INDIGENOUS YOUTH, ARCTIC CHANGE & FOOD CULTURE

FOOD, KNOWLEDGE AND HOW WE HAVE THRIVED ON THE MARGINS

EALLU

ARCTIC COUNCIL

Ассоциация «Оленеводы Мира»
Association of World Reindeer Herders

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AN ARCTIC COUNCIL SUSTAINABLE DEVELOPMENT WORKING GROUP REPORT FROM THE EALLU PROJECT




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AN ARCTIC COUNCIL SUSTAINABLE DEVELOPMENT WORKING GROUP REPORT
FROM THE EALLU PROJECT IN 2015–2017

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EXECUTIVE SUMMARY

By Anders Oskal, Philip Burgess, Mikhail Pogodaev, Svein D. Mathiesen, Svetlana Avelova and Alena Gerasimova.

This is a book about the fabulous abundance and diversity of food in the Arctic. While many think of the Arctic as a place of harsh climate and scarcity, in fact the Arctic hosts an extraordinary food culture, built on 10,000 years of knowledge, and intergenerational knowledge transfer.

Over millennia, Arctic Indigenous Peoples' culinary traditions and food culture have nourished peoples, enriched communities, bound generations and embodied the very essence of 'sustainability'. Indigenous food production and processing systems ensured that by connecting to the deep cycles of the seasons, sun and moon, and their specific ecological niches, and their rich knowledge, herders, hunters, fishers and gatherers could sustain human and animal life over thousands of years. This is not 'Traditional Knowledge' constructed in the form of a declaration or political statement. This is ancient knowledge enacted in the everyday. In some regions of the Arctic, as you will see in this book, life today would not be possible without this everyday reality of slaughtering, preparing and storing foods in the traditional way.

Arctic change is underway and is rapid, and climate change is one of multiple drivers (ACIA 2005, AMAP 2012, IPCC 2013). Others include significant land use change, globalization, new challenges for traditional livelihoods, demographic and cultural change, and multiple social and health indicators that point to challenging times ahead for Arctic Indigenous Peoples (Larsen et al 2014, Glomsrød, Duhaime & Aslaksen 2017, Glomsrød & Aslaksen 2006).

To our knowledge, this is the first attempt to present an overview of the culinary world of the Arctic Indigenous Peoples in one volume. This book provides a snapshot of both the rich, diverse and living culinary traditions as well as introduction to the food systems of Arctic Indigenous Peoples. We also want to show that the skills and knowledge associated with these food systems is also undergoing rapid change. In some areas, the skills and knowledge needed to slaughter, hunt, gather, feed ourselves and our communities and conserve food traditionally are in peril. A 'public health crisis' is underway in some parts of the Arctic, due to unprecedented dietary shifts away from traditional foods. A direct correlation can be drawn between many physical, social and mental ills to an increased reliance on market foods of poor quality, and decreased consumption of nutrient dense traditional foods (Council of Canadian Academies 2014).

While recent indicators would appear to have taken the development 'heat' off the Arctic, the region has become a fully integrated unit of the global economy. That process will intensify

Traditional Knowledge is a systematic way of thinking and knowing that is elaborated and applied to phenomena across biological, physical, cultural and linguistic systems. Traditional Knowledge is owned by the holders of that knowledge, often collectively, and is uniquely expressed and transmitted through Indigenous languages. It is a body of knowledge generated through cultural practices, lived experiences including extensive and multigenerational observations, lessons and skills. It has been developed and verified over millennia and is still developing in a living process, including knowledge acquired today and in the future, and it is passed on from generation to generation.

Definition from the 'Ottawa Traditional Knowledge Principles' developed by the Permanent Participants to the Arctic Council. The Inuit Circumpolar Council use the term 'Indigenous Knowledge' which also follows this same broad definition.

Máret Rávdná Buljo with her child, Kautokeino, Norway. Photo: Anders Oskal

over the coming decades. What this will mean for the regions Indigenous Peoples is central to discussions going on in communities, big and small, in villages and in the tundra and taiga; across the Arctic and sub Arctic. These changes will also impact Indigenous food cultures and systems.

What will these changes mean for our communities? Our food culture and traditions? Our unique languages? Our physical and mental health? Can we harness the power of the market on our own terms? Can we develop our economical spheres in partnership with the land and animals that we share our territories with? Will our knowledge help us navigate future challenges? Could the food we harvest, prepare, store and eat be a part of our future solutions so that we can continue to thrive on our ancestors land? Can we retain and continue to use the knowledge embedded in our food systems?

These are some of the questions that we hope to answer by addressing the topic which we can *all* relate to: food. Food is clearly universal to all human beings. It is a single thing that is common to all, that is essential for human life (UN 2015). Illustrating this universal nature of food for indigenous peoples, Evenki and Even people in Eastern-Siberia have a term for greeting others that meant *«how was the hunt?»* rather than *«how do you do?»* In the Arctic and sub Arctic, food is central to the very heart of who we are as peoples. Our food systems are the very essence of Indigenous traditional knowledge in practice. They are real world sustainability in praxis.

We are trying to present more than just an ordinary cookbook, with mere recipes. Rather we are attempting to create *´a cookbook about peoples´:* This is the story of Arctic Indigenous Peoples, their food resources, their culinary traditions, and their traditional knowledge on food. We shall attempt to give a holistic view and examples of the food systems of Arctic Indigenous Peoples, presenting the whole process: How food is collected, how it is prepared, how it is processed, how it is conserved, how it is consumed, including traditional knowledge on food in the forms of stories, anecdotes, values and insights. Included in this book are stories and examples from across the Russian Federation, Fennoscandia, Canada, Mongolia and the USA.

The EALLU project saw extraordinary engagement by Indigenous youth from many cultures and a passion for traditional food that runs deep through our communities. Over the course of the EALLU project, there have been 30 EALLU community-based workshops, seminars and traditional food-related events across Eurasia and North America, with more planned for 2017 and onwards. Reindeer and other foods have been slaughtered, prepared and cooked in multiple ways. People have prepared, documented and eaten traditional foods of the highest quality. Elders, youth, herders and hunters, fishers and gatherers have talked about and eaten traditional foods: on the tundra, in the taiga, in the *Lavvu* and in the *Chum*. Discussions have followed in classrooms and online. All participants agreed and underlined that this is a topic of great importance and interest and also one held closely to our hearts.

One of the primary concerns arising from the EALLU project is connected to the knowledge embedded in our food systems. To some extent it has already been eroded by assimilation, industrial food systems, food governance models, poverty and some of the more pernicious aspects of globalization. Without it, our peoples will be limited in their ability to adapt to future changes. We must continue to make

Photo: Andreas Ausland

Photo: ICR

Photo: ICR

Photo: Andreas Ausland

use of this knowledge, the lessons learned from our stories, and follow the taboos, imperatives and guiding principles found within. These elements hold powerful lessons about how our food systems can sustain us over thousands of years. As illuminated in Chapter 6 (Evenki), *«it did not matter whether the reindeer was a female or male, but the important rule in Evenki culture must be followed – it is forbidden to eat reindeer calves»*.

BACKGROUND, OUR MANDATE

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, Iñupiat, 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 co-lead by Canada, Denmark/Greenland, Norway, Russia, 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 Reindeer Husbandry (ICR). A central aspect of the project is that it is co-managed by Indigenous youth themselves, as a capacity building effort. The EALLU project is a direct follow-up of earlier projects of the Arctic Council, notably the *SDWG/ IPY EALÁT Reindeer Herding, Traditional Knowledge and Adaptation to Climate Change and Loss of Pastures Project* (2007-2011) (Magga et al 2011) and the *EALLIN Reindeer Herding Youth Project* (2012-2015) (Pogodaev, 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 Iqaluit Declaration on the occasion of the 9th Arctic Council Ministerial Meeting in Iqaluit, 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»*

ARCTIC CHANGE IS IMPACTING INDIGENOUS PEOPLES

Today the Arctic is changing in ways unprecedented in our long histories in the north, challenging our traditional ways of life, our wellbeing, our food security and food sovereignty. The combination of these rapid changes occurring simultaneously constitutes a legitimate concern for the future of traditional Indigenous livelihoods and peoples. (Glomsrød et al 2017, van Rooij et al 2016). Examples include changing resource bases, shifting land use and/or settlement areas, combining technologies with traditional knowledge, changing the timing and location of hunting, gathering, herding, and fishing, and improving communications and education (AMAP 2017, Degteva *et al* 2017).

Furthermore, according to the IPCC 5th Assessment, while Arctic Indigenous Peoples practi-

Issát Turi with the complete spine of a reindeer, ready for cooking. Photo: Anders Oskal

The word «eallu» is Northern Sámi for «herd», i.e. reindeer herd. Eallu bears a close relation to the word «Ealát». Ealát signifies 'Pasture', while Eallin means 'Life' in the Northern Sámi language. So from the pastures, springs life, both for the herd and the people.

Cooked bear meat, Topolinoye. Photo: Svein D. Mathiesen

Photos: Anders Oskal

cing traditional lifestyles are facing unprecedented impacts from climate change and resource development (oil and gas, mining, forestry, hydropower, tourism, etc.), they are already implementing creative ways of adapting (AMAP 2017, Degteva *et al* 2017, Larsen et al., 2014). The Assessment concluded by stressing the importance of local and regional decision makers in understanding and mitigating potential future development and advancing adaptation strategies. Tipping points for the continuation of traditional livelihoods exist and in some areas, may be passed in the next two decades. The protection and sustainable management of critical natural resources for the practice of traditional livelihoods needs to be rigorously examined, they concluded.

Indigenous Peoples practicing traditional livelihoods possess a rich, varied and valuable body of knowledge, which obviously includes knowledge related to cultural food production systems. All available types and sources of knowledge, which includes knowledge of food, needs to be included when developing adaptation strategies to climate change and other challenges in the Arctic. Recently, researchers (Huitric et al 2016) investigated what factors build and erode resilience in the Arctic. They found the ability of people to self-organize underlies resilience in the Arctic and the erosion of this ability is found and exhibited a loss of resilience. Self-organization requires knowledge, local-level monitoring, and the ability of people to define problems and implement an agreed-upon plan. A key step towards enhancing resilience across the Arctic is to understand the social, behavioral and ecological processes that are already building (or eroding) resilience and should include the social-ecological system of Arctic food production.
Finally, the role of governance must not be overlooked, even when talking about food. For instance, recent research has underlined the need for holistic strategies to include traditional ecological knowledge in governance of reindeer husbandry (Turi 2016). We assume co-management and participatory processes alone are not enough in the field of Arctic Indigenous Peoples' food governance but if we are to fully prepare communities to change in the Arctic, we also have to include traditional knowledge about Indigenous Peoples food systems.

OUR PEOPLES´ FOOD CULTURES

Indigenous languages are central to the identity and worldview of the Indigenous Peoples of the Arctic. Language loss has a direct correlation to a loss of practical skills and coping, and ultimately, biodiversity itself. (Degteva *et al* 2017). Likewise, food can be seen as one of the strongest carriers of identity. Food culture is intimately entwined in the long histories of Arctic Indigenous Peoples, having played a pivotal role in the development of our cultures, ways of life and physical and mental wellbeing in some of the planet´s most inhospitable natural environments.

Our traditional ways of life such as herding, hunting, fishing and gathering are defining activities of who we are as peoples, and constitute a core of our cultures. And to remain who we are, we must continue to do what we do. Or rather, put in another way for our purpose here, *to remain who we are, we must continue to eat what we do*. For Arctic Indigenous Peoples, the challenge is thus not just food security and sovereignty seen in isolation, but maintaining the fabric of who we really are as peoples, our cultures, identity, traditional knowledge, ways of life and world views. For millennia, our food systems have relied upon traditional knowledge to achieve sustainability and re-

ciprocity in the relationships with the land, water and animals upon which we depend. This body of knowledge has enabled hunters, herders, fishers and gatherers to respond rapidly to change, thereby reinforcing our community resilience. This knowledge can also be seen 'as a set of cultural practices that are essential for food security and food sovereignty' (Council of Canadians 2014: xxi).

Our food cultures are not immediately visible to mainstream society, and the important role that this food culture plays is sometimes occluded by some of the more obvious challenges that Indigenous Peoples face in the Arctic. However, this issue is beginning to gain traction, as food underpins a multiplicity of other important issues for sustainability, human security and life in the North. Indigenous food systems are related to people, place, culture, the traditional and modern markets, food systems, physical, social and mental health, colonial histories, environmental and climate change as well as governance. Therefore, if we are to investigate what is best described as food insecurity, which research in some parts of the Arctic shows impacts women and children more severely (Council of Canadian Academies 2014), we need to address a host of themes including: governance and food sovereignty, human health, well-being, poverty and economic development, self-determination and education.

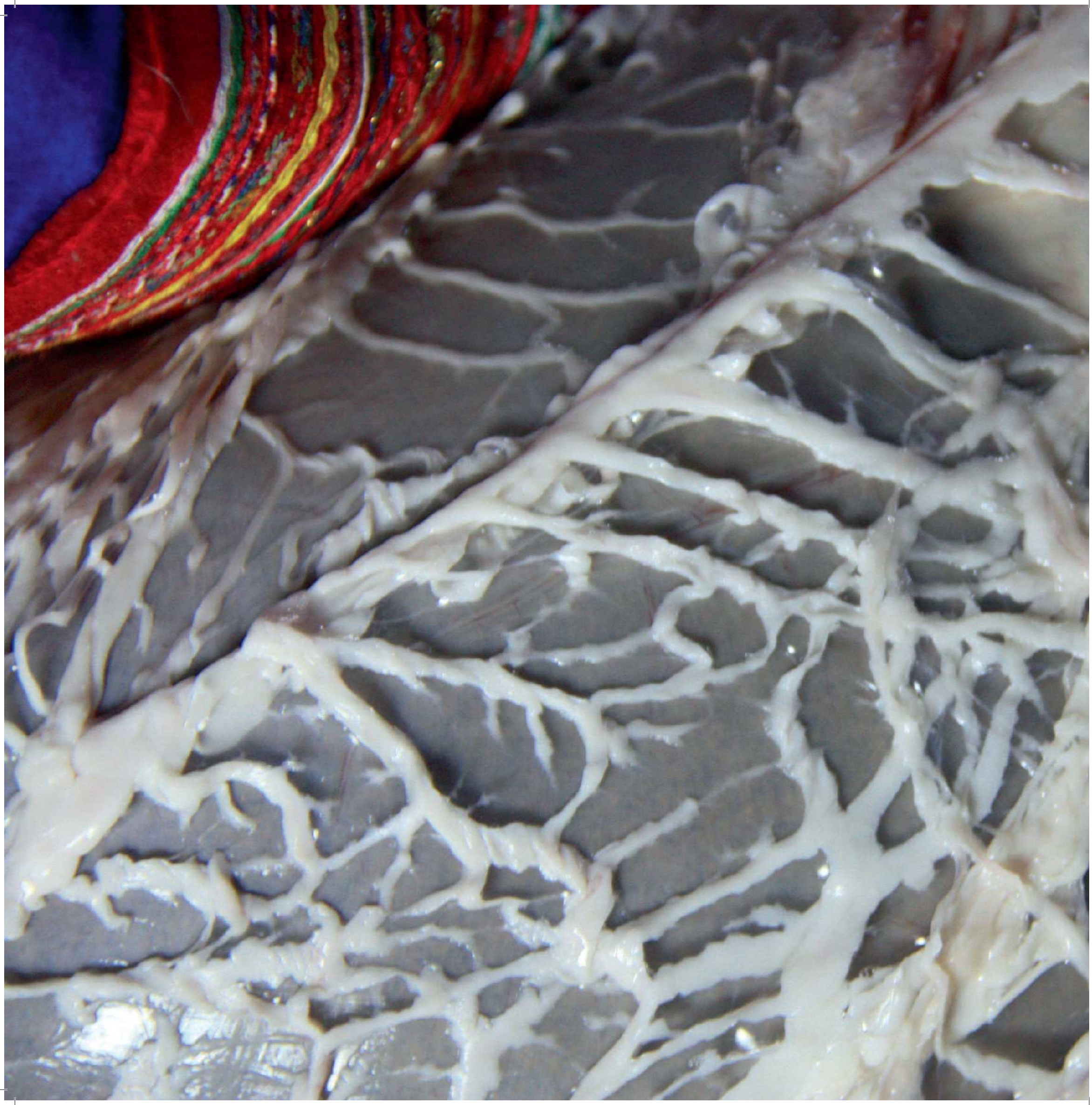
Against this backdrop, during the course of the EALLU project, we have seen it necessary to come to our own definition of food security for Arctic Indigenous Peoples: Our understanding of food security is that it must be based on Arctic Indigenous Peoples´ equitable access and possibility to select our own resources, food empowerment through utilization of our own knowledge, sustainable use of all resources in accordance with our traditional food systems,

A definition of food security
Food security «exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life» (FAO, 1996, rev. 2009). It is based on the various pillars of access, availability, use, stability, acceptability, adequacy, and/or agency (Myers et al., 2004; FAO, 2006; RCSFS, 2012).

A definition of food sovereignty
Food sovereignty can be understood as the ability and the right of people «to define their own policies and strategies for sustainable production, distribution and consumption of food that guarantee the right to food for the entire population» (WFFS, 2001).

Figure 1: Definitions of Food Security and Food Sovereignty. Source: Council of Canadian Academies 2014: p xxv

Photo: International Centre for Reindeer Husbandry (ICR).



food safety regimes adapted to Arctic realities and Indigenous cultures, health and well-being, and local economic development and value-added from within our own societies.

Throughout our multiple EALLU workshops and activities in classrooms, in seminars and on the land, we heard again and again that and knowledge that underpins our Indigenous food systems is barely utilized for economic development. Arctic food governance systems often seem unable to incorporate traditional knowledge and the family-based nature of traditional livelihoods into its practice, thus hampering locally founded economic development.

By way of example, Sámi reindeer herders in Scandinavia have often heard that they are «backwards» and «stupid», «ruining the tenderloins of reindeer by boiling them» - as opposed to frying them in the style of western chefs, the perceived «correct» way of doing things. Indigenous knowledge may not be taken seriously or into general use, and may even be ridiculed by some. With this in mind, one might be tempted to reply by asking: Who knows by experience more about how to make reindeer taste good, the 7 billion people on this planet that don't herd reindeer, or the 100 000 that do? And, why is it that one way is deemed «wrong» and the other is «right»? One argument is that you have to respond to what the market wants. And that is a sound argument from an economic point of view. But if we frame this another way, if people are not exposed to our culinary traditions and products in any way, how could one expect the market to demand such products by itself? The next question then, could be *who* should work to rectify this situation? And how can we do this in a way that also secures that the Indigenous primary producers are left with a fair share of values created? And further, how can we improve mechanisms to assist Indigenous youth bring their products to market? These are some of the challenges raised by the EALLU project.

As it turns out, revitalizing traditional products for modern markets could be a good way of generating local value added and businesses in the food sector (Reinert 1997). This is arguably what has happened with some of today´s established culinary delights, like for example Parma and Serrano ham, Parmesan cheese, and Russian caviar. They are traditional small-scale handicraft food products, adapted to modern production and markets.

In parts of the Arctic, efforts have been made to bring Indigenous Peoples products into modern value chains. Such efforts are very important, though one should remain sensitive as to how this is done in practice. In terms of reindeer herding in Fennoscandia, for example, this has mainly happened through larger scale industrial models based on an agricultural design, and with standardized products, a preference for certain cuts and taste and distribution. These systems easily run counter to the self-governance intrinsic to the traditional Sámi food system, which favors divergent products, tastes and techniques. Diversity has been found to be a central element in the general adaptation of Arctic Indigenous Peoples (Magga et al 2011). The «imposition» of an industrial food production system onto an Indigenous food production and distribution system certainly can make it difficult for small-scale Indigenous food entrepreneurs in the new economy to leverage the power of the market – i.e. a market that is increasingly eager to embrace healthy and exotic products from local producers. Such centralization and «modernization» processes also impact to gender issues. These

< *The fat surrounding the stomach of a reindeer is extremely high in flavor and nutrition. Photo: Anders Oskal.*

Photo: Anders Oskal

Photo: Anders Oskal

Talks and traditional foods at the table in Topolinoye, Republic of Sakha (Yakutia). Photos: Svein D. Mathiesen

processes have had a direct and negative effect on the roles of women in reindeer herding and the value-added chain, that is so central to family-based reindeer husbandry (Degteva et al, 2017; Reinert 2007; Reinert 2008, Benjaminsen et al 2016).

