Pogodaev, M, Anders Oskal, Svetlana Avelova, Piere Bergkvist, Philip Burgess, Anna Degteva, Rávdná Biret Márjá Eira, Inger Marie Gaup Eira, Ol Johan Gaup, Alena Gerasimova, Yunting Gu, Kia Krarup Hansen, Mikkel Anders Kemi, Anne-Maria Magga, Svein Disch Mathiesen, Helena Omma, Per Jonas Partapuoli, Vadim Parfenov, Elna Sara, Nechei Serotetto, Igor Slepushkin, Anne Silviken, Petter Stoor, Ksenia Tibichi, Johan Daniel Turi, Issat Turi, Ellen Inga Turi, andElena Walkeapää. 2015 Arctic Council *EALLIN report* to the Ministerial meeting Youth – The future of reindeer herding peoples http://www.scribd.com/doc/253000367/EALLIN-Youth-the-Future-of-Reindeer-Herding- Peoples

Miriam Huitric, Garry Peterson and Juan Carlos Rocha, Marcus Carson, Douglas Clark, Bruce Forbes, Grete K. Hovelsrud, Svein D. Mathiesen, Ashley Perl, Allyson Quinlan Hanna Ahlström, Rawaf Al Rawaf, Derek Armitage, Dag Avango, Svetlana Avelova, Heather Bell, Adrian Braun, Clara Burgard, Christopher Cosgrove, Daniele

Crimella, Enoil de Sousa Júnior, Anna Degteva, Lara Dominguez, Niels Einarsson, Viktoriia Filippova, Melanie Flynn, Jonas Gren, Hannah Grif ths, Gustav Grusell, Elin Högström, Elinor Holén, Henry Huntington, Hanna Kylin, Matilda Lenell, Katrin Lindbäck, Linda Lindström, Cornelia Ludwig, Tobias Luthe, Katja Malmborg, Svein D. Mathiesen, Viveca Mellegård, Yasir Muhammad, Tero Mustonen, George Noongwook, Julia Olsen, Roweena Patel, Aliaksei Patonia, Shealagh Pope, Kaitlyn Rathwell, Fernando Remolina, Stine Rybråten, Carmen Seco Pérez, Nikolas Selheim, Philip Siegel, Jessica Spijkers, Dries Stevens, Andrea Utas, Lize-Marie van der Walkt, Liliia Vinokurova, Kate Williman, Alexander Winkler. 2016 What factors build or erode resilience in the Arctic? In Carson et al. Arctic Resilience Report chapter 4 page 96 – 125. Arctic Council.

Anna Degteva, Minna Turunen, Seija Tuulentie, Bob van Oort, Robert Corell, Sari Kauppi/Timo Jouttijärvi, Anatoli Bourmistrov, Hein Rune Skjoldal, Nancy Maynard/Arja RautioNatalia Anisimova, Evgeny Antonov, Per Arild, Iulia Aslaksen, Camilla Brattland, Philip Burges, Valery Chashchin, Dmitrii Denisov, Anastasia Emelyanova, Jaakko Erkinaro, Geir Gabrielsen, Per Arild Garnåsjordet, Ludmila Gashilova, Ludmila Maria Granberg, Leena Grandell, Andrei Gudkov, Ingeborg G Hallanger, Antti Hannukkala, Petri Heinimaa, Grete Hovelsrud, Boris Ivanov, Nina Mari Joergensen, Edda Johannesen, Lis Jorgensen, Asta Kietäväinen, Juha Kiviluoma, Oleg Korneev Kari LarsLindholt, Pavel Ljubin, Anne-Maria Magga, Svein D. Mathiesen, Elena Nikitina, Frode Nilssen, Teuvo Niva, Jon Oyvind Odland, Julia Olsen, Riku Pasonen, Stanislav Patin, Mikhail Pogadaev, Arja Rautio, Pasi Rautio, Erik Reinert, Kimmo Silvo, Laura Sokka, Julia Tchernova Aleksey Tsykarev, Wilbert van Rooij, Seppo Vuori, Willy Østreng Arctic Council AMAP REPORT: ACTION for ADAPTATION TO ARCTIC CHANGE Chapter 6: Impact Analysis and Consequences of Change

Anna Degteva, Anders Oskal, Svein D. Mathiesen, Philip Burgess Iulie Aslaksen, Kathrine Johnsen, Anne-Maria Magga, Wilbert van Rooi Camilla Brattland, Robert Corell, Andrey Dubovtsev, Per Arild Garnåsjordet, Aslak Holmberg, Konstantin Klokov, Nancy G. Maynard, Christian Nellemann, Beaska Niillas, Per Jonas Partapuoli, Mikhail Pogodaev, Erik Reinert, Per Sandström, Igor Slepushkin, Inger A Smuk, Jannie Steffanson, Zinaida Strogalschikova, Alexey Tyskarev, Levi Westerveld. 2017. Indigenous peoples' perspectives Chapter 7 Arctic Council Report Adaptation Action in Changing Arctic pp.

### Budsjett 2017 aktiviteter

_ uusjeet _cir us		Utgifter NOK
	AX forberedelse EALLU	
Lønn	bok	32 029
	SDM workshop	
	Jokkmokk	51 246
	SDM feltarbeid	51 246
	MAK workshop	
	Jokkmokk	25 725
reiser	Jokkmokk	50 000
	Alaska	50 000
Workshop utgifter	Jokkmokk	50 000
	Feltarbeid	20 000
	SUM	330 246