> *«The main challenge in Sámi reindeer husbandry today is that a large part of the raw materials of the slaughtered reindeer such as skin, bones, heads, blood and intestines are regarded as waste and are thrown away and not used for food production or economic development. In this modernized processing of reindeer, I believe that as much as sixty percent of the reindeer is not utilized. The bulk slaughtering of calves in our industry has been a major threat to women's active participation in Sámi reindeer herding, since the raw materials that Sámi women traditionally used are no longer available, thereby forcing us away from the herding livelihood. If the traditional materials for clothes and food production are not available, the specialized language and traditional knowledge related to these processes will disappear. The calf slaughtering strategy imposed upon us as a reindeer herding people has so impacted women's roles and perspectives in reindeer husbandry, that this is having significant consequences for the continued survival of family based reindeer husbandry as we once knew it.»*
>
> *Inger Anita Smuk, reindeer herder from eastern Finnmark, quoted in Degteva et al 2017.*

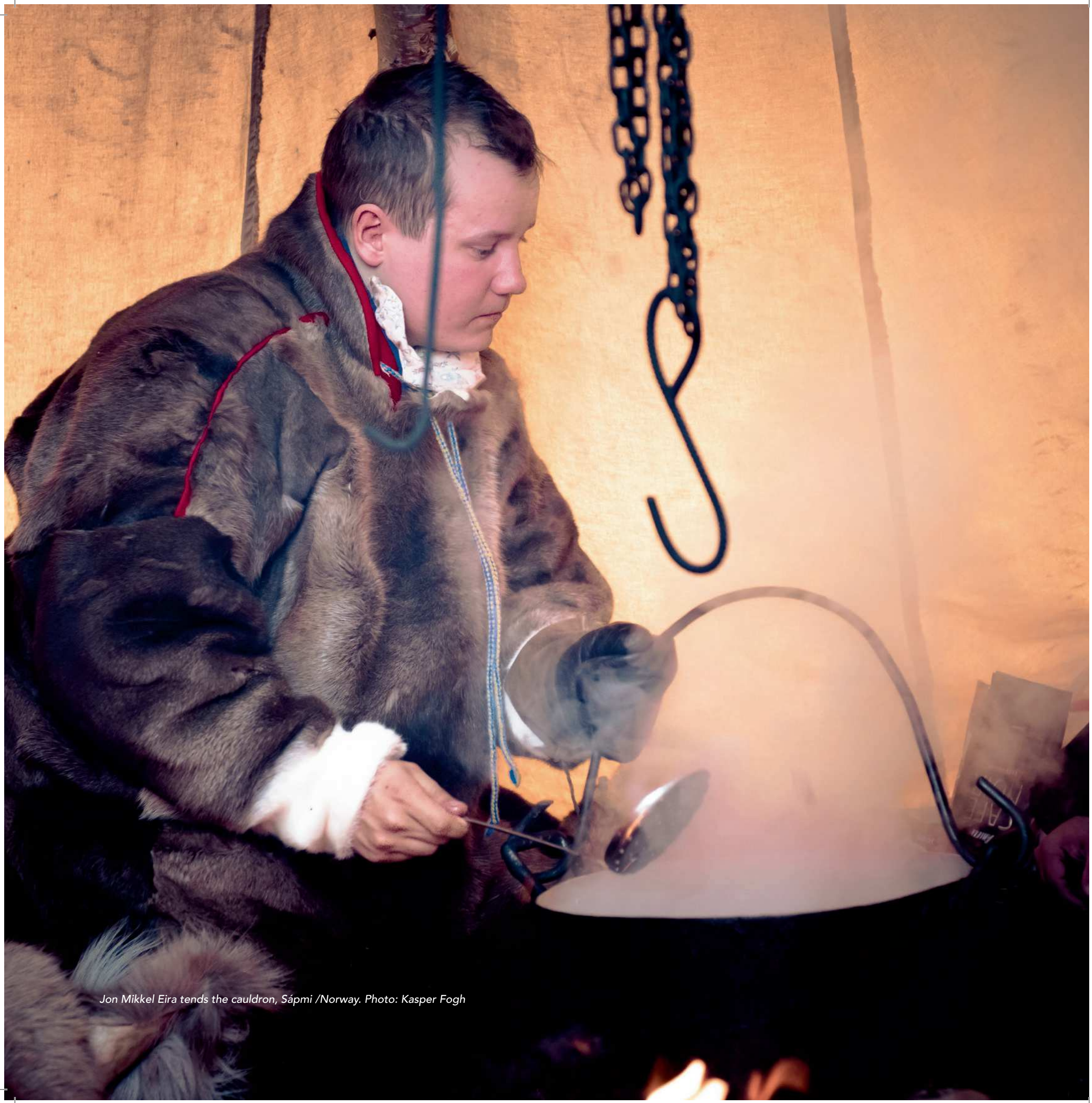
Research in other parts of the Arctic have pointed to the need for a more holistic approach.

> *Relevant and effective responses to improve food security and food sovereignty must be holistic, enabled by local traditional knowledge, and paired with economic development strategies to tackle the closely connected issue of poverty. Long-term alleviation of food insecurity requires clarification of locally identified needs and drawing on the assets of distinct northern communities. Stable funding is also a key factor. All of these solutions require Northerners to establish program ownership.*
>
> *Council of Canadian Academies 2014: vii*

While diversity could be seen as an important dimension in local adaptation, the wide ranging topographic and climatic factors across the Arctic has also produced diversity, namely a diversity of Indigenous cultures and ways of life. To produce this book, a total of 15 different Indigenous Peoples from across the Arctic have been engaged. This book is just one product from this exciting 'people to people' engagement, and it is our intention to expand its scope and engagement beyond this deliverable, while building on the passionate engagement by youth.

The food cultures of different Arctic Indigenous Peoples display striking similarities and differences. As a starting point, these Arctic food traditions are often based on *relatively simple production environments,* where people have made use of what was at hand to prepare their food. As an example, Nenets use the stomach of the reindeer to both store and preserve reindeer meat. Evenki and Even use intestines to prepare sausages, Even use stomachs in soups. Sámi use stomachs to boil meat in. Open fire and simple woodstoves have been utilized, along with the often scarce additional resources and spices that nature could offer. There seems to be relatively few ingredients used at the same time in our traditional cuisine. Our ways of food preparation often seems to be much based on boiling or raw consumption, and less of

The fire must also be fed. Topolinoye, Republic of Sakha (Yakutia). Photo: ICR



Jon Mikkel Eira tends the cauldron, Sápmi /Norway. Photo: Kasper Fogh

frying and grilling. While ingredients may be few in number, there is often a complex body of knowledge about the raw materials used, reflective of the knowledge obtained and stored over generations of traditional nature use and ways of life. At the same time, we would argue that the simplicity of our cooking methods allows for tasting the complexities of the raw materials. There are also important aspects of Indigenous food systems that relate to food safety (see for example the Sámi practice of slaughtering reindeer, or the Nenets practice of food production and storage). As is well known, food preparation and production carries risks. There is the animal health to consider, practice for the safe consumption of raw meat, the practice of meat and fish «fermentation,» and multiple methods of harvesting and butchering, specifically adapted by a people to their ecological niche. Traditional knowledge, the prevention of unwanted bacteria growth, monitoring, surveillance, and education, represent a sample of some of the aspects embedded in the food safety techniques of Indigenous food systems (Council of Canadian Academics 2014:76). This field has been little studied.

There are also some fascinating direct similarities of food culture and understanding between different Indigenous Peoples. One such example is connected to the tip of the reindeer tongue. As it turns out, all Indigenous reindeer herding peoples and some of the Indigenous caribou hunting peoples have a similar tradition: *No one eats the tip of the tongue of the reindeer/ caribou* (Gerasimova et al *in preparation*). There are various explanations as to why one should not eat it, and all seem connected to different subsequent negative behaviors by those who do. While the reasons behind this particular phenomena is now being investigated, it does illustrate commonalities across a huge Eurasian triangle, between the Sámi people in Fennoscandia, the Dukha people of Mongolia, and the Chukchi people of Chukotka, and then further into North-America.

A key value that runs throughout the Arctic Indigenous kitchen is the strong tradition to use everything: As far as the exploitation of Arctic food resources goes, Arctic Indigenous Peoples tend to see everything as a resource. We strive to utilize all that is usable for human food and the rest for other purposes. This is an important common value among our peoples that is practiced even today. As far as we have been able to tell, none of the Arctic Indigenous Peoples have the term «sustainable development» in their original languages. Yet, their food cultures embody the very core concepts of sustainability by this common norm. This is in our view a sign of true sustainability in practice.

If we look at many of the dishes presented in this book, they speak volumes about the diversity not only in raw materials, but also in preparation techniques, conservation methods, flavor emphasis, and goals. Sámi dishes tend towards the completely cooked, and an avoidance of the raw. In Nenets cuisine, raw meat and blood is the central part of their food consumption, so much so, that authors here call it the «anti stress» diet. Many Indigenous Peoples across Eurasia eat frozen raw fish as a delicacy. In the Sámi area, fish is fried or cooked on the fire. There are regional differences too. Natural conditions may even be a reason why there are differences within the same group. For example, North Sámi like to dry reindeer meat, whereas southern Sámi tend to smoke it and then dry it. There are many practical explanations for different regional practices that include access to firewood, the presence of permafrost, and the need for Vitamin C (where reindeer blood is a significant source of vitamins and minerals). There is also different knowledge

All photos: Kasper Fogh

All photos: Kasper Fogh

depending on different usage of the same resources. One such example is the Nenets versus the Sámi way of killing a reindeer as described in Chapter 2 and 3), where one determinant is the end use of the meat (raw versus boiled).

WHAT ´LESSONS´ DOES EALLU HAVE FOR ARCTIC INDIGENOUS SOCIETIES?

Arctic change means both challenges and opportunities. Indigenous communities however often find themselves at a disadvantage. The negative impacts of e.g. cumulative land use change and socio-economic conditions often ´overshadow´ possibilities of positive local development, in terms of the communities´ capacity to be proactive and take lead for local actions. Food insecurity is another challenging dimension on top of this. New approaches for adaptation and resilience to Arctic change in Indigenous communities are thus needed.

This is where we believe that food culture can serve as a fundament for our own economic and societal development, on our own terms. *We believe food culture is a key to unlock possibilities of a development based on our own resources, based on our own knowledge, and based on our own peoples*. It holds the potential to provide for us many possibilities to engage in economic activities that maintain our own cultures, that keeps our youth on our lands, and that builds our societies from within. Seen from this perspective, it can offer more than just the «menial jobs at the local mine», as one young project participant phrased it.

It is a key challenge of EALLU to work with food culture in ways that inspire, consolidate and build the pride of our Indigenous youth in their own heritage and Indigenous traditional knowledge. As we seek to build not only their competence but also their confidence to be leaders of their own societies in the future, the EALLU project is co-managed by youth themselves as a capacity-building initiative.

Another key aspect of our work is the very valuable and energizing experience of our youth as they exchange views, understanding, values and experience with Indigenous youth from other regions of the Arctic, both visiting and hosting others in a two-way exchange. As with the EALLIN project (www.eallin.org), what we strive for is our youth to see themselves in a new light from this international exposure: We wish for them to see their food resources and culinary traditions in new ways, so as *to inspire them to raise entirely new questions and seek to answer them*. We wish to inspire our youth for action.

The intergenerational aspect of food production is a critical piece of this puzzle. Indigenous food preparation, processing and production techniques include all members of the family, across gender and generations. The consequences of a move away from traditional foods have been severe for community and individual health and the resulting *food insecurity* is linked to poor dietary quality, under-nutrition, obesity, chronic diseases, poor educational outcomes, and family stress. A relatively rapid shift away from traditional foods towards carbohydrates and saturated fats (e.g. instant noodles and bread) is projected to increase the prevalence of chronic diseases such as obesity, diabetes and heart disease. This is a serious public health issue in many Arctic communities (Egeland et al., 2011; Council of Canadian Academies 2014). Food security has also been highlighted by the Arctic Council (e.g. the Nuuk Declaration 2011), as well as by Indigenous Peoples´ organizations (e.g.: ICC Kitigaaryuit Declaration 2014). Food security is very much linked with human security in the Arctic.

ECONOMIC PERSPECTIVES

Arctic Indigenous Peoples´ traditional food products seem to be well aligned to current food trends regionally and globally: It represents clean, natural food, that is local, ethnic, healthy, different, genuine, small-scale, roots oriented, and so on. A focus on food culture represents a way towards *diversification of local economic structures,* both through the primary food producing, through food processing and distribution. It also links well with the *tourism sector,* where food can be considered an integral part of customer's travel experiences, and local food can thus be important for differentiation of products and services.

On the micro economic level, the use of Indigenous traditional knowledge can be seen as a means to differentiate products and a potential source for innovation and lasting competitive advantage.

In fact, the rich food cultures, culinary traditions and traditional knowledge of Arctic Indigenous Peoples really represents *a repository of food innovations from time immemorial:* Through a close dependency on and observations of Arctic nature, our peoples have over generations, centuries and millennia developed the very best flavors, healthy and sustainable products that our Arctic landscapes, lakes, rivers and seascapes can provide. These products have up until today largely existed only within our cultures and living areas. Yet, we would argue that they still hold a great potential for culinary discovery for the rest of the Arctic and the world.

Innovation is also to combine known things in new ways. A potential exists in revitalizing our known traditional products, and presenting them for new markets. There is also potential for combining known dishes, preparation, conservation and serving methods. As one example, participating Indigenous youth worked to create an entirely new dish by combining Sámi dark-blood-pancakes with Evenki light-blood-sausages: *Light-blood-pancakes* – real Arctic product innovation in the making!

EPILOGUE

We need sustainable development based on the living resources of the Arctic.

But what does «sustainable development» mean to us as Indigenous Peoples, within the context of our work on food? Apart from defining the core question «sustainable to who?» What do we mean by the term sustainable development? Real sustainability to us means a way to develop our own societies *on our own terms that builds on our traditional knowledge and our people*. It means a development that is anchored *within our societies,* initiated and driven from *within our cultures*. It means a development that *builds on our own* traditions, our own cultures, and our own worldviews, and that - with this as the foundation - brings our societies into the future. Our recipe for true sustainable development is very simple, yet not necessarily easy to achieve: *To use our own knowledge to develop our own societies!*

All photos: Kasper Fogh

Smoke, Fire and Ventilation. Inside a Sámi lávvu. Photo: Kasper Fogh

RECOMMENDATIONS TO THE ARCTIC COUNCIL

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.

All photos: Kasper Fogh

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 to spur in situ Arctic development that could be part of future Arctic agreements on economic cooperation.

6. Invite the Arctic Economic Council (AEC) to prioritize stimulating indigenous peoples' businesses, including traditional indigenous livelihoods and food, to build on the Arctic region's strengths, its peoples and its knowledge base.

EALLU: To use the knowledge of our people to develop our own societies.

Photo: Olesya Yakovleva

EALLU Yakutsk. Pic: Victor Zabolotskiy

EALLU Yakutsk. Pic: Victor Zabolotskiy

EALLU Yakutsk. Pic: Victor Zabolotskiy

EALLU Copenhagen. Pic: Mikkel Anders Kemi

EALLU Nome. Pic: ICR

EALLU Salekhard. Pic: Svein D. Mathiesen

EALLU Moscow. Pic: Svein D.Mathiesen

EALLU Moscow. Pic: Svein D. Mathiesen

EALLU Nome. Pic: Anders Oskal

EALLU Moscow. Pic: Svein D. Mathiesen

EALLU Moscow. Pic: Svein D. Mathiesen

EALLU Moscow.
Pic: Svein D. Mathiesen.

EALLU Moscow. Pic: Svein D. Mathiesen

EALLU Khatystyr. Pic: Svein D. Mathiesen

EALLU Kautokeino. Pic: Kasper Fogh

EALLU Yakutsk. Pic: Svein D. Mathiesen.

EALLU Kautokeino. Pic: Svein D. Mathiesen

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EALLU Copenhagen. Pic: Mikkel Anders Kemi

EALLU Kautokeino. Pic: Svein D. Mathiesen

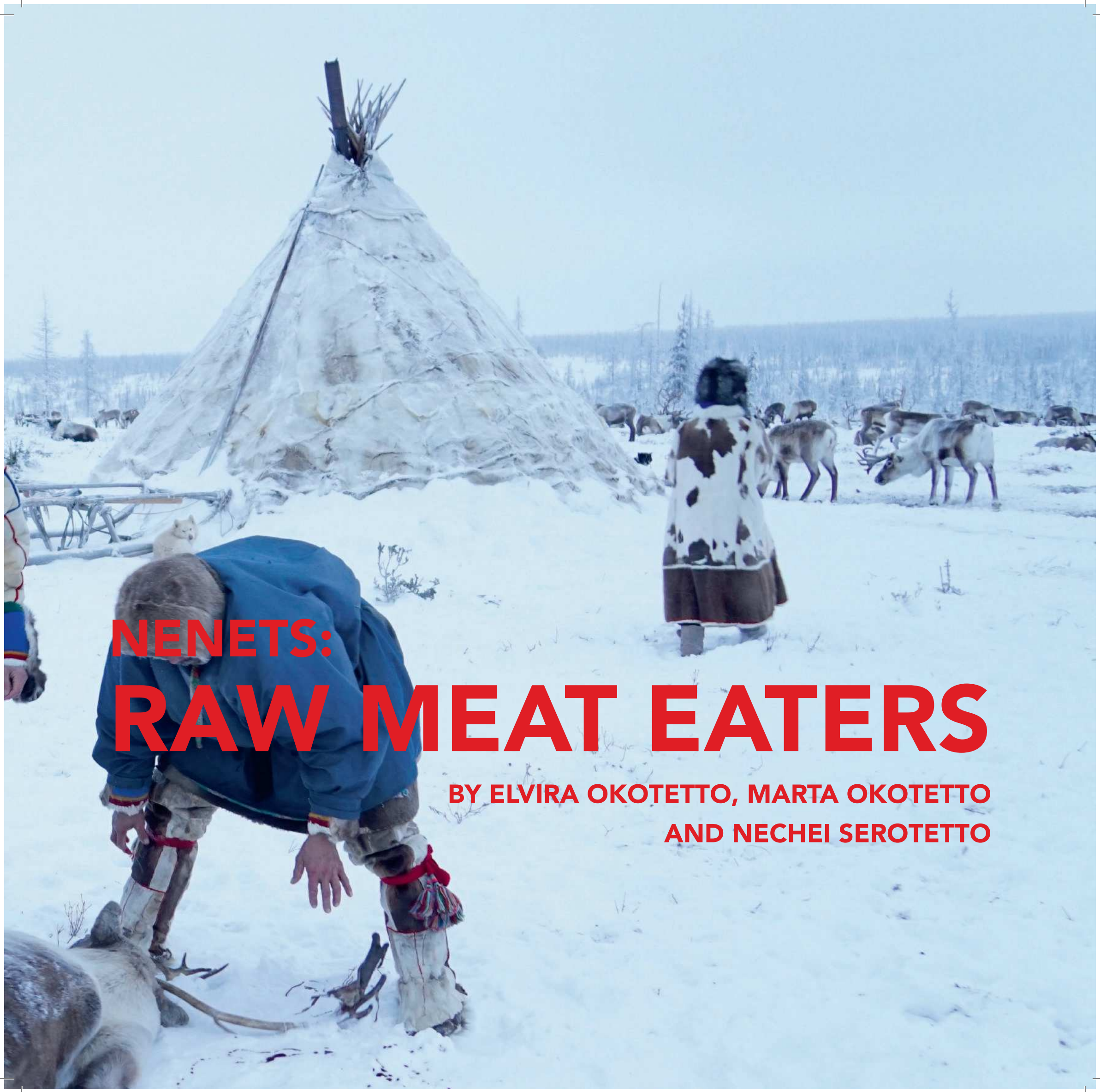
EALLU Cherski. Pic: Mikkel Anders Kemi.

EALLU Cherski. Pic: Mikkel Anders Kemi.

EALLU Archangelsk. Pic: Svein D. Mathiesen.

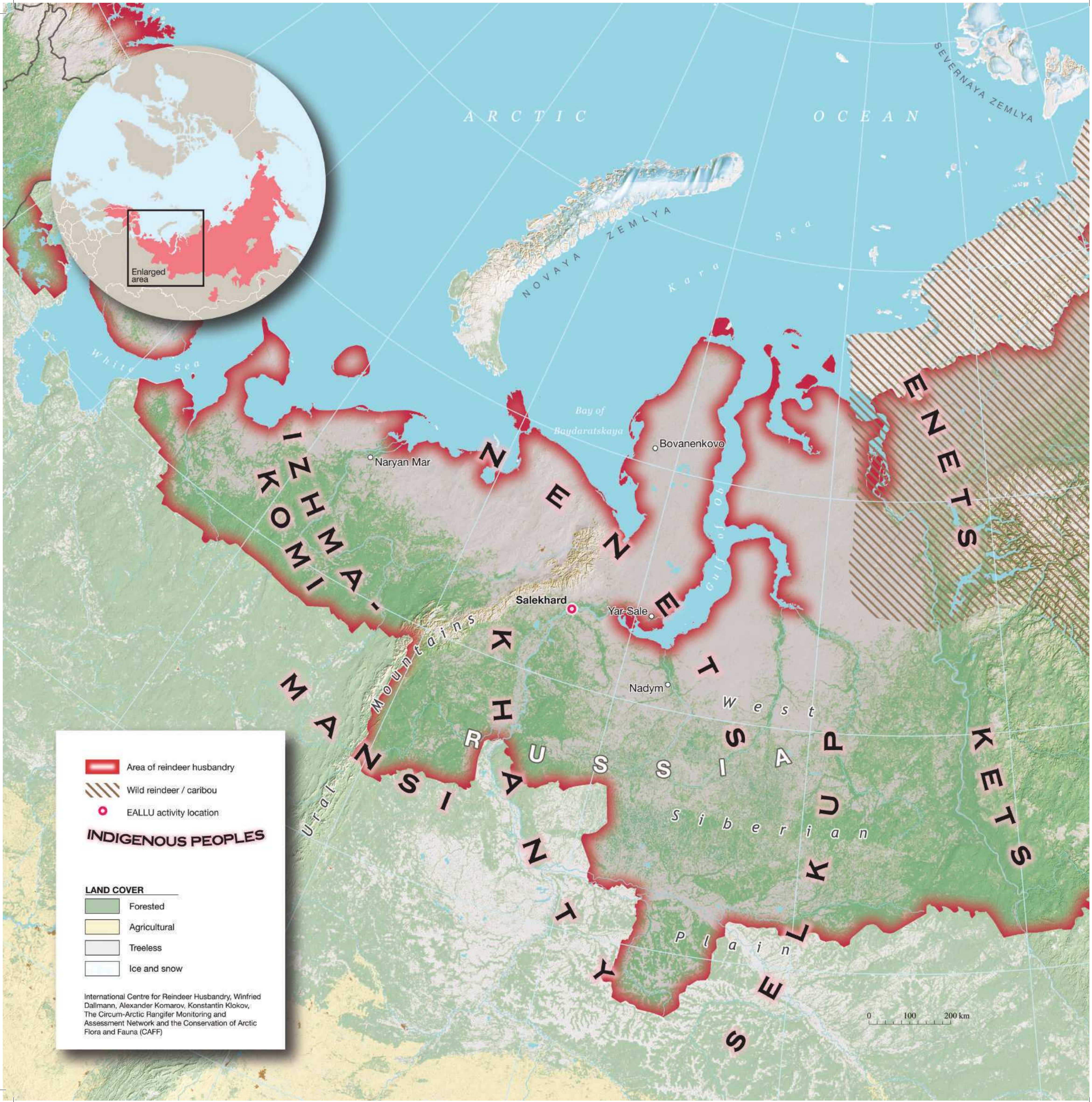
EALLU Archangelsk. Pic: Svein D. Mathiesen

Photo: Konstantin Vanujto



NENETS: RAW MEAT EATERS

BY ELVIRA OKOTETTO, MARTA OKOTETTO
AND NECHEI SEROTETTO



ARCTIC OCEAN
SEVERNAYA ZEMLYA
NOVAYA ZEMLYA
Kara Sea
White Sea
Bay of Baydaratskaya
Gulf of Ob
Enlarged area
Naryan Mar
Bovanenkovo
Salekhard
Yar-Sale
Nadym
Ural Mountains
West Siberian Plain
RUSSIA
IZHMA-KOMI
NENETS
KHANTY
MANSI
ENETS
KETS
SELKUP
Area of reindeer husbandry
Wild reindeer / caribou
EALLU activity location
INDIGENOUS PEOPLES
LAND COVER
Forested
Agricultural
Treeless
Ice and snow
International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)
0 100 200 km

The Nenets (in Nenets - *Neney* «real man» or «true man») are an Indigenous people of the Russian Federation, who live in the North of European Russia and North-western Siberia. Nenets have retained much of their traditional nomadic way of life, moving with their reindeer through the seasons. This chapter will present a snapshot of the knowledge and culture of Yamal Nenets reindeer herders, who have maintained their family based traditional economy, language and culture, including their rich, though little documented, food culture.

The Nenets people are known for their generosity and hospitality. Whenever a guest comes to a traditional camp, there will be always a warm welcome. In this way, herders going on a long journey would never bring a lot of products with them. Nenets herders regularly visit each other's remote camps and stay for a long time. When guests arrive, the hosts always do *ŋayabad*.

THE KNOWLEDGE OF RAW EATING: *ŊAYABAD* – OR HOW TO DETERMINE THE RIGHT REINDEER FOR RAW EATING

Ŋayabad (ngayabad) is fresh fish or reindeer meat, slaughtered in the traditional way and eaten only in raw (fresh or frozen) form. *Ŋayabarma* - is the traditional Nenets social meal that consists of freshly slaughtered reindeer meat and blood.

For reindeer *ŋayabad,* herders choose a healthy and fat reindeer. Females without a calf *(vaŋg ty)* are considered especially good for slaughtering and eating raw. *Ŋayabad* has a lot of social and religious values. It is carried out on each of the important event of Nenets life, such as births, weddings, when slaughtering a reindeer for clothing, sacrifices on sacred places, funerals, etc. In the *chum* (the traditional tent), a share of *ŋayabad* - meat and drink - is also given to long-dead ancestors, whose images are represented by sacral dolls *(sidryaŋg* and *ŋytarma)*. Near the fire, some food should also be left for the spirit of fire hostess *(tu' khada)*.

Nenets herders chose a healthy reindeer for raw eating due to their deep knowledge about both the herd welfare and each reindeer's health and condition. Herders determine the health of their reindeer by its appearance at that moment, and also memorize their behavior and well-being through out the previous years: the length of antlers in the summer in comparison to previous years; how quickly the horns fall and the hair sheds in the spring; how reindeer breathes during the summer heat (if a reindeer was panting without a shortness of breath it indicates the presence of some diseases). Herders also consider if necessary vaccinations (against rabies, gadflies, anthrax, etc.) were done.

Slaughtering a Reindeer for Raw Eating

On the Yamal tundra, reindeer are slaughtered from mid August to April. Slaughtering from spring to late summer is not recommended, as after a long winter the reindeer are exhausted and their meat is considered to be of poor quality.

The method of slaughtering reindeer is an important factor in determining the meat quality. For raw eating, an ancient traditional method is used: strangulation. A reindeer is strangled by a lasso *(tynzya')* which is tightened on both sides by two men, while the third one pulls a rope tied to the animal's right (or left) foot. This method is considered by herders to cause less suffering to the animal and ensures the juiciness and good taste of the meat. Strangulation ensures that not a drop of blood is lost, and blood for the Nenets is very valuable.

The second slaughtering method is thought

Photo: Svein D. Mathiesen

Photo: Anna Degteva

Photo: Anna Degteva

PRESERVING REINDEER MEAT IN THE REINDEER STOMACH

The Nenets have a rich knowledge about the extended preservation of reindeer meat in traditional ways, that are chosen depending on various factors such as time of year and weather conditions.

Photo: Konstantin Vanujto

In autumn, Nenets often have to slaughter several reindeer a day. This is due to the fact that at this period reindeer skins are at their best to use for clothing. From skins harvested in Autumn, Nenets sew *malitsa* (for men), and *pany* (for women), and *sovok* (for men - with fur on the outside which is used as an additional top cover in the cold winter weather). All of these traditional garments are still used in everyday nomadic life and indeed are central to the maintainance of the traditional herding way of life in Yamal.

One of the traditional methods of preserving reindeer meat is keeping sliced meat in the reindeer stomach. All the meat from one animal can be placed inside the same animal's stomach. It allows for the storing of reindeer meat for a long period – up to 8 months. This method is used just before the first frost, around the end of September or in early October. In the summer, this method allows meat to be kept for up to a week.

In order to pack the meat into the stomach, its contents need to be removed and the stomach must be thoroughly washed with water. The meat is cut into small pieces and placed into the stomach. The spine is cut into small pieces, i.e., each vertebra are separated from each other. One does not place the neck vertebrae, head, legs or bones into the stomach.

The cut up pieces of meat can be salted as needed or desired.

Photo: Svein D. Mathiesen

Photo: Konstantin Vanujto

to have been borrowed from other Indigenous people, probably from the Khanty (T.V. Sinitsyn, 1960: 69). It became widely practiced since the 1960s, with the mass slaughter and processing of reindeer in the Soviet state farms (Rus *sovkhozy*). According to eyewitnesses, at first the Nenets did not want to look at the killing of their reindeer in this unconventional way, namely by knocking them senseless with a blow to the head by an ax and by a knife into the heart and Nenets initially refused to eat the meat of a reindeer slaughtered in this way. Today, outside the official slaughterhouses the second method can be used in case of emergency, when a herder is alone in the tundra and help is not near at hand. For family use, clothing and food, including raw eating, Nenets herders will always use their traditional method of slaughtering.

The ancient traditions in the process of removing reindeer skins and butchering carcasses are similar among the many Indigenous Peoples of Siberia. In Nenets culture, skinning as well as slaughtering the reindeer has always been a task for men. This is normally done by two people. First, an incision is made below the knee of a front leg, and then, holding the knife blade up, a cut from the knee to the belly and further from the belly to the neck is made. The next step is that the rear legs are cut in the same way and the knife goes almost up to the chest, and then to the tail. After this, the skin should be easily and quickly separated from the carcass, holding the skin in the left hand while pushing the fist of the right hand under the skin. After opening the abdomen with a knife, the kidneys *(suik)* are pulled out and given to children or guests as a delicacy. Then the stomach is taken out and its contents should be poured or squeezed out. The stomach contents *(tiv)* have healing properties: it helps to remove rheumatic pain and should be applied fresh and warm on stricken joints. Stomach contents can also be used in the processing the skins. The stomach is then filled with blood and/or meat in order

Photo: Konstantin Vanujto

Photo: Kontantin Vanujto

Photo: Svein D. Mathiesen

Photo: Svein D. Mathiesen

to preserve it. In the summer time it should be rinsed with water.

The guests and the family sit in the chum according to their recognized social status. The most honored man or guest would sit at the middle of the table. Women and children sit *si'nyana* around the table toward the back of the chum. Neighbors are also invited to the feast, and they are also given reindeer meat.

What to Eat & Not to Eat for *ŋaybad?*

Hayabad is always a kind of feast and is done to mark a special day. The whole family and guests gather around a slaughtered reindeer. Each person cuts off a piece of meat or other delicacies and dips it into the warm blood before putting it their mouth. The first things to be eaten after slaughter are the lymphatic nodes *(syabkha)*. While still warm, they are often given to children, as they are easy to chew. Traditionally, for *ŋayabad* Nenets eat the ears, liver, kidney, larynx, adenoid glands, thymus, the meat of the cervical vertebrae (only from calves), lungs, pancreas, meat secretions from the back *(makhey),* fat from the back (in the autumn - winter period), bone marrow and neck meat. During *ŋayabad* the meat is eaten only from one side of the carcass (flesh from buttock, ribs, shoulder, etc.). The other side is left for boiling or preserving in other traditional ways.

The head is a stand-alone dish that is usually served to children. In winter the reindeer head is a dish that is left to be prepared later – because it requires quite some time to butcher, which is not always convenient in cold weather. In the summer the head is often eaten immediately and for *ŋayabad* goes all the parts: the eyes *(nyaŋuy ŋyamsa),* brains, palate *(paydy ŋyamsa),* ears, the fat from the eyes, cheeks, the chin, and the brains are also eaten raw. Children are usually given raw kidneys, raw liver slices and ribs, because they are the tastiest morsels. Nenets regard reindeer meat that is still warm after slaughtering to be a delicacy. The tastiest parts of reindeer are the thymus *(ŋaramz'),* liver *(myd),* kidney *(syuik),* trachea *(hungo),* tongue *(nyamyu),* the lower lip *(pibtya'),* as well as the marrow of long bones *(kheva)*. Immediately after slaughtering, the Nenets drink warm fresh blood, and it is considered as being very beneficial for human health.

What is not eaten raw?

The Nenets eat only reindeer meat and fish raw (but not all species of fish). For example, pike is never eaten raw, and although considered a delicacy in many other places burbot is not eaten at all by Yamal Nenets, except its liver, which is highly prized. In addition, they do not eat raw migratory game, nor local mammals like hare, moose, bear, etc. This is likely due to the fact that being so closely coupled to their reindeer, herders have a very good knowledge about the health of each animal in their herd (both past and present).

Nenets do not eat certain parts of reindeer raw: the meat from the spinal bones of an adult reindeer, meat from the breastbone, legs, neck and ribs are never eaten raw, but are boiled in a soup. As are the heart, tongue, first and second stomachs. These parts are used to cook a traditional Nenets soup called *«Ya»*. In addition, the heart of the reindeer is considered sacred, and it must not be either eaten raw nor cut across the muscles - it is considered to be a taboo.

THE BENEFITS OF RAW EATING IN THE NENETS DIET

Raw eating occupies a special place in the Nenets traditional diet, because raw reindeer meat and

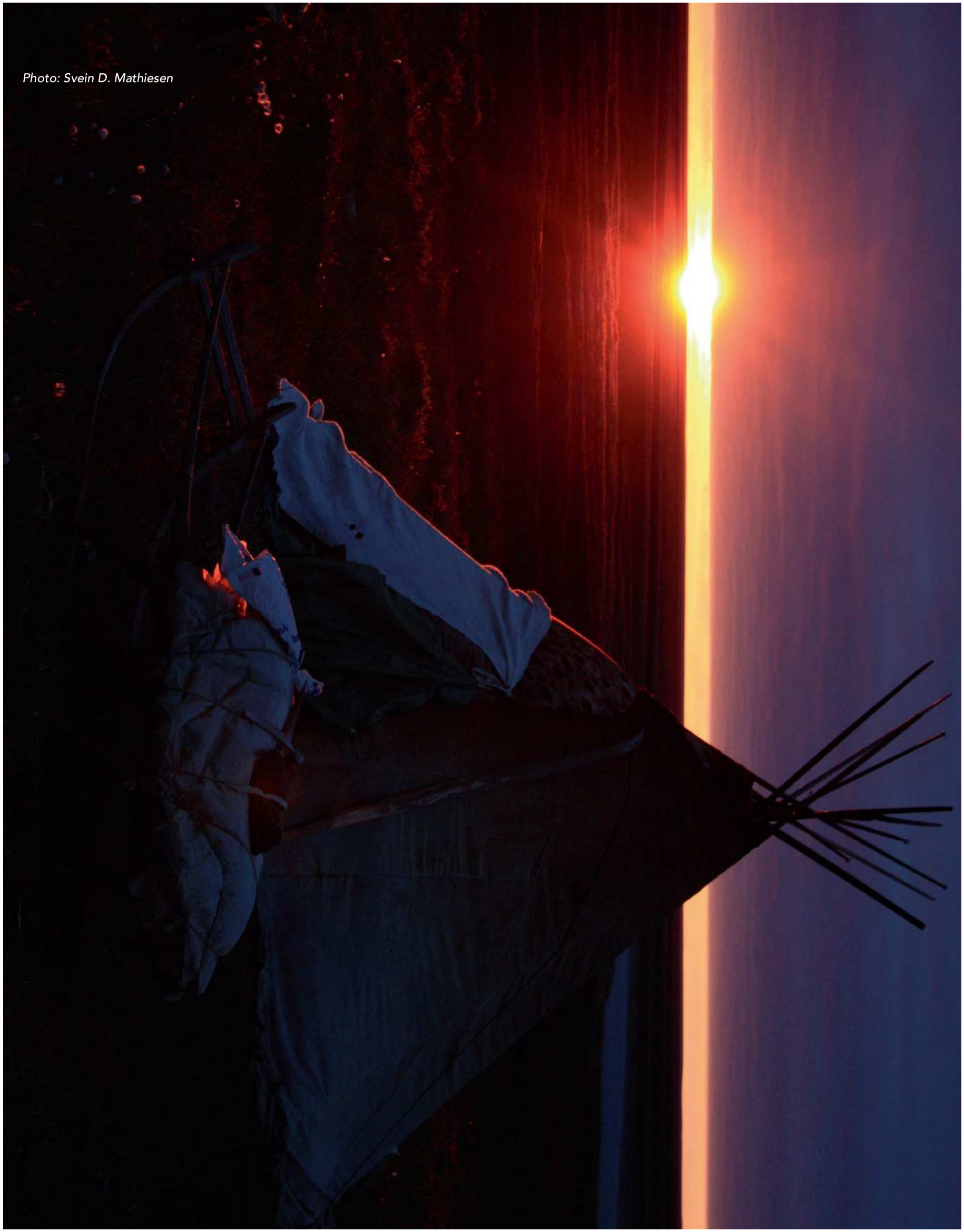


Photo: Svein D. Mathiesen

With thanks to Marta Okotetto and family. Photos: Konstantin Vanujto.

blood contains a lot of the vitamins and minerals needed to survive and be healthy in the harsh conditions of the North. Thanks to the raw eating of meat, fat, and blood the human body compensates for the lack of essential vitamins and nutrients in the Arctic. If a Nenets does not get to eat raw meat and drink blood, she or he will experience feelings of hunger or stress. Therefore, for the Yamal Nenets, consumption of raw meat is their 'anti-stress diet', as it is their only all-year round source on the tundra of many minerals and vitamins, in particular Vitamin C. Even in modern times, it is still difficult (and expensive), to deliver fresh fruits and vegetables to the nomadic herders of Yamal.

If slaughtered in the traditional way reindeer meat has a special soft, pleasant taste. If frozen, reindeer meat should be unfrozen once and eaten or consumed while still frozen and sliced nicely. The consumption of fresh and still warm blood is very important for maintaining good health. About a healthy person, the Nenets have a special saying *'Yan khamortada veyarida yargu',* that literally means: 'there is no dripping blood', i.e. «in the pink of health», describing someone who is the very picture of health, and this is obtained through the raw-eating of meat and blood of a healthy reindeer. Nenets and other peoples of the North have never suffered from scurvy (lack of Vit. C) or beriberi (lack of Vit. B). Reindeer blood is the best cure for scurvy. The raw marrow of reindeer leg bones is a true delicacy, which is not found in good restaurants, and will keep a person feeling full for many hours.

What is High Quality Meat for Nenets?

Nenets eat freshly slaughtered raw meat, and have a deep knowledge about how to judge if the meat is safe and of high quality, and how to adhere to certain conditions in order that it retain that quality. The best *ŋayabad* is from healthy well-fed reindeer (usually this is in the autumn and winter). Due to lengthy migration routes (up to 700 km toward the summer pastures) reindeer at that time are less well nourished. For example, Nenets do not usually slaughter *ŋayabad* in late spring and summer when reindeer have completed a long winter and a lengthy migration. The next important factor in selecting reindeer for *ŋayabad* is the absence of diseases that could be judged by the condition and appearance of the internal organs and meat, by blood clotting, by the presence of parasites that could be observed on the meat and organs. Nenets have a particular technique when eating raw: meat from the organs should be sliced in the hand before dipping into the blood and eaten.

TRADITIONAL WAYS TO PRESERVE MEAT

The traditional methods for preserving fresh meat vary depending on the season and the time of year. For example, in late summer, the meat is salted in wooden barrels or tanks and placed in pits that have been dug to serve as a refrigerator. Wild rosemary is used to cover the meat containers to deter insects.

Another traditional way to preserve reindeer meat is smoking, which takes place inside the *chum* in the summer. Raw meat is hung on the crossbar in the *chum*, not directly above the fire. In summer, the fire is usually smoky as the wood (mostly willow, also some Arctic birch) is wet. This smoke dries the meat hard (in Nenets *syamdravy*) quickly and it can be saved for a long time. Another traditional method to preserve meat is by air and sunlight drying that is done outside the *chum*. One traditional way of preserving raw meat may be at risk due to

Photo: Konstantin Vanujto

One Nenets traditional technique of preserving reindeer meat to retain its unique quality and good taste is to freeze it in this way:

1) *Collect lots of fresh, clean snow in buckets*
2) *Place a little salt in the bottom of a container (where the meat will be frozen)*
3) *Lay out 5 cm of snow and salt again*
4) *Repeat the previous step one more time*
5) *Into the container, place lightly salted sliced reindeer meat - ŋayabad*
6) *Repeat steps 3 and 4 twice.*
7) *Close the lid firmly and keep inside the chum far away from the fire and sunlight*

Some Raw Dish Recipes

1. *Bone marrow wrapped in sliced reindeer meat (fresh or freshly defrosted) with salt and pepper, blood served as a sauce.*
2. *'Salad' from pieces of raw reindeer meat, liver, bone marrow, lungs (the Nenets salad)*
3. *The trachea, sliced in rings with pieces of chopped lung*
4. *Fresh blood filled with a mixture of sliced pieces of meat, lungs, liver, bone marrow, reindeer meat.*
5. *Muksun stroganina with salt and black pepper*

climate change: During the spring thaw, salted raw meat could be placed in the snow on slopes that were in the shadows, where it could remain until the summer warmth. Due to the fact that in more recent years, the summer has been arriving several weeks earlier and heat waves have been extreme, this method of raw meat preservation has hardly been used in recent years.

In late autumn reindeer meat is salted in barrels or containers, and left in sledges along migration routes at the spring campsites. The meat is preserved well and still tastes very good raw. Nenets use it in spring – 6 months later they return to these places during their migration to the summer pastures. Also in the autumn, when there is a busy season of slaughtering well fed reindeer in the traditional way and there is a lot of raw meat, it is folded into reindeer stomachs and put in the sledge. In winter, the meat is kept frozen on individual sleds. The meat can be preserved in this way until the warm weather comes in spring. These frozen stomachs can be sawn into pieces when needed and used for *ŋaybad*.

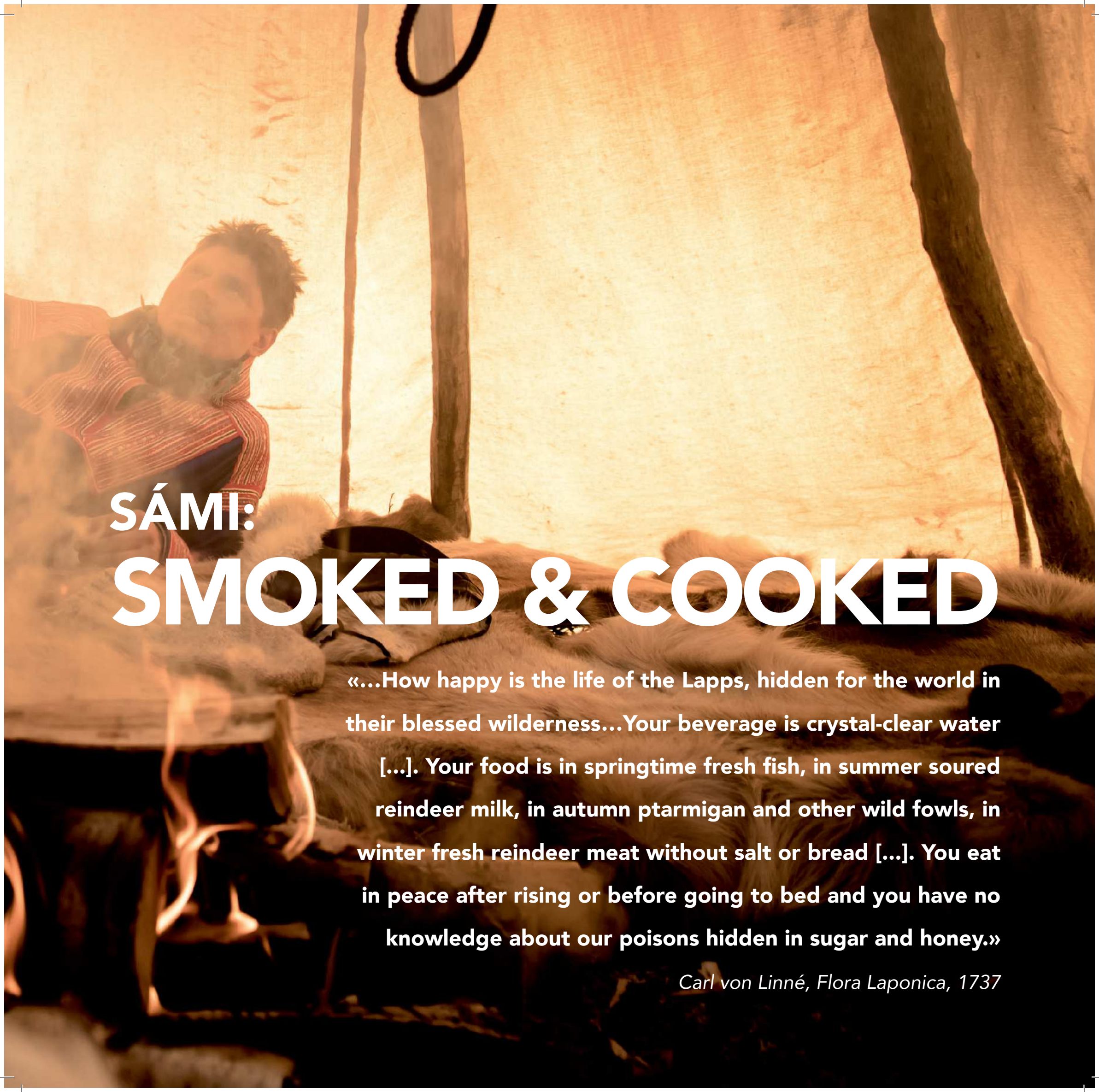
Photo: Konstantin Vanujto

LOCAL BERRIES AND PLANTS USED FOR DECORATION

Reindeer meat that has been slaughtered, butchered, packed and frozen in a modern slaughterhouse, do not meet the Nenets requirements for raw eating. The qualities of taste cannot be compared with the traditional Nenets frozen *ŋayabad*. This limits opportunities for Nenets who are not practicing the nomadic way of life, for example children and youth at schools and universities, and who still long for raw meat and blood. This causes extra stress to those who are, for whatever reason, away from the reindeer and the land.

Photo: Konstantin Vanujto

Photo: Kasper Fogh



SÁMI:
SMOKED & COOKED

«...How happy is the life of the Lapps, hidden for the world in their blessed wilderness...Your beverage is crystal-clear water [...]. Your food is in springtime fresh fish, in summer soured reindeer milk, in autumn ptarmigan and other wild fowls, in winter fresh reindeer meat without salt or bread [...]. You eat in peace after rising or before going to bed and you have no knowledge about our poisons hidden in sugar and honey.»

Carl von Linné, Flora Laponica, 1737

ARCTIC OCEAN

Enlarged area

SÁPMI

NORWAY

SWEDEN

FINLAND

RUSSIA

Oslo

Stockholm

Tromsø

Ráidna

Jokkmokk

Kautokeino

Avži

Inari

Kirkenes

Olenogorsk

Lovozero

St. Petersburg

Barents Sea

Gulf of Bothnia

Baltic Sea

White Sea

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

0 100 200 km

Sámi live across four nation states (Norway, Finland, Sweden and Russia) and although their territories have been altered irrevocably in the last century, wherever they live, the rhythm of life for the reindeer herders, hunters and gatherers of Sápmi remains largely unchanged. Sámi remain largely connected to the seasons, and the lifecycle of the reindeer and the plants and animals and fish upon which their Indigenous food system is built. Reindeer are a totemic species for the Sámi and the herding, slaughtering, preparation and consuming of reindeer meat, along with a widespread consumption of lake and ocean fish are major ingredients of Sámi cuisine in all countries in which they live.

HOW TO SLAUGHTER A REINDEER USING TRADITIONAL SÁMI KNOWLEDGE

by Issát Turi

Slaughtering a reindeer in the traditional way means doing it in such a way that you can make use of the whole animal: for food, clothing, medicinal purposes and the many other things you can derive from the animal. When thinking traditionally, multiple decisions need to be made when choosing a reindeer to slaughter. You need to look at the animals' gender, age and even fur color. These varied and complex decisions are underpinned by the need to maintain a diverse and strong herd, in case of harsh winter conditions. A diverse herd will be more resilient and give us herders more flexibility when dealing with unexpected climate events.

Preserving meat

The traditional way of slaughtering is also a matter of food safety. When you slaughter out in the tundra then you need to know what steps will best take care of your meat and avoid the growth of unwanted bacteria.

Traditionally we have started with what we call *giehtadit*, which is to kill the animal with a knife right into the heart. This way, the reindeer will bleed out from inside the chest cavity after which we let the reindeer baggat, which means we let it rest and 'inflate' itself. The amount of time you let the reindeer *baggat* depends on the season, the weather and the temperature before you start to skin it. The Sámi concept of *baggan* is both about food safety and flavor enhancement. The *baggan* process makes the meat tender and juicy. This also has the effect of loosening the skin so you are not touching the meat so much during the slaughter. This is 'on the land' food safety where the traditional way of slaughtering may be the best way.

Only after you have let the reindeer *baggat*, do you start to skin the reindeer. The traditional way of skinning a reindeer is doing it in such a way that you can make use of the whole hide. This way you can also use the legs and skin of the head for clothing. However, there are important seasonal differences. You slaughter calves in late July or early August for *beaskanáhkki* and then you use the whole skin to sew the traditional winter garment, which is called *beaska*. When you need a warmer *beaska* - such as when you need to watch over your herd during winter nights - then you slaughter later in the autumn, when the hair of the reindeer has grown longer.

After you have skinned the reindeer you take out the intestines with which you make your blood sausages and then you open the chest cavity where the blood has already coagulated and has already separated. This way you will get the best blood for *márffit* (blood sausages) or *guhpárat* (meat balls made with blood). After that, you cut the meat up in a way that is not only the best way of preserving the meat but also a way in which you get the most out of the reindeer, in terms of food.

Photo: Kasper Fogh








Issát Turi slaughtering a reindeer in the traditional way. Photos: Andreas Ausland.

Sámi cuisine does not take shape in the 'kitchen', but really starts at the moment when and where the reindeer is slaughtered, the condition of the reindeer in the days and weeks before it was slaughtered and finally how it was killed.

Mális is another important part of Sámi food culture and *mális* means to cook the meat with just water and salt. Then the quality of the meat is very important, as the reindeer must be fat. Because reindeer meat is not marbled, this means that the more fat it has on the outside, the higher the quality of the meat is. Meat quality is also determined by how you kill the animal.

SUOVASTUHTTIT: USING FIRE AND SMOKE TO PRESERVE REINDEER MEAT

by Rávdná Biret Márjá Eira Sara, Inger Marie Gaup Eira, Kia Krarup Hansen, Inger Anita Smuk, Issát Turi, and Astrid Riddervold

Sámi reindeer herder's traditional knowledge about meat security and meat conservation is rich and deep. These are technologies developed over millennia, which secure the sustainable and safe use of animals for food production. The renowned Norwegian philologist Konrad Nielsen who compiled the exhaustive Sámi language dictionaries in the late 1920s and 30s refers to *suovas* as the smoke fire - the fire that gives smoke for smoking, explaining the characteristics of the fire. *Suovasbiergu* means «smoked meat», while *suovastuhttit* is the Sámi term for the technique or practice of smoking meat and fish. *Suovastuhttit* is little documented, but is in daily use in reindeer herding communities across Sápmi.

Reindeer herder's knowledge of smoking meat integrates the understanding of selecting the right type of animals for slaughtering, at the right season of the year and using specific parts of the reindeer. Further knowledge includes; the correct use of salt and moisture generated from selecting the specific plants and firewood. This produces a specific and dense white smoke, which penetrates the meat tissue without the use of too high temperatures. The type of plants used and how long the smoking takes place (could be 3-6 hours), determines the degree of conservation and taste. A lack of traditional knowledge about the process of suovastuhttit might affect human health and wellbeing. The combined antibacterial effects of the components of salt and smoke protect the meat from degradation. Even today with modern deep freeze technologies, *suovastuhttit* is

Photos: Kasper Fogh

Photo: Svein D. Mathiesen

GOASTEBUOIDI: Sámi reindeer herders taste enhancer

by Máret Rávdná Buljo, Issát Turi and Inger Anita Smuk

Traditionally, fat for frying fish and reindeer meat has been derived from ruminal mesenteric fat (leavssus) collected from slaughtered reindeer, which is stored inside the reticulum (čalmmas), or simply as a slightly salted fat, which is dried and stored until rancid. Rancid fat can be stored for up to a year, and has been added to different dishes to give it flavor and to enhance the unique tastes of Sámi cuisine.

still practiced and the characteristic flavour of *suovasbiergu* is preferred in the Sámi household.

HOW TO MAKE A FAMILY MEAL – SÁMI FOOD KNOWLEDGE AND TRADITIONS

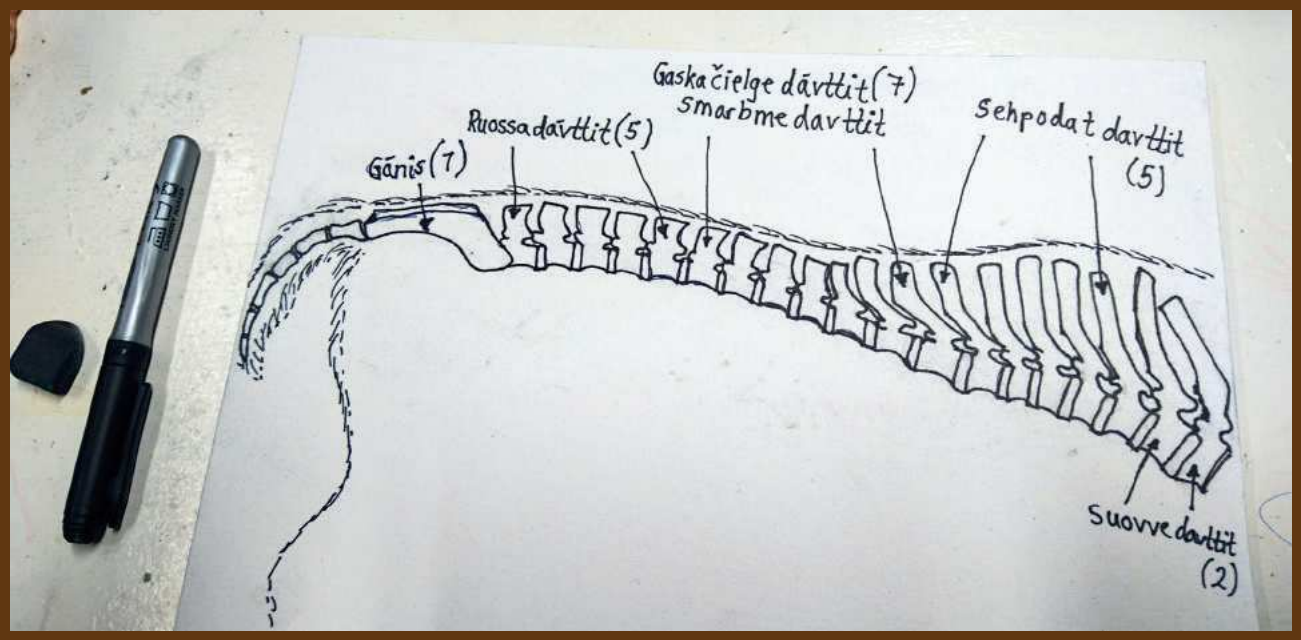
by Máret Rávdná Buljo

The Sámi 'family meal' is not only the center of a family coming and sharing food together. In fact, as described here, it's not a 'meal' as might be understood by many, where people sit down at a certain time each day and have dinner. Life with reindeer means movement, especially in Spring and Autumn. Someone is always with the reindeer. Sometimes the whole family can be with the reindeer. Living with reindeer means your life is lived according to the rhythm of the animals. So, to describe a 'family meal', is really a description of the collective journey of reindeer, people and food.

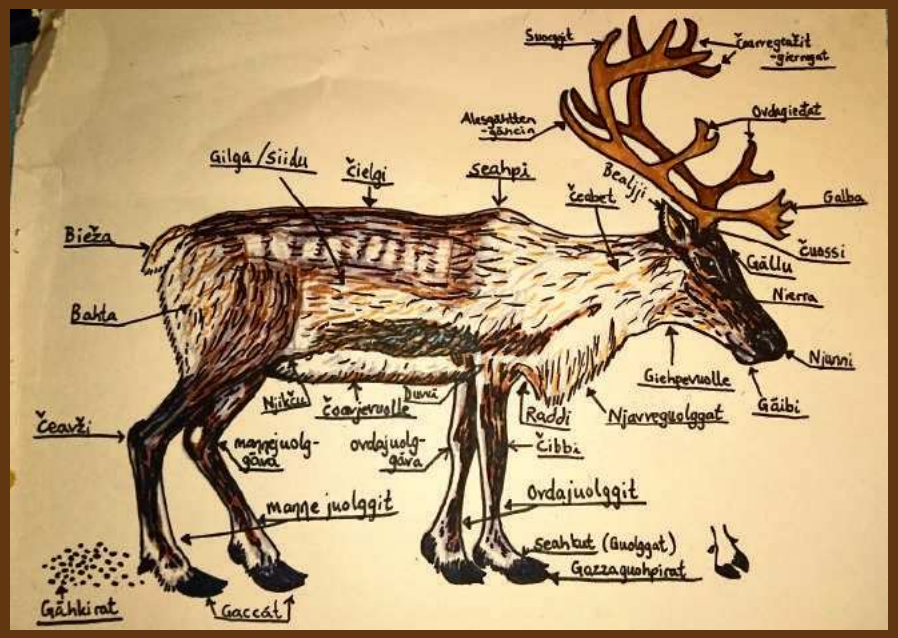
The family meal starts with choosing a reindeer to slaughter, how it is slaughtered, how it is processed and deciding who gets to eat which specific part of the animal. The family meal, is also a means by which important knowledge is transferred across generations about animals, health and food safety, based on the raw materials available. Creating the family meal requires a considerable amount of knowledge and time and involves many members of the family. Making it takes time. The meal might not be ready at a certain time, but there is so much to be done and often many people to do it. During this time of preparation, stories are told, knowledge is shared and children learn the useful life skill of work and self-sufficiency. During preparation time guests may appear unannounced. They are to be made welcome, and they too shall find food and warmth. A 'family meal' is really about the coming and going of family life, and this is not possible to create or recreate in a modern industrial slaughterhouse.

I grew up in Guovdageaidnu in a reindeer herding family in a village where most people are Sámi, speak Sámi and have some direct or indirect connection to reindeer husbandry. I now live on the coast of Norway and herding and the preparation and eating of reindeer products remains at the heart of our daily life.

All Photos: Andreas Ausland



Máret Rávdná Buljo prepares a family meal of blood, sausage, intestines, stomach and cuts from the spine. Photos: Andreas Ausland. Line drawing by Máret Rávdná Buljo.



Máret Rávdná Buljo prepares a family meal of blood, sausage, intestines, stomach and cuts from the spine. Photos: Andreas Ausland. Line drawing by Máret Rávdná Buljo.

When we make a ‘family meal’, although we never called it that, there are many steps and observances along the way to making it, codes of etiquette that need to be observed. I learned them from my immediate and extended family and now teach them to my own children. The preparations and observances start with the slaughter of the reindeer. After slaughtering a reindeer, the spine is the first part that is used to make a family meal, and for reindeer herders it is the best meat. It is regarded as almost holy. The spine is taken immediately after slaughtering and is usually cut up in joints and put into a pot for boiling.

The large dorsal sinew *(sávvosuotna)* is removed when the carcass is still whole. This sinew is very good for sewing a coat made of reindeer fur or making nice handicrafts with small and neat stiches.

Our family tradition is that certain parts of the spine are designated for the different family members. The tail *(bieža)* is for the butcher, the sacrum *(gánis)* is for the person who took care of the intestines (usually mother or a female person). The vertebrae *(ruossadávttit)* are for father and the other adults, and the vertebrae in the middle *(gaskačielgedávttit)* are for the youth. The vertebrae on the spine shoulder *(sehpodatdávttit)* are for smaller children because it is easy for a child to hold the bone.

Kidneys *(monинčalmmit)*, spleen *(dávdi)*, blood sausages *(márffit)* and small intestines *(sáhppasat)* are boiled together with the spine. The broth acquires the varying taste of these different parts. Importantly, these parts replace vegetables with regards to vitamins.

We drink the broth and dip the meat in it. The fat layer on the top of the broth is skimmed off, to be used as a separate dip. Spine and broth are a natural medicine for treating a wide variety of different sicknesses and spine broth is seen as the most valuable broth from a reindeer.

Fresh reindeer meat does not need to be boiled for more than 20 minutes for it to become tender. If boiled for longer, the meat becomes hard, and then you have to boil the meat for at least another hour until it becomes tender again.

The spleen is very good food for young babies, being good ‘food training’ and being easy for a baby to suck.

All Photos: Andreas Ausland

SÁMI *DIIDAT* – SÁMI CODES OF ETIQUETTE RELATED TO FOOD

When you have decided which reindeer to slaughter before lassoing it, you must not say out loud what you are thinking, you must just think it. As you are living in nature, you learn that everything in nature has an understanding. You should not speak out loud that which you intend to do. You should just do it. In this way, the reindeer do not hear, nor have time to run away.

Traditionally it was thought that a reindeer should not die by a lasso around its neck before being stabbed in the heart. You should quickly remove the *lávži* (rope made of reindeer skin) before the reindeer draws its last breath. In this way, you honor the reindeer. When the reindeer is dead, you should mark a cross in the antlers axis to honor and give gratitude to the reindeer so that you will be able to continue to work with reindeer.

It is not good practice or hygienic to work with food at the entrance of a tent. When slaughtering outside or near the goahti (tent), you should always slaughter outside the innermost part *(boaššu)*. Otherwise you will bring bad luck upon your family. The meat should be taken into the tent where the tent cloths overlap, so luck and good fortune will follow you into the tent.

When making a meal of reindeer meat and the meat is boiling, skim off the foam, and empty the ladle on the innermost part in the tent near the fireplace or you give the skimmed foam to your own dog. You should drink the first ladle with bouillon yourself so that luck and good fortune stays in your own tent.

«The crow always sticks out its tongue first» (It is very bad behavior to take the tongue to himself/herself and not share with others. For this, you will be compared to a crow).

The person who eats the reindeer nose will be very popular (among members of the opposite sex).

If you eat the tip of the tongue, you will become a liar.

If an unmarried girl eats the chin of a reindeer, then the groom and his companions will turn back home, at *Gáibenjárga* (chin cape), and the girl will never get married.

The eye bone should always be broken into two to avoid *guoržžu* (one with the evil eye) looking through it. You should also break the marrowbones and split the trachea.

Always chop the patella (kneecap) to avoid the bones getting stuck between a dog's teeth or risk choking the dog, and prevent the dog's intestines becoming blocked.

It is said that the person, who cleans the bones by eating everything on them, will have a big *lávvu*. Those who do not will have a small *lávvu*. Meat nearest the bone is the richest meat and there is a saying that a thief does not clean the bones.

During food preparations, if you find a globule *(čođgi)* of fat, water, milk, hair or flour, it will bring you luck. Likewise, a water globule in the skin should be burned to avoid hunger and a fat globule will give you fat reindeer. A globule of hair will give you a big herd, while a globule of milk will give you female reindeer rich with milk. A globule of flour will mean an abundance of food. And when a dried globule makes a ringing sound, then some money will come your way.

Blood sausages and small intestines are also a part of the family meal. These should be shared so that every family member gets a piece of the different tasting blood sausages. Also small intestines should be shared. This has been done from ancient times and was a way to ensure that everyone got all the vitamins and minerals from the food eaten by the reindeer.

The names of the blood sausages are: *Čeaksa* (omasum), *doggi* (abomasum), *maŋŋebuoidi* (rectum), *gahpárus* (duodenum), *guopmolággá* (appendix), *čalmmás* (reticulum), *seakkaguopmolággá* (the thinner/smaller part of appendix) and *čalmmásnjálbmi* (opening of the reticulum).

Also according to our practice, the upper marrowbones *(čuožžemas)* of the back legs were for father, the lower marrowbones of the back legs *(njiehcehas)* were for mother, the lower marrowbones of the front legs *(vuorgu)* were for the smallest children and the upper marrowbones of the front legs *(dábbá)* were for the older children in the family. According to this way, every member of the family got the pieces of the animal that gave them the most necessary nutrients.

Not all families are alike of course and traditions and customs vary from region to region, from *siida* to *siida*. In some families I have heard that blood sausages made from the omasum are for males only. These stories, traditions and etiquette have much to teach us about a healthy relationship between people, animals and food.

Reindeer round up in Lovozero, Kola Peninsula, Russia. Photo: Chris Schmetz

KOLA SÁMI – REINDEER *KHOLODETS*

by Alexander Krasavin, Olga Fefelova & Andrei Dubovtsev

Compared to the cuisines of other peoples of the circumpolar North, Kola Sámi were subject to intense modifications due to the influences of long-lasting cultural and economic contacts with surrounding peoples – Russians, Norwegians, Finns, Komi and others. Kola Sámi have purchased and traded with Russians for rye flour for well over a century usually baking lenten rye flatbreads with it. In the 1920s Kola Sámi began eating vegetables, especially potatoes and onions. Until recently Sámi did not pick mushrooms, which are very abundant in Lapland. Nevertheless, berries – crowberry, cowberry, bilberry and cloudberry – are picked with enthusiasm and eaten dried or soaked, and also used as seasoning (in soup and other dishes).

Photos: Chris Schmetz, Kasper Fogh, ICR

For milennia Sámi food consisted of meat (in winter) and fish (in summer). In the past, when hunting played a more significant role, wild reindeer meat was also consumed. Reindeer husbandry became the main source of meat food for the Kola Sámi by the end of the 1800s, as hunting had already reduced game stocks. Reindeer meat was boiled, sun-dried, frozen and less often – salted. Among the Kola Sámi, there is almost no evidence of raw meat eating. As early as the 16thC it was recorded that Sámi had acquired the habit of boiling food and that even by that time they already slightly preferred fried meat to raw. By the late 19th and early 20thC, reindeer meat was usually served as a soup seasoned with rye flour, salt and ground berries (crowberries and cloudberries). People ate the meat first and then drank the remaining broth.

However, for centuries Kola Sámi have consumed raw *frozen* meat, slicing it finely for eating. This is called *stroganina*, and is a well-known dish among many northern reindeer herding peoples. While Sámi in what we today call the Nordic countries widely used reindeer milk to make cheese, Kola Sámi do not appear to have milked their reindeer to any large extent. In addition to reindeer meat and fish, in winter Kola Sámi ate poultry, mainly grouse, which they usually boiled in soup and sometimes fried.

All parts of reindeer were consumed, except the lungs, which were given to the dogs. Kidneys, slightly seasoned with salt, were put on a stone in front of the fireplace and thus cooked. Liver was used for frying. Brains, heart, tongue, stomach and brisket were considered special delicacies. Sámi also liked fresh reindeer blood, which they drank for its medicinal purposes.

To prepare *kholodets* with reindeer tongues, we need reindeer hooves and tongues. Clean the reindeer hooves thoroughly, and place in cold water. Change the water after 6 hours. Place the soaked hooves in a casserole and cover with water, add meat and bring to the boil. Then decrease the temperature and cook on a low heat for 8 hours. For preparation of dishes with reindeer tongue, it is important to soak it in cold water for several hours. Then the broth will be light and clean. 1.5 hours prior to the end of cooking, add a reindeer tongue, then (over the last 20 minutes) add peppercorns and a bay leaf, and/or some vegetables and season with salt according to your taste. Take everything out of the casserole, detach meat from bones and if applicable cool the tongue and peel the skin. Serve in bowls, adding garlic and cover with meat broth. Let the dish jellify and serve.

Photos: Chris Schmetz

Nowadays, *kholodets* is cooked with a wide range of ingredients. For the meat part of *kholodets* people use beef, veal, pork, poultry. Any variety of vegetables (carrots, onions, garlic, celery), herbs and spices are used. However, the most important part of meat kholodets remain the trotters or hooves, pork or beef ears and heads. These special ingredients allow the cooking of *kholodets* without adding gelatin. Kholodets prepared with gelatin becomes *«zalivnoye»*, which is a completely different dish.

Reindeer kholodets

- *Reindeer tongue 0.5 kg, or other meat such as reindeer cheeks*
- *Reindeer hooves – 1kg*
- *1 onion*
- *Salt*
- *Root vegetables, garlic if wished*

Reindeer round up in Lovozero. Photo: Chris Schmetz

BOHCCO NJUOLAT – REINDEER ARROWS

A long time ago, when all the animals were living in peace and harmony with one another, and there was not an enemy among them, a small frog was jumping around.

Suddenly this little frog found some strange tools, and for the life of him, could not understand what they were. Bear ambled over and explained that it was a bow and arrow that could be used to kill other animals. Bear went on to explain to the others that they should to kill a reindeer because it ran so beautifully and seemed so proud. Bear decided that Mouse should have the first arrow, Wolf the second and himself the third. Mouse shot the arrow and hit the reindeer between the hooves of a reindeer back leg. Today you find a small flap of skin, which in Sámi is called *sáhpánnjuolla*, the Mouse Arrow.

Wolf shot the next arrow and it hit the reindeer's thigh muscle. Next time you look, you will find a 10 cm long bone that looks like a needle in the reindeer thigh. In the Sámi language, this is called *gumpenjuolla*, the Wolf's Arrow.

Finally, it was Bears turn and he shot the third arrow, which hit the reindeer in the forehead. It did not kill the reindeer, but still today, when you remove the skin from a reindeer's head, there is a mark in the forehead. This is called *guovžanjuolla*, the Bear's Arrow.

Frog, who had been ignored and had not been given any arrow, was watching all this time, as the other animals tried to hunt the reindeer. When the reindeer went to the lake to drink water, the frog followed, collected spit and spat with his lightening tongue at the reindeer. His spit was so fast and hard that it became an arrow and it hit the reindeer in the heart. You can find a small bone in the reindeer's heart called *cuopponjuolla*, the Frog's Arrow.

The moral of the story is that a tongue can be used to speak many languages, taste if food is hot or cold, salty or sour. But it can also be used for an evil so strong that it can kill.

Upa - or sea squirts, near Novoye Chaplino, Chukotka. Photo: Elena Kaminskaya

CHUKCHI:
REINDEER BLOOD, THE FIRST FOUR RIBS & WILD PLANTS

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

Ice and snow

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

Bering Strait

Bering Sea

Uelen

Novoye Chaplino

Providenya

YUP'IK

Gulf of Anadyr

CHUKCHI

Anadyr

Kanchalan

Koryak Mountains

Achayvayam

ARCTIC OCEAN

East Siberian Sea

Cherski

YUKAGIR

CHUVAN

EVEN

KORYAK

Tilichiki

PACIFIC OCEAN

Shelikhov Gulf

Central Range

EVEN

Petropavlovsk Kamchatsky

Yana Bay

Range

Chersky

Sea of Okhotsk

Verkhoyansk

Verkhoyansk Mountains

EVEN

Djugadjak

Topolinoye

0 150 300 km

The Chukchi based their traditional economies on reindeer husbandry in the interior of the region and marine mammal hunting on the coast of what today is called the Chukotka Autonomous Okrug. Numbering nearly 16,000, the majority live in small rural villages. Traditionally, marine mammal hunters (Chukchi and Yup'ik) and reindeer herders had close trading relationships, the center of which was food related – whale fat and seal skins for reindeer skins and meat. At one time, Chukotka was one of the world's largest regions of reindeer husbandry, in terms of numbers. In the 1980's there were over 500,000 reindeer. The collapse of the Soviet Union saw a more precipitous decline in herd size than anywhere else in Russia. The number of reindeer fell to around 90,000 in 2001. However, thanks to regional supports to hunters and herders, numbers have recovered and investments have been made in processing facilities and equipment.

Here we present two traditional Chukchi dishes from the Nizhnekolymsky District of Sakha Republic (Yakutia): Reindeer blood soup and the First Four Ribs. These dishes are also prepared in other Chukchi areas.

REINDEER BLOOD SOUP

by Irina Krivoshapkina
and Maria Yaglovskaya

Reindeer blood soup is the favorite national dish of the Chukchi. Traditionally, people used to cook it for children, as it contains the whole complex of vitamins, gives strength, improves blood circulation and provides a long-lasting 'warm-up' effect. Reindeer blood soup is used in traditional ceremonies and is also offered to guests. We have included the traditional and modern methods.

Traditional method
Ingredients:
Reindeer intestines with inner organs *(pitiyki)*
Reindeer large intestine *(nanuvge)*
Reindeer blood *(mulymul)*
Visceral fat (the inner fat around the entrails) *(eimyk)*

Thoroughly wash and clean the intestines with inner organs, large guts, visceral fat and clean, chop finely, cover with cold water, and boil until thoroughly cooked. Pour the settled reindeer blood very slowly into the boiling broth, stirring steadily. The dish is ready when the broth thickens.

Modern method
Ingredients:
Reindeer head
Reindeer blood
Flour, salt

Make a broth by boiling the reindeer head (antlers removed) in water. Remove the froth and impurities from the surface periodically and add salt while cooking. When the head is ready, remove it from the pot and strain. Mix flour with cold water in a separate bowl, add with the settled reindeer blood slowly into the boiling broth, stirring well. Cook until the broth comes to the boil and becomes a chocolate color.

Reindeer Blood Soup.
Photo: Svein D. Mathiesen.

In Chukchi reindeer husbandry, only women carry out the butchering of the reindeer. Here, the First Four Ribs are being prepared and cooked. Photos: Svein D. Mathiesen / ICR.

THE FIRST FOUR RIBS

by Zhanna Kaurgina and Vlada Kaurgina

The Chukchi menu is not that known for its variety. Boiled reindeer meat is a constant daily dish, the favored parts of the animal being the breast parts including brisket, ribs, and the breast section of the backbone. Once the reindeer is slaughtered and processed into smaller parts, the first four ribs are boiled as a delicacy and is the first dish offered to guests. In winter, these ribs are frozen, stored and eaten at a later date.

Why are the first four ribs from a reindeer considered to be such a delicacy among Chukchi?

Depending on the age and condition of the reindeer, the first four ribs have the following qualities:

- Bulk and mass with streaks of fat deposits;
- Juiciness which is related to their high oxygen saturation due to formation of the first four ribs in the chest cavity, and as the chest part of the body is stiff, there is an intense accumulation of bone oil in the cartilage and bone tissues, which provide taste and flavor.
- The broth produced from its cooking is rich in all healthy substances, is very nourishing and provides long-lasting sensation of satiety.

Ingredients:
First four ribs of a reindeer
Salt

Cooking method: Wash the ribs thoroughly and place into a large pot and cover with water. Set over a fire and bring to the boil, removing the froth that rises to the surface. Add salt, and maintain the fire so that the ribs simmer gently for 10-15 minutes.

WILD PLANTS IN THE FOOD CULTURE OF SIBERIAN YUP'IK AND CHUKCHI

By Olesya Yakovleva

The east coast of Chukotka and on Wrangel Island is part of the traditional territory of the coastal Chukchi and Yup'ik. Their traditional activities include sealing, reindeer herding and hunting. They call themselves *«yuk»* – a man, *«yuit», «yugyt»* or *«Yup'ik»* – «real man». Their preferred food mainly consisted of the raw, sun-dried, frozen or sour meat of marine mammals. One such delicacy was a ma'ntak. Man'tak consists of two inseparable parts: whale skin and a top layer of fat and it needs long chewing. Other staples included cereals and roots, laminaria (a type kelp) and raw shellfish. Yup'ik and coastal Chukchi use around 60 species of terrestrial and marine plants for food. By way of illustration, there are no names for the whole plant in their various languages, but there are names for its edible parts – e.g. stem with leaves or the root. That which is not eaten is called «grass» or «flower».

The gathering and preparation of plants for winter consumption is an important women's activity, and is actually called «women's hunting». Laminaria is considered obligatory part of the menu; even hunters pick it on their way home after sealing.

Wild plants are necessary and important additives to meat and fish, which form the basis of the diet of Indigenous Peoples of Chukotka. Upa and other invertebrates – that is crabs, shrimps, sea urchins, starfishes, small octopuses, shellfishes (mussels, whelks), as well as seaweed (laminaria) – are all important components of the Chukchi and Yup'ik cuisine. Not only do wild plants add flavor, they also possess multiple health and medicinal benefits.

Photo: Olesya Yakovleva







A selection of wild plants from Chukotka and Kamchatka. Photos: Olesya Yakovleva, Natalia Radunovich & Anatoly Sorokin

Sea squirt, or upa, is a saccate stationary animal: it remains firmly fixed to the substrate, such as stones and shells. Sea squirts are saccate round-shaped or cylindrical animals sized 0.5 to 10 cm. Their bodies are covered with smooth thick and often rather firm tunica. People eat sea squirt raw, boiled and frozen and they have long been used for medicinal purposes. Their tissues are rich in bioactive substances with unique pharmacologic properties. Moreover, sea squirts provide antineoplastic action. They have a detox effect, boost the immune system and activate blood formation processes. Also, sea squirts possess the unique ability to extract vanadium from the water and accumulate this rare element. Human organisms require vanadium to fight efficiently against infections. Moreover, in combination with other microelements, vanadium slows down the aging process and prevents atherosclerosis.

Since time immemorial, Indigenous Peoples in Chukotka have eaten laminaria washed in by the tide on the coasts of the Bering and Chukchi Seas. People gathered and ate laminaria during the whole year. Even in winter, when the coastal area is covered with thick ice, laminaria was extracted using special spiral devices.

Laminaria is seaweed, which absorbs elements from its surrounding aquatic environment. Its length may reach up to 13 m. Laminaria contains a unique microelement iodine, which is very important for human health. Moreover, it contains a full set of other useful elements: magnesium, ferrum, bromine and potassium.

Chukchi and Yup'ik also eat willow leaves, meadow onion, sweet edible root and leaves of nunivak, *cyuk'-lyak* (edible roots), *k'ugyln'ik* (sorrel), and berries such as *ak'avzik* (cloudberry), *syugak* (blueberry) and p*agung'ak* (crowberry).

1. *An'ukak'* (chapl.) – fireweed (Chamaenerion latifolium).
   The leaves and stems of fireweed are used as seasoning for sour caviar, fresh whale or walrus fat and boiled meat, as well as being added to meat broth.
   In the past fireweed was also used as a tea brew, instead of tealeaves.

2. *Kuvykhsi* (chapl.), *k'ykh'jug'akh'k'at* (nauk.) – knotweed (Polygonum tripterocarpum).
   Knotweed is one of the most well-known edible plants of Chukotka. This plant is widely used and the buds of young knotweed is the first spring delicacy for children. In summer people eat them with seal blood and fat. Knotweed roots (siren – *kusymu*) are dried and stored for winter. They are then soaked in water and used as seasoning for meat and fish.

3. Roseroot (Rhodiola atropurpurea (Turczaninov) Trautvetter Nunivak)
   Roseroot – *«nunivak»* is probably the most popular edible plant for Chukchi and Yup'ik, which is indicated by numerous words related to and built with *«Nunivak»* stem. Also, only this plant's name is used to denote one of summer months – August – Nunivik – «month of roseroot gathering». This word is likely to originate from *«nuna»* stem, which means «earth». There is an interesting relation between words *«nuna»* (earth) – *«nunivak»* (tundra) – *«nunivak»* (roseroot).
   Thanks to their excellent flavor, the sappy stems, leaves and roots of roseroot are all eaten to this day. People try to gather the leaves and stems of roseroot before seed maturity, while they are most sappy. The most traditional dish of roseroot is sour roseroot – *nunivak*.

Photos: Elena Kaminskaya

The Yaranga is the traditional dwelling of the Chukchi and Koryak peoples. Photo: Svein D. Mathiesen

4. Willow (various species) Salix sp.
   K,uk,un,at (leaves)
   There are three known species of this plant (Yup'ik have one name for all three species): *Salix phlebophylla* – Skeletonleaf willow, *Salix arctica* – Arctic willow, *Salix pulchra* – Diamondleaf willow.

   The young leaves of Arctic willow are stored for winter use. Then the leaves are soaked in cold water under a weight before use. In winter they are used frozen as seasoning for meat or fresh whale fat.

In summer the fat roots of Arctic willow are buried and in winter they are unearthed the bark is peeled off, which is then eaten as a seasoning with whale fat.

«Summer gruel». Fresh leaves of knotweed are steamed, mashed, and added to the rendered fat and blood of walrus. Children eat this gruel with seal or walrus meat.

«Spring gruel». Mash the young boiled leaves of knotweed and add rendered fat. When eating raw walrus meat dip the pieces in the gruel.

«Winter gruel». Boil knotweed leaves until the broth becomes dark-green, then drain and put into various dishes for freezing or in a sealskin bag and store for the winter. In winter unfreeze the frozen mass and prepare the gruel. Add rendered fat and seal blood into the mash(the dish can also be eaten frozen).

When boiling walrus, Ringed or Bearded seal meat, add fresh and boiled leaves of knotweed for taste and to add thickness to the broth. Grated knotweed leaves are eaten with fresh gray whale fat or white whale *mantak* (beluga whale skin). This broth is used as a preserving agent when preparing walrus meat for winter.

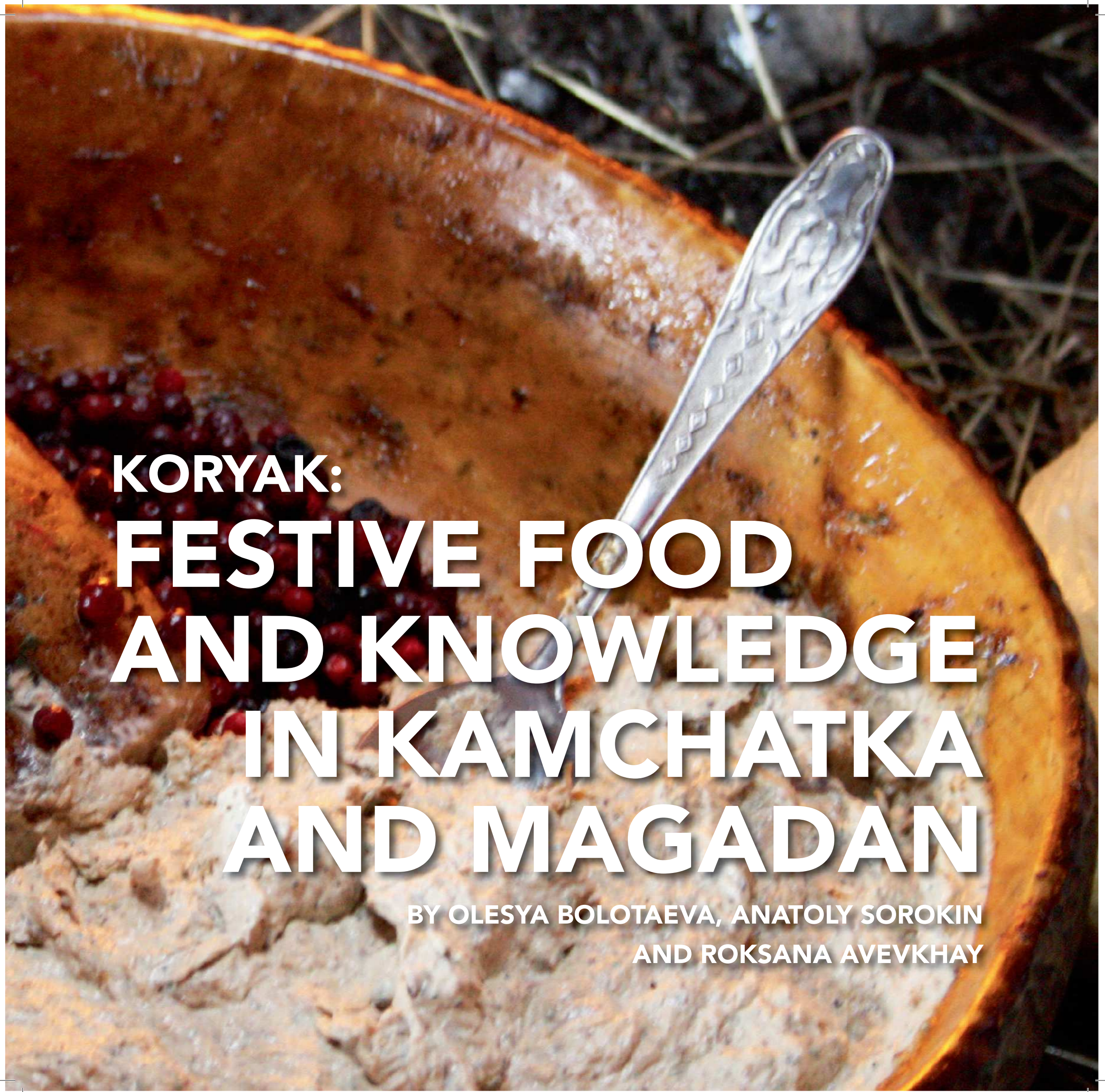
5. *An'jina* (chapl.), *majug'lak'* (nauk.), *lilugaja* (siren.) – wild onion *(Allium fistulosum)*.
   This wild perennial has an antiscorbutic effect, and grows in many places on the Chukchi coast and is widely used fresh as a seasoning for meat and fish dishes.

6. *Pagung'ak'* (chapl.), *akuvilk'ak'* (nauk.), *pagnyk'ykh'* (siren.) – crowberry (*Empertum nigrum s.l.)*.
   Crowberry is a watery berry with slightly sweet taste. It grows throughout Chukotka. It is normally consumed fresh and more recently as a jam. It is also used in several dishes.

7. *Kitmik* (chapl.), *mysutak'* (nauk.) – lingonberry *(Vaccinium vitisidaea var.minus)*.
   Lingonberries grow in small amounts and are eaten fresh and as a seasoning for various meat dishes. People also prepare lingonberry jam. Lingonberries have diuretic, binding, anti-inflammatory and antiseptic effects.

The Yup'ik and coastal Chukchi have very rich knowledge about the value of plants in their food culture. To maintain both their health and their wellbeing, the food culture in the region necessitates a high biodiversity of edible plants.

Photo: Anatoly Sorokin



KORYAK:

FESTIVE FOOD AND KNOWLEDGE IN KAMCHATKA AND MAGADAN

BY OLESYA BOLOTAEVA, ANATOLY SOROKIN AND ROKSANA AVEVKHAY

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

Ice and snow

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

Bering Strait

Bering Sea

Uelen

Novoye Chaplino

Providenya

YUP'IK

Gulf of Anadyr

CHUKCHI

Anadyr

Kanchalan

Koryak Mountains

Achayvayam

ARCTIC OCEAN

East Siberian Sea

PACIFIC OCEAN

Tilichiki

Cherski

CHUVAN

KORYAK

YUKAGIR

EVEN

Shelikhov Gulf

Central Range

EVEN

Petropavlovsk Kamchatsky

Yana Bay

Range

Chersky

Sea of Okhotsk

Verkhoyansk Mountains

Verkhoyansk

EVEN

Djugadjak

Topolinoye

0 150 300 km

The Koryak are an Indigenous people of the northern Kamchatka peninsula, who live in the Kamchatsky Krai, Chukotka and Magadan oblast' of the Russian Federation. According to their livelihoods, Koryak are divided into reindeer herders - *the Chavchuvens (čawčəvaw* means rich with reindeer) and settled Koryak - *the Nymylans* (*nəməlʔu* means settlers) engaged in fishing and marine mammal hunting. It was Koryak reindeer herders' dialect *Chavchuven* that served as the basis when in 1931 writing was established. Unfortunately, fewer and fewer Koryak consider Koryak language as their mother tongue. According to the 2010 census there were 7953 Koryak people in Russia and 2191 (27.5%) considered Koryak as their native language, while in 1989 – 4847 (52.4%), and in 1959 – 99.6% of Koryak spoke their Indigenous language. Furthermore, the literature mentions 11 Koryak dialects, while today in Kamchatka there only four main dialects, namely *Chavchuven* (reindeer herders dialect), *Palana, Alutor* and *Karaginsky* (settlers' dialects). There are no exact statistics, but by regional estimations, *Alutor* is poorly spoken by only 250 people. The Magadan dialect is studied poorly and not distinguished as a separate dialect yet. More effort is needed to bring the Koryak language into every day use and food may have an important role to play in this regard. Much has been written about the traditional foods and rituals of the Koryak and other Indigenous Peoples of Kamchatka and the Magadan oblast'. If we look at one of the ancient cultural layers – story telling, it speaks to meanings and knowledge embedded in food culture and its connection to festivals and ceremonies. Below is one such story, told by Tamara Khupkhi in the village of Tilichiki, in the *Olyutorsky* district of the *Kamchatskiy Krai*. As this ancient tale tells, that to please the angry *Qutkinˌnˌaqu*, little mice prepared and started to treat the visitor to the well loved dishes, *tolkusha* (tilqətil) and dried toadstool *(wapaq)*. This is one of the favorite dishes of the Koryak and is served at *Milanɣət* - the holiday of the Ringed Seal.

Koryak food traditions are an integral part of their culture, are closely connected to their livelihood and are associated with a number of folk customs and regulations. For nomadic Koryak - *čawčəvaw* reindeer meat, blood, fat and entrails of the reindeer play an important role, while for settled Koryak – *nəməlʔu* — fish, marine mammal meat, blood, fat, and guts were at the center, although today it is mostly fish. The food choices of both groups have always been seasonal and celebrations held on certain occasions. These celebrations consist of a set of certain ritual actions, including slaughtering of reindeer in one case and fishing or hunting for marine mammals in the other, and the preparations of certain dishes.

TOLKUSHA AND THE FESTIVAL OF *MILANɣƏT:* COASTAL KORYAK

In November or early December the coastal Koryak – *the Nymylans* celebrate the festival of *Milanɣət* - the holiday of the Ringed Seal. The meaning of this holiday is to guide the spirits of marine mammals that have been hunted during the season, back to the sea. Every family that celebrates this holiday cooks special dishes, in particular *tolkusha (tilqətil)*. During the festival, all the guests that come to the feast are considered to be the seals. And during this festival, people meet each other with a cry «ololo» because ringed seals emit such sounds when resting on land. That is why this holiday is also known with the name *Hololo or Ololo*.

When the master of the feast (a hunter or elder of the family) performs the rite of taking the seals back to the sea, small figures of seals

Photos: Anatoly Sorokin

Qutkinjnjaqu and the Mice

TEXT IN ALUTOR DIALECT OF KORYAK LANGUAGE

Ӄуткинняӷу то пипиӷыльӈу

1. Ыё-ӷун амын ника ынпыыллыгын, ника Ӄуткинняӷу звали.
2. Ӄулэн Ӄуткинняӷу ганикалин ынӈин пипиӷыльӈа гальлямйимкалин йырраманигитг'ула.
3. И ӈанин: «Ток, ӈавыллывью, пыса мытаретыӈ ралӷивыӈ». Пипиӷыльӈыӈ иви,ынин лылав'в'и гамйимкалин.
4. Ту ӈанин Ӄуткинняӷу ӈавг'аӈ Митинаӈ никаткын гэӈавык: «Митэ, ӷин ӷангитатгот ӷив'в'атг'ын унюню. Мытканга лла ткыт, аӷив'в'ака». Ӄысын ынин лылав'в'и галылямйимкалин никата пипиӷыльӈа.
5. Йирралла ткыт тытталь кангалла ткыт.
6. И ӈавг'анин никаткын-ӷун г'эӈасир, иви: «Ӄынтуги, мытканга лла ткыт!»
7. Иви нитка Мити: «Маӈки гуттин кангыкан, атгивыка! Аллы тин гутку кангыкан итка!
   Ӄынут натынмылаг'игыт ынанну кангавыткы, аӷив'в'ака».
8. Ӄысын ыныӄ ӈавг'ан: «Аӷив'в'ака, лылав'в'и гынина гамйимкалин, ныйирра ана. Лотык лыг'уткына!»
9. Наӷам гапрыткулан, витку анӷави.
10. Митыв кытым ана нымалг'а мынтыллаткыт пипиӷыльӈу.
11. Ту Ӄуткинняӷу ӈывуйи, митыв яӷмитыв гав'в'авлин.
12. Наӷам аӷив'в'ака г'эӈасир: «Атав' ынну-ӷун ӷусаӷ ӷ'аланпитӷа тытаӈтыӈна, ӷусаӷ йив'йинпитӷа». Ӄуткинняӷу гивлин пипиӷыльӈыӈ.
13. Никынв'ыт пипиӷыльӈу гивланаӈ: «Ымама, тук аӈэӷыка, Ӄуткинняӷу ятыткы. Аӷив'в'ака, гаӈырг'авлин наӷам-ат».
14. «Ӄиналлагытке, тилӷытил, ӷамаӈа, ӷыйирг'атыткын тилӷа никата ӷамав'в'и, каждый своё ӷамаӈа гынанг'аллаӈ ӷиналлаги!»
15. И Ӄуткинняӷу гасемык: «Ӄытыммы ана, таӷа йив'йинпитӷа тытаӈтыӈлатык, г'аланпитӷа тытаӈтыӈлатык. Тытаньмыткуӈна гынан пипӷыльӈу».
16. Ӄив'в'а виг'инвыӈ ынӈин пипиӷыльӈыпиляӷа испугались.
17. Ту ӈанин ганикалин. Г'оро гатаньӈы…
18. «Го-о, тытаӷыткы ана гым, ӈавыллывьюлг'игым. Алло, ӈавыллывьютуру, аллы атаӷка тынтилӷивык». 19. Тинга гансумавлин ӈаныӄ никата тилӷа и в'апаӷа, г'опта тинга.
20. Тинга-ам анӷави таӈтыӈавык.
21. То ынки: «Инёс, ӈавыллывьюлг'ытуру, ӈэтаӈ, мыретылӷи».
22. И ӈаныӄ Ӄуткинняӷу гаретылӷивлин.

1. A long time ago there was a grandfather named Qutkinjnjaqu.
2. With bits of red fabric these little mice once decorated his eyes.

3. «Well, my nieces, Home I go but back I will be», said with his eyes painted.
4. And this Qutkinjnjaqu he shouted to his wife, named Miti: «Mite, you are burning! «Oh, how terrible, and the children. We are on fire. Oh, how bad.» But his eyes had been painted by these little mice.
5. It is getting very red, as if everything is burning.
6. And shouts to his wife saying «Get outside, we're on fire!»

7. Miti says: «Where is the fire, I don't know! Nothing is here. There's no fire! Seems like you've been tricked. Bad!»

8. She suddenly notices: «Oh, how terrible, your eyes are decorated red. It is seen on your head!»
9. He removed the decorations and had a change of heart.
10. «Tomorrow the mice will be crushed!»
11. The next morning Qutkinjnjaqu went on his journey.
12. Maliciously he shouted: «Ah, these ones I will crush. The others I will trample» Qutkinjnjaqu said to the mice.

13. And here the mouse said: «Mama, Oh how bad, Qutkinjnjaqu is coming. Oh, bad, mad, he really is.»
14. «Prepare , tolkusha and fetch dishes, fill the dishes with tolkusha, to each their own plate within reach!»

15. And Qutkinjnjaqu he approaches "No, I'll smash the guts and shit out of you. I'll kill you Mice".
16. The little mice got scared to death.
17. And he is. Then...
18. «Well, what could I do, for my nieces you are. Worry not».
19. Here he became kind, because of the tolkusha and the toadstool.
20. He changed his mind. He won't crush them.
21. And so: «Enough, my nieces then home I go».
22. And there Qutkinjnjaqu returned home.

(Tales Extant, p 16-17)

are made from twigs of alder, and bound with sedge grass *(ləʔutaŋ)*. Such seal figures are ritually fed with *tolkusha*, watered and sent to the fire. Almost all the rites are performed with fire. Everybody is having fun, playing the tambourine, dancing and showing to the seals who are 'returning home' that they had a good time with delicious food at the festival. Upon returning home, these seals would tell their friends, other marine mammals, about this holiday and would always come back again the next year. Thereby people secure hunting luck for the following season.

This dish has a very sweet taste due to *jiwjirʔu* and also fortified and nutrition and vitamins. It is always served as a dessert. For *Milanɣət* many other meals are also prepared, for example, *kilikil*. To make *kilikil*, boil fish, then mash it, remove the bones and add crowberries *(ljəɣiʔəvənʔu)*. The resulting mass is infused with *mətqəmət* - liquid ringed seal fat.

One of the most common festive foods of any holiday, including *Milanɣət*, is *tavʔal* – dried fish, *yukola* [a sun-cured fish dish, see Yukagir chapter]. It is especially tasty when eaten together with *valival* – ringed seal fat. *Tavʔal* is

The recipe of *tilqətil* has been passed down from generation to generation.

«In summer we collect cloudberries *(rəttuwwi)*, blueberry *(liŋluwwi)*, crowberry *(ljəɣiʔəvənʔu)*, redberry *(ɣəjinʔu)* and rowan *(miməjuwwi)*. Also we collect the roots of Bering Sea Spring Beauty or Claytonia *(rəmŋuwwi)*, knotweed, snakeroot, alpine bistort and sweet vetch. Cedar lump *(ɣunawwi)* and nuts are put into the tolkusha to create an excellent flavour.

Dwarf fireweed *(nununu)* is collected and made into a pulp *(jiwjirʔu)* Then the skins from it should be separated. Fireweed *(rosebay willowherb)* and sorrel are collected and dried. Seperate the nuts, and prepare the cones. A piece of ringed seal fat *(valival)* we mash into a liquid state *(mətqəmət)*.

We dry caviar *(kəljljaljŋu)*, which should be well beaten for tolkusha that is prepared on holiday. There are wooden bowls used only for tolkusha. Boil the roots of Bering Sea Claytonia *(rəmŋuwwi)*, knotweed, snakeroot, alpine bistort and sweet vetch and make them tender. Cook the roots and tenderize them. Mix the roots with the caviar and again tenderize. Dried pulp of Dwarf fireweed is also mixed with caviar and tenderized. Everything should be beaten and beaten, until the contents turn white *(imuʔim)*. Add a teaspoon of liquid ringed seal fat and a broth from the roots. Dried leaves of River Beauty *(wiwiwtu)*, Sorrel and skins from the stems of Fireweed are all mixed together and sifted. They should become small, like ash. Then the second time add the ringed seal fat and water, and the third, fourth and fifth time, more and more fat and water and later broth. Then add more ringed seal fat. Finally just top it up with more water, because it *(tolkusha)* also gets very «tired». Then stir in crowberry. We then make the eyes of tolkusha with cloudberry. After adding cloudberry put the tolkusha in a bowl. In the past, we did not add sugar, because there was no sugar. Nowadays we do add sugar as well as bog whortleberry and redberries.

Figure 3: Tatiana Golikova, quoted in Yukari, p. 48

Photos: Anatoly Sorokin

Photos: «Friendship of the Northerners» Public Organization of Indigenous Peoples of the North in the Kamchatsky krai.

prepared in the summer, during the main run of salmonids. The Koryak make *Yukola* from salmon, Arctic char, trout or other fish. The dorsal and ridges are cut off, and only the fillet is separated and hung to dry.

FESTIVE FOOD AT *QOJAŊAJTƏK:* REINDEER HERDING KORYAK

The nomadic Koryak hold their holiday called *qojaŋajtək (qojaŋajtatək)* in the autumn, during the waxing moon. *Qojaŋajtək* literally means 'to move the reindeer'. Women prepare *Cencitkuwətwət*, is a sacrificial green colored gruel made from the 'river beauty' (here called 'reindeer leaves'). It is harvested in summer, dried and then ground on a stone mortar. In the village of Achayvayam this is called *qozjawətwəto*. The resulting mass is used for tolkusha and crowberries are added into it. While the coastal Koryak add ringed seal fat, the nomadic Koryak add reindeer fat to *tolkusha*.

After certain rituals, *yukola* is eaten. For the *qojaŋajtək* holiday, it is made from Arctic char with the head still on. It is called *lewtetewʔel* and literally means 'sun-cured fish with fish head'. For *qojaŋajtək,* sacrificial reindeer are slaughtered, and *Qəməl* (bone marrow from the rear legs) is eaten raw. Everyone except male children eat the bone marrow. While girls are allowed to eat large amounts, boys are not, so that they do not lose their appetite, as they need to build their strength to herd the reindeer when they grow up. The meat of the sacrificial reindeer is laid out on a sled. The sacrificial meat *(inelətʔul)*, the lungs *(zitcat)*, liver *(pontan)* and meat from the spine *(zavjaw)* are baked in the embers of the fire, which should

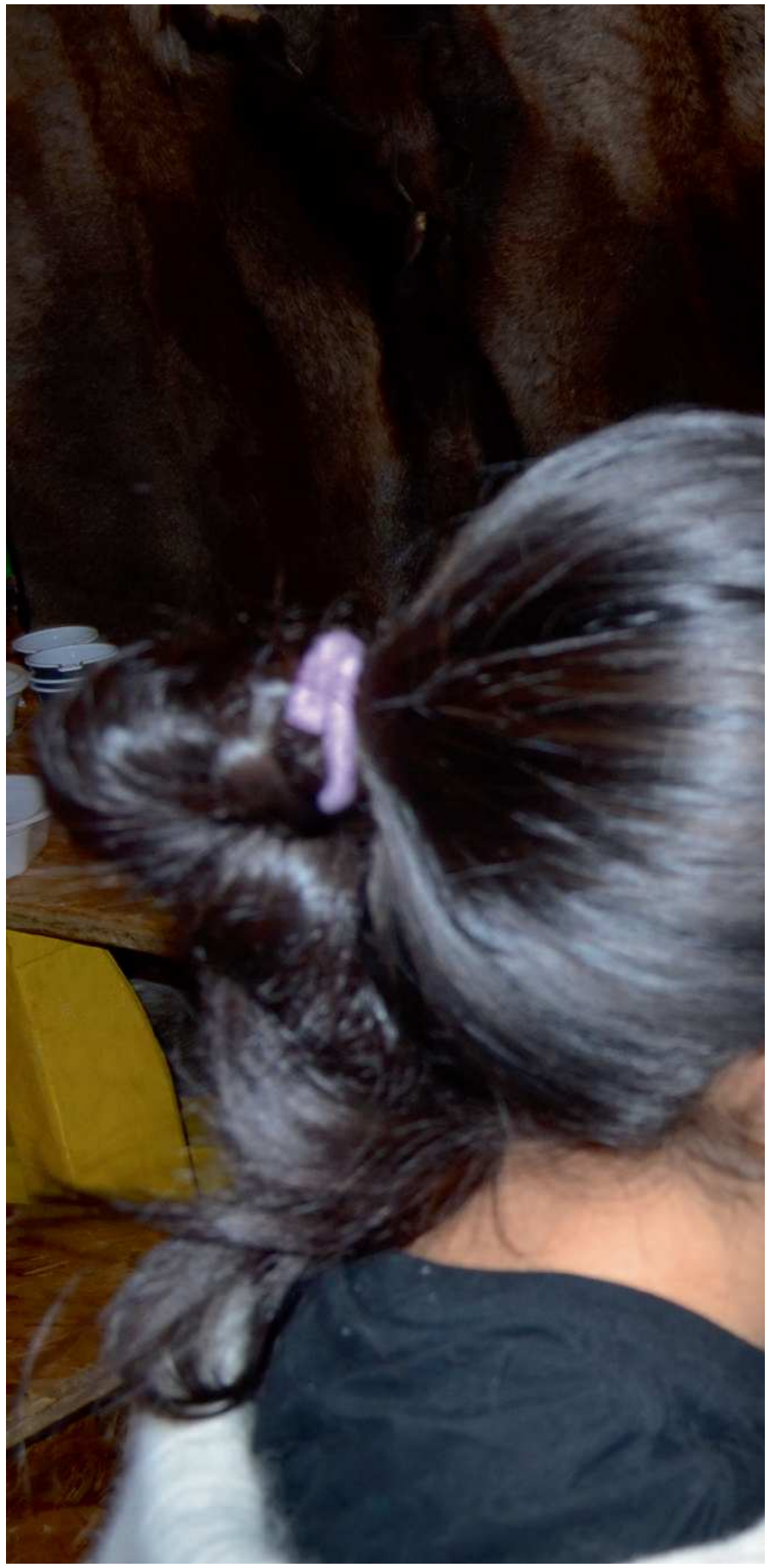


Photo: «Friendship of the Northerners» Public Organization of Indigenous Peoples of the North in the Kamchatsky krai.

be situated on the Eastern side of the entrance of the *yaranga* (the traditional Koryak tent). Then *kinuŋi* - meat boiled in a cauldron over the fire – is eaten.

Half of the raw meat is hung on poles outside and after 2-3 days the dried meat is brought into the *Yaranga* where it is smoked over the fire and eaten in winter.

A ritual sausage *zezjat* is made from the third stomach of the sacrificial reindeer. It contains boiled bone fat from the broken leg bones of a reindeer. *Zezjat* is considered to be a substitute for a live reindeer in a bloodless sacrifice during the winter and spring holidays. Part of the sausage can be eaten in the morning.

During the holiday at the thanksgiving ceremony to the fire, 'dried toadstools' *(wapaq)* are a vital ingredient. Toadstools are collected in the summer, and removed completely with the top intact with care being taken not to touch it. They are strung out on a thread and dried in the *Yaranga*. The consumption of dried toadstools is considered to be essential during thanksgiving ceremony.

In the early morning, a ritual blood soup called *mŋeʔəpaŋa* (literally, 'fire soup') is made, which no holiday can do without. To prepare the blood soup you need clean water and blood, which is boiled on a slow fire until a certain sound is heard.

In connection with the birth of children, coastal Koryak hold the feast of *Anaŋavisqatin* («in celebration of women»). Here *taknonoikau* (bringer of happiness) is prepared, by first frying flour until brown, to which coastal Koryak add the blood, meat and marine mammal fat. Nomadic Koryak add reindeer meat, blood, and fat. Eating this cereal is supposed to provide a prosperous life for the newborn child.

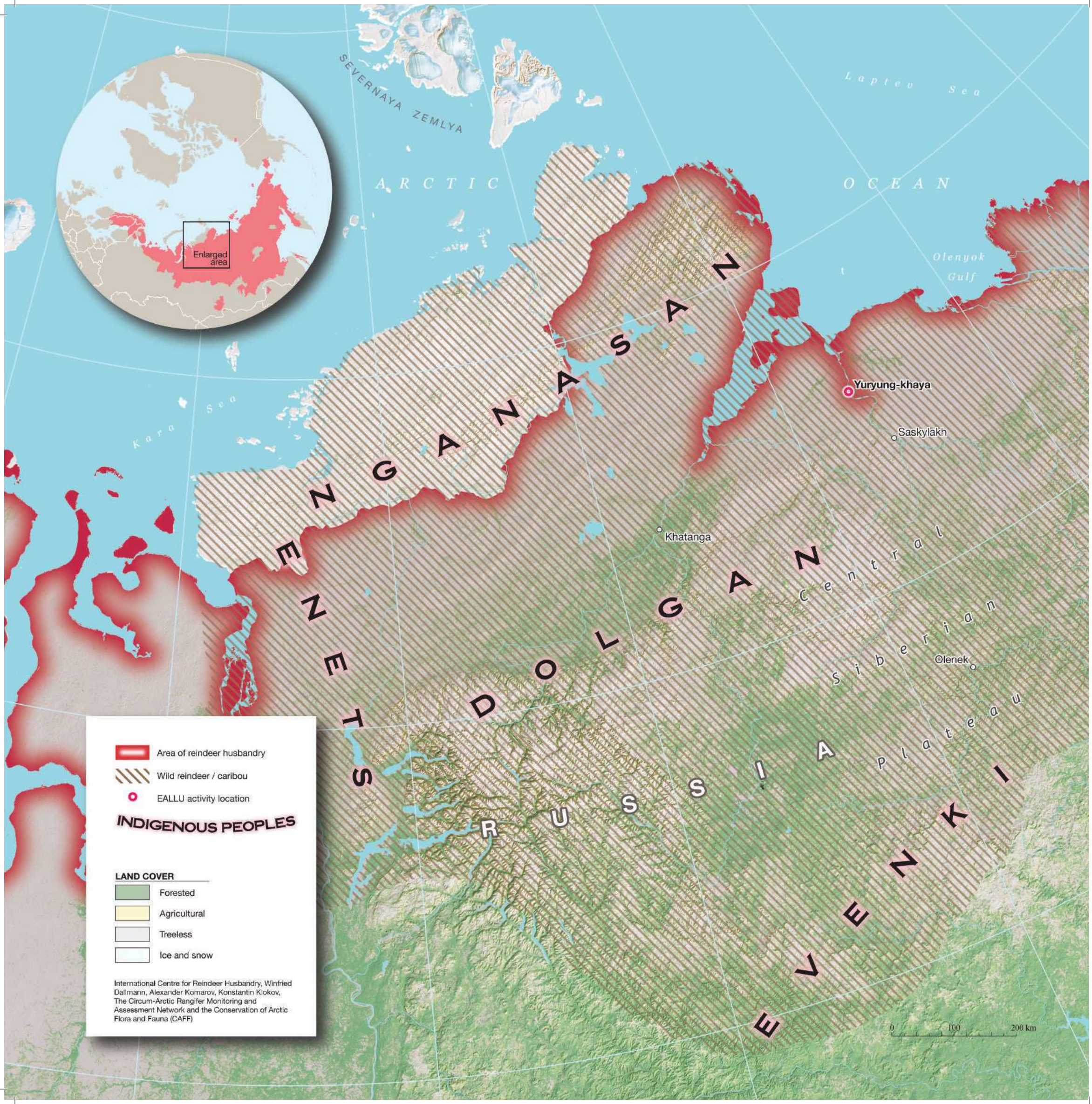
Considering the parlous situation of Koryak languages, the enduring traditions of Koryak food culture, their connection with rituals, celebrations and festivals, their rich terminology and methods and purpose of particular foods may assist the preservation and development of the Koryak language. Koryak traditions and ceremonies and all connected activities, including the names of dishes, ingredients, and so on, remained unalterable due to the sacredness of the rites themselves. In this way, these foods, their memories and terminologies act as a storehouse for the Koryak people and culture. The importance of these ancient and unchanging food traditions of the Koryak are a vital part of their desire to remain as a thriving and vibrant culture in a period of rapid change.

< *Photo: «Friendship of the Northerners» Public Organization of Indigenous Peoples of the North in the Kamchatsky krai.*

Photo: Andrey Isakov

DOLGAN: REINDEER EYES AND FISH

BY ANNA CHUPRINA AND SOPHIA ZAKHAROVA


SEVERNAYA ZEMLYA
ARCTIC OCEAN
Laptev Sea
Kara Sea
Olenyok Gulf
Enlarged area
NENETS
DOLGANA
RUSSIA
EVENKI
Central Siberian Plateau
Yuryung-khaya
Saskylakh
Khatanga
Olenek
0
100
200 km
Area of reindeer husbandry
Wild reindeer / caribou
EALLU activity location
INDIGENOUS PEOPLES
LAND COVER
Forested
Agricultural
Treeless
Ice and snow
International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

‘Dolgan’ means ”people living on the middle reach of the water”. The Dolgan live in the territory of Taimyr, Dolgan-Nenetsky Autonomous District, Krasnoyarsky Kray and Anabar Ulus, Sakha Republic (Yakutia) and in the vast territory from the west side of the Lower Yenisei river to the east of the Anabar river. Dolgan number less than 8000 people. Traditionally nomadic hunters, gatherers and reindeer herders, the region is also home to the largest wild reindeer herd in the world. Despite the similarities in livelihoods and major economic activities with neighboring peoples, such as reindeer herding, hunting, fishing and gathering, Dolgan (the self-designation of Dolgan – *dulgan, tya-kikhi, haka*) culture contains a number of distinctive features that create its special uniqueness. Primarily, this relates to Dolgan traditions and their food culture.

Dolgan cuisine, traditions and customs related to food, are an important part of the material culture of Dolgan culture and reflects their socio-cultural and historical processes, religious beliefs and worldview. As the main traditional activity of the Dolgan people is reindeer herding, unsurprisingly the main component of their diet is reindeer meat, an easily digested and clean food packed with macro and microelements (calcium, phosphorus, potassium, sodium, iron), vitamin B and vitamin PP (nicotinic acid), essential for good health. Reindeer meat can be boiled, dried, smoked, frozen or eaten raw. There are several Dolgan dishes made from reindeer such as *kyyl ete* (wild reindeer meat), *et* (boiled meat), *amaha* (stew made from cut meat and bone marrow), kyos (soup), *oiogos mine* (rib soup), *heliei* (meat broth with wheat flour), *ulukte* (sun dried meat), and others. Beside reindeer meat Dolgan also use bone marrow (boiled or raw), *tun’iakh* (hooves), *tyl* (tongue), *karak* (eyes), *hynak* (cheeks) etc.), and inner organs (liver, heart, lungs, kidneys, intestines etc.). Blood is used to make chyol (blood sausage). Dolgan consider velvet antlers as a delicacy, which should be slightly grilled on a fire before being eaten.

Fishing is an additional seasonal activity, which is also socially and economically important for Dolgan. Fishing is important in summertime, when hunting wild reindeer is difficult. Domesticated reindeer are herded on separate pastures in order to gain weight and keep the wild and domesticated reindeer separate. Dolgan food culture is rich in various fish dishes, such as *balyk mine* (fish soup), *diykula* (dried fish), *kabardaak* (a traditional fish dish), *kuumsa mine* (brown trout soup), *kyspyt* (sliced frozen fish), kerdiilek – yukola (a special way to dry fish), tuustak balyk (salted fish), baarky (semi-dried fish). Favored fish for Dolgan are sturgeon, broad whitefish, muksun, nelma and coregonus.

Traditionally the broth made from reindeer meat, fish or bird is called min. Min is very easy to cook while herding, migrating, fishing or hunting, because it does not require a lot of time or ingredients to prepare. Herders or hunters can quickly warm themselves from drinking min, and recover their strength.

For Dolgan, as for other northern peoples, food is a key factor in maintaining health. Wild plants serve an important medicinal function in the Dolgan diet and they are also an additional source of food, delivering gastronomic diversity and useful nutrients. Dolgan use the roots of edible herbs, wild onions, and berries such as cloudberries, blueberries and lingon berries.

Due to the abrupt economic and social changes experienced by Indigenous Peoples in the Arctic, their traditional food cultures have also

Photo: Andrey Isakov

Photo: Sofia Zakharova

been transformed. As an example, with the change of the nomadic lifestyle to a settled one, when Dolgan moved from tundra to villages, their involvement in traditional activities decreased. This had a dramatic influence on the traditional model of Dolgan food culture, which now includes products such as wheat flour, vegetables, cereals, pasta, bread, milk etc. People began to add pasta and vegetables (potatoes, carrots, onions, spices etc.) to meat soup. Ptarmigan is often now cooked with vegetables and pastries are baked using flour, eggs and cow milk. Such culinary influences and trends have negatively influenced Dolgan health, as elsewhere in the Arctic.

Further research into Dolgan food culture is needed which could also improve the diet model of modern Dolgan society, which has lost many cultural traditions associated with etiquette, diet and methods of cooking traditional dishes that go to creating the full spectrum of Dolgan material and spiritual values.

BAARKY

Baarky is a well-known and much loved white fish dish. The dish name *baarky* originates from the Russian word *parit* (to steam). Dolgan use two cooking methods:

Method 1
Take a large white fish, preferably one with its roe intact. Cut the fish into fillets and place on the pan together with visceral fats, guts and roe. Cook with fish fat and let it stew in its own juice, stirring constantly. Add salt and season with meadow spring onion *(Allium fistulosum)*. Cook for 5-10 minutes and serve hot.

Method 2
The ingredients are the same as for Method 1, but the cooking time is increased until the liquid in the pan is completely evaporated and the fish flesh changes in color to orange. The dish is then stored in canvas bags to complete the drying process. In this method, the dish can be stored throughout the whole winter. Children are fed this dish during migrating and it is a favorite delicacy.

All Photos: Sofia Zakharova & Peter Kaurgin

REINDEER EYE SOUP

Dolgan believe that by eating reindeer eyes, people will preserve their visual acuity, their sharpness of sight, and will retain good eyesight into old age. Good eyesight is obviously very important for hunters and herders living out on the tundra. A symbol of the eye is also used in the Dolgan national costume, which you can see most obviously in the decoration of a man's hat. The eye also plays the role of a protective amulet.

First, you need to skin the reindeer head and cut it into six parts (while reserving the eyes). Wash all parts thoroughly and place in a casserole and cover with water. Cook the broth for long time, until all the meat detaches from the bones. Remove all cooked parts of the head from the broth; and detach the eyes from the frontal bone by hand. Filter the broth. Slice the eyes into 5-6 segments and return to the broth. The dish is ready. The entire eye is eaten.

For a large family prepare the dish by using several heads.

The Dolgan mens hat which features the eye of a reindeer. Photo: Sofia Zakharova

Author Sofia Zakharova prepares reindeer eye soup. Photos: Peter Kaurgin

Reindeer round up in the Aldan region, Sakha (Yakutia). Photo: Svetlana Avelova.

EVENKI: KAPKA AND BLOOD SAUSAGE

BY ALENA GERASIMOVA, NADEZHDA GERASIMOVA, LYUBOV SIDOROVA AND SVETLANA AVELOVA

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

Ice and snow

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

Uelen

Providenya

YUP'IK

Bering Sea

ARCTIC OCEAN

CHUKCHI

Anadyr

Koryak Mountains

PACIFIC OCEAN

East Siberian Sea

Cherski

YUKAGIR

CHUVAN

EVEN

KORYAK

Central Range

EVEN

Petropavlovsk Kamchatsky

Laptev Sea

NGANASAN

Yuryung-khaya

Saskylakh

Khatanga

ENETS

DOLGAN

Olenek

Central Siberian Plateau

EVENKI

RUSSIA

Chersky Range

Verkhoyansk

EVEN

Djugadjak

Topolinoye

Verkhoyansk Mountains

Aldanskoye Highland

Sea of Okhotsk

Yakutsk

UIL'TA

NEGIDAL

Khatystyr

Aldan

Neryungri

Iengra

KETS

EVENKI

Stanovoye Highland

EVENKI

CHINA

Enlarged area

0 200 400 km

Lake Baykal

Evenki are the most widespread Indigenous Peoples of the North. Formerly known as the Tungus people, they can be found from the coast of the Sea of Okhotsk in Russia's Far East, throughout southeastern Siberia, and along the entire length of the Yenisei River to the tundra regions of the Taimyr Peninsula.

Traditionally nomadic, they have practiced traditional subsistence activities, including reindeer herding and hunting. According to the 2010 census there are approximately 38,000 Evenki in the Russian Federation. Evenki food culture is mainly based on wild reindeer. Evenki also herd reindeer, but prefer to use their domesticated animals for hunting and transportation. For Evenki to eat their own animals would be a last resort. Other popular foods are mountain birds, water-fowl, occasionally bear and elk, and fish. In summer and early autumn the Evenki diet is complemented by reindeer milk, berries (blueberries, honeysuckle berries, blackberries, cloudberries, lingonberries and others), mushrooms, pine nuts and wild onions. But still, reindeer have always been and remain the absolute «king» of Evenki food culture. Everything is used from reindeer, and nothing is wasted. Evenki also eat everything except for the spleen, it being the only organ which should not be eaten, it is even forbidden to give it to the dogs.

According to G. Vasilevich (1969), Evenki did not have a word for «Hello» or «How are you». Instead, when greeting each other, they said: «What did you eat?» or «What did you hunt?» The person who was asked the question could answer also by naming what part of reindeer he or she ate.

As elsewhere, family based reindeer herding is the foundation of Taiga reindeer husbandry. Photo: Yuri Kokovin.

Preparing Kapka, an essential dish for Evenki herders: Photos by Svein D. Mathiesen, Svetlana Avelova and Yuri Kokovin.

Here we present two Evenki traditional dishes: *Kapka* and *Buyuren*. These two are essential dishes for Evenki reindeer herders in the southern part of the Sakha Republic (Yakutia).

KAPKA

The term of this ancient dish *«kapka»* is used both for the designation the dish, and for the reindeer trachea. The dish is common among Evenki reindeer herding communities in this region, specifically the Neryungri and Olekminsky districts.

The process of making the dish:
When butchering the reindeer, you use the entire reindeer head to get the primary ingredients for *kapka*. You will need the trachea, lips, ears, cheeks, meat and muscles around the eyes, and different parts of meat (usually some meat with sinews).

Separate all the ingredients from the skin and bones, rinse and cut into pieces. Fill the trachea with the cut-up ingredients. Connect the ends of trachea together to make a ring (by using a strong thread).

Use a skewer made from willow to insert into the trachea and stake it near an open fire for 45-50 minutes, periodically turning the *kapka*, in order that it cooks evenly. After 45-50 minutes remove from near the fire, let it cool and slice. Place the sliced pieces of *kapka* on a pan and keep near the stove in order that they became drier (but do not fry).

Women prepared *kapka* to give to their men, when they were going hunting or herding reindeer. They are quick to make and serve as a highly nutritious snack, which can be conserved for a year or longer. Traditionally, it was saved to use in bad times, when there was not enough meat to eat. People could boil it and make soups, or eat it as a snack. It is important to note, that during the process of cooking, no salt was added to *kapka*. Because once it is salted, it quickly becomes moist. Once cooked *kapka* was conserved in cotton bags, usually kept away from heat, or outside of the tent in special packs (*immek*) made of birch bark and reindeer skin. *Immek* is used for keeping and transporting different products, such as wheat flour and other perishables. There were no special occasions to cook *kapka*, though herders tried to make it while the reindeer meat was still fresh. In addition, it did not matter whether the reindeer was a female or male, but that the important rule in Evenki culture be followed – it is forbidden to eat reindeer calves.

We (the authors) chose to present this dish, as we think it is important to show that it is not only meat which is used from the reindeer. Every part is important, and can be cooked. And *kapka* is both rich in nutrients and flavor.

Because of our nomadic way of life, living from the land and being wholly dependent on its natural resources, Evenki reindeer herders and hunters have not taken too much from nature, and not harvested more than what is needed for the near future.

BUYUREN – BLOOD SAUSAGE

Reindeer blood sausage (in Evenki language *buyuren, buyukse, beyuhe,* and *subai* in the Yakut language) is a popular dish for all reindeer herding peoples in the circumpolar North. Nonetheless, blood sausages are quite different in various reindeer herding regions and have different specifics in the process of cooking, in textures and even colors. Evenki reindeer herders usually make very soft sausages, sometimes of a very light color. The darker color sausage is less tasty, but not less healthy. Actually, the taste of blood sausages depends on the amount of blood and the fat content of the intestines.

There are just two main ingredients for this dish: fresh reindeer blood and intestines.

During the process of slaughtering, Evenki herders always collected the blood, usually the amount is about 5 liters, approximately 3 liters of which would be used for blood sausages. The blood is collected in a big bowl. One should let it be still for a while. Considering the fact that blood tends to coagulate, you should first slightly cut the very first layer of the blood with a knife. Then squish the coagulated pieces with your hands while the blood is still warm, in order to get more liquid blood. Do not stir the blood.

Then filter the whole bowl, giving you only pure blood and let it be rest for approximately 8 hours (In some regions they let it rest for 5-6 hours). That which is left in the filter is given to the dogs. While the blood is standing, it starts to divide itself into three layers. The first layer is plasma - a very light mass on top. You use this first layer to make light blood sausages. The second layer can also be used for sausages or mixed with plasma, then they will have a darker color, but still soft. The blood from the second layer can also be fried with onions, or other vegetables. It is a very delicious and healthy dish especially for those who have anemia or low hemoglobin. The bottom layer is also boiled for dogs.

While the blood is resting so that it divides into layers, you can clean the intestines, wash them and start selecting. The thin ones are sometimes used for sausages. You need to check that the intestines are not broken by blowing into them to check that there are no holes. Intact intestines can be filled with plasma or blood. Bring the ends of the intestine together and use a thread to connect them. Reindeer herders in the Aldan region also add salt, black pepper and garlic to the sausage. Place the intestines with blood into boiling water for 15-20 minutes. Add salt. Boil over a small fire, otherwise the sausage might rupture. A little bit later, poke the sausage with a toothpick to let some air out. Slice the cooked sausage and serve hot.

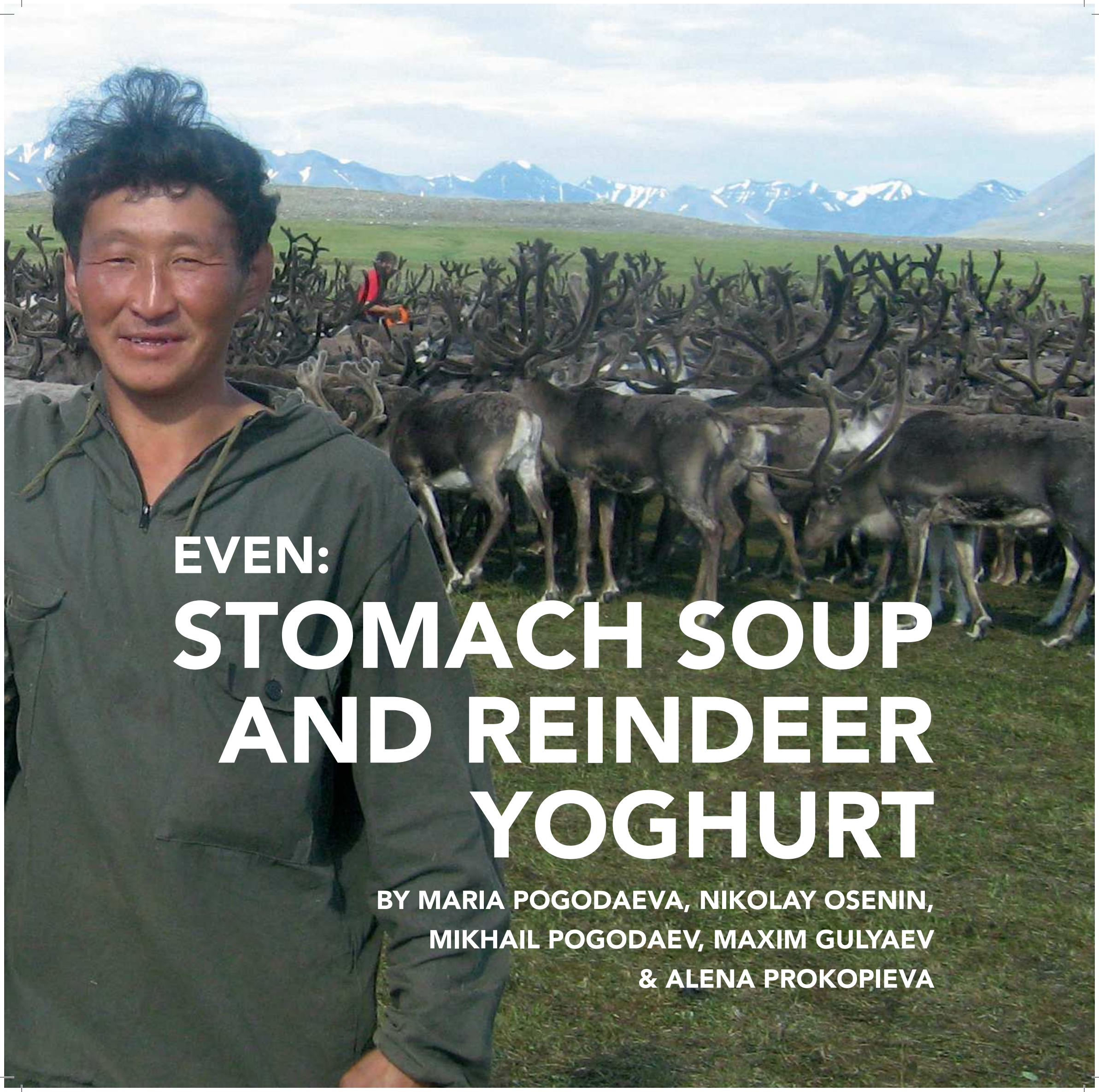
Blood sausages usually were eaten right after they were cooked. But these days, raw sausages can be frozen and cooked later when preferred. However, it is important to remember, that only raw sausage can be put in a freezer, and that frozen sausages should defrost a little before cooking.

Evenki elder, Iengra, 2016:
This summer was very cold. This is why we didn't have blueberries and lingonberries this year. Besides that, I have noticed that we didn't see black grouse or ptarmigans for a long time now. And these birds are also a part of our diet. I think it is connected to the climate change.

Hunting is an important livelihood for Evenki. Photos: Yuri Kokovin

There are just two main ingredients for Evenki sausages: fresh reindeer blood and intestines. Photos: Alena Gerasimova, Lyubov Sidorova, Yuri Kokovin and Anders Oskal

Even herders, Republic of Sakha (Yakutia) Photo: ICR



EVEN: STOMACH SOUP AND REINDEER YOGHURT

BY MARIA POGODAEVA, NIKOLAY OSENIN, MIKHAIL POGODAEV, MAXIM GULYAEV & ALENA PROKOPIEVA

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

Ice and snow

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

Uelen

Providenya

YUP'IK

Bering Sea

ARCTIC OCEAN

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Koryak Mountains

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East Siberian Sea

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Central Range

EVEN

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Laptev Sea

NGANASAN

Chersky Range

Yuryung-khaya

Verkhoyansk

EVEN

Saskylakh

Sea of Okhotsk

Djugadjak

Topolinoye

Khatanga

ENETS

DOLGAN

Verkhoyansk Mountains

Aldanskoye Highland

Olenek

Central EVENKI

Yakutsk

Siberian plateau

RUSSIA

Khatystyr

Aldan

UIL'TA

NEGIDAL

KETS

EVENKI

Neryungri

Iengra

EVENKI

Stanovoye Highland

Lake Baykal

EVENKI

CHINA

Enlarged area

0 200 400 km

Even (formerly known as Tungus) are an Indigenous people of Eastern Siberia living in five regions of the Russian Federation: Sakha Republic *(Yakutia)*, Khabarovsky krai, Magadanskaya oblast, Kamchatsky krai and Chukotka. Today, Even number over 22,000 people according to the 2010 Census. Nomadic Even were reindeer herders and hunters; and also fished seasonally. The primary activities of settled Even on the Sea of Okhotsk were fishing, gathering, and hunting marine mammals. Even of the northeastern part of the Sea of Okhotsk coast call themselves *Orochel*, i.e. 'reindeer people', 'owning reindeer' (Popova 1981: 5). Even of the Magadan oblast call themselves *Menel*, which means 'seated people', 'living in one place' (Popova 1981: 11). Even from the Lower Kolyma river call themselves *Ilkar* – «real people» (Petrov 1991: 3). Even also have an internal distribution of names: *Namankans* (sea Even or people of the coast) and *Donrytkans* ('living in the deep taiga' or 'people of the deep interior' (Popova 1981: 6–7).

Even people as well as Evenki people do not have a word for «hello» or «goodbye» in their languages. When Even meet each other they usually say: *yav bultanny?* Which means 'how was the hunt?' Or *yak ukchenek,* 'what's the news?'

A combination of reindeer herding with fishing and hunting is at the core of Even culture. Since Even people were mostly living in mountainous regions, an important food source is the wild mountain sheep *(Ujamkan)*. But there are also others such as wild reindeer *(Bujun)*, moose *(Toki)*, bear *(Nakat)*, musk-deer, (Buchen), marmot *(Chamak),* different birds and fish.

Nonetheless, reindeer are at the core of Even culture and spiritual life. They say: *Oron bidjin – Even bidjin, Oron acha odjin – Even acha odjin* (As long as there is reindeer – Even will exist. If reindeer disappear – Even will also disappear). Even use reindeer as transport for hunting and for milking. If hunting or fishing was not successful they would resort to slaughtering their own reindeer for food. The connection to reindeer is very close, so this would only be done as a last resort. A reindeer would live for a long time in the family, especially transport reindeer *(Gildak)* and people preserve a close connection to every reindeer.

«They [Even] maintain their good humor in poverty and do not lose heart before any adversity; helpful, but are able to maintain their dignity and pride without arrogance. Despise a lie and can serve as a model of honesty. They store with reverance old papers on which are written the debts of their fathers and grandfathers. Poetic in speech and dapper in manner. Reliable supporters of public order»
V.I.Iohelson 1895

Nimat - Customary Law

Many Indigenous Peoples have the tradition of gifting, sharing and reciprocity in their system of social relations. Formally, gift and gifting are voluntary in these societies, but in practice are required; enabling a system of social relations based on the gift that is wider than just economic relations (Godelier 2007). *Nimat* is the customary law of Even and Evenki. This law is related to hunting and reindeer herding traditions. In literature it is often written that *Nimat* is a sharing law, but this is a simplification of this tradition. It is more than just sharing. After a successful hunt, a person who killed an animal(s) would offer this as the gift to a friend or his relative. He usually takes only the stomach with intestines or anything else, which would deteriorate quickly. Other parts of the animal usually stay at the place where it was harvested. Then he went home and told his friend or relative that he has a gift for him *(Nimat)* and that he can find this gift in a certain place. Then he explains him how it can be found. That person had to go then to find it and bring the game back home and share it among other members of community (*Gayun* – sharing and distribution of game between members of community). He had to decide which part of the animal(s) everyone would get. (Osenin 2017) Nimat is a fundamental law for Even people and food culture is deeply connected to this law.

People and reindeer have a timeless and close connection. Maria Pogodaeva and her grandson with their reindeer. Photo: Svein D. Mathiesen.

Открыта любому тайга – входи!
Стучаться не надо, брат.
Но только в своей сбереги груди
Обычай отцов – нимат!
Мы люди! Одна нам дается жизнь!
Нас ветром сечет одним!
Так, встретив путника,
Поделись своей добычей с ним!
Костер разведи, чтоб согрелся он
Будь встрече нежданной рад.
И вместе припомните вы закон,
Таежный закон – нимат.
Да будет опорой в моем краю
Он всем, кто идет в тайгу.
Но помни: кто помощь принял твою,
Тот пред тобой не в долгу.
Пусть даже и сделал ты все, что мог, –
Не жди взамен ничего!
Нимат – это наш перед лесом долг,
Тайге отдают его!

[Калитин 2006:40]

The Taiga is open for everyone – come in!
There is no need to knock on the door brother.
But only keep in your heart
The Custom of our fathers – Nimat!
We are people! We've only got one life!
We are weathered by one wind!
So, when you meet a wayfarer,
Share your prey with him!
Make fire that he could warm up.
Be content with an unexpected meeting.
And together remember the law,
The law of the Taiga– Nimat.
Let there be a mainstay in my edge
For everyone who goes to taiga.
But remember: he who accepted your help,
Is not in debt to you.
Even if you did everything you could -
Do not expect anything in return!
Nimat - it is our duty to the forest,
We give it to taiga!

(Kalitin 2006:40)

Game caught by one, is also for others: shared with all, and not only between those who are involved in the hunting, but also visitors will get their share – *«Nemada»* (share of the hunting without participation in it). Not only relatives but also neighbors, and even random people enjoyed unlimited hospitality and fell into the category of the *Mata* - a person who got a share of the game after hunting.

In the past, this custom, and law in the understanding of Even people, pervaded all areas of their lives: it has an explanation in terms of economy, in particular, distribution practices, and in terms of social life, as a mechanism for establishing friendly and, under favorable circumstances, kinship relations on the exchange. It was also deeply rooted in the mind of a hunter, who believed that hunting success depends largely on the goodwill of the host-spirits.

In Even traditions the custom of *Nimat* was elevated to the level of law. But the punishment for violation of this law would come not from people, but from nature. Even believe that after a successful hunt for a mountain sheep, wild reindeer or any other animal; if you do not share with your relatives or friends, then you will not have hunting luck, you will get nothing. The custom of sharing game is a kind of social relations between people, but also relates to the relationship between the society / individual and nature: the need for sharing caused by the traditions based on Even and Evenki notions of our connection with the earth.

This was also an attempt to establish social relations with the world of nature and the spirit world in order to ensure vital functions and continued life. The apparent reason for sharing – the expectation of reciprocity and gift not only from a person, but from the nature/ earth/host-spirits (because the hunter did the

Top: Reindeer herders day in Topolinoye Sakha (Yakutia). Photo: Svein D. Mathiesen.

Middle and Bottom – the wide range of working environments. Photos: ICR.

Reindeer milk has a very high fat content (19%). Whipped and added to berries, it makes for a tasty treat. Photos: Lyubov Sidorova

«right» thing). The accumulation of moral benefits, exceeds the scope of social links and moves into the sphere of relations between «humans – animals – spirit-owners.»

Nimat provides territorial and economic relations between the nomads not only between relatives but also between unrelated clans. Probably, this custom helped Even and Evenki peoples settle Siberia so widely, where they had to live on the land occupied by other ethnic groups.

So Even people are a very hospitable people, their hospitality has even been spoken of as being unlimited. They have another custom called *Idekhe*. This is about the slaughter of reindeer for guests and people close by. When you have a guest or when someone close by to you comes to your camp, reindeer herders make *Idekhe*.

OKEN' – REINDEER MILK

Even use reindeer also for milking. They can milk reindeer from July to February. An adult productive female reindeer *(Nyamichan)* can produce approx. 1 liter of milk per day with a fat content of up to 19%. Even add it to tea. They also beat milk using a whisk *(Itaki)*, which is then added to Even bread and blueberries.

KEBEL – EVEN YOGURT

For Even, the favorite dish made from reindeer milk is Kebel. To make it, fresh reindeer milk is filtered through a dense sieve and cooled down. Then you need to add 1/2 of teaspoon of leaven diluted in a tablespoon of milk and slowly, slowly stir, gradually adding it to 0.5 liters of reindeer milk.

Within 15 - 20 minutes the milk will ferment and become a yogurt, then you add blueberry, cloudberry or Even bread and a tasty delicacy is ready. It is usually served for breakfast and you can work for a full day with the reindeer, without feeling hungry.

But the most important thing is the leaven preparation: You need fresh abomasum of a just slaughtered reindeer, turn it inside out and, without washing the contents fill it with the fresh reindeer milk. Hang it in the Chora (Even traditional tent) above the fire with smoke and then dry it in the shade. You can also prepare a leaven from the abomasum of the wild mountain sheep – Uyamkan.

Milking reindeer is an important part of Even and Evenki reindeer husbandry. Photo: ICR

In Topolinoye 30 years ago an elder reindeer herder was lost. His name was Golikov Dmitry Gavrilovich. Afterward he couldn't explain how it happened. He just went to search for his missing reindeer, without light, food, tent or any other things. They were looking for him for a long time and had not found him. We thought that he and his riding reindeer had been killed by a bear or that there had been an accident. After 1.5 months, this herder came by himself into the camp, which was 700 km away from his herd. He was exhausted and had been starving for a long time. Reindeer herders immediately slaughtered a reindeer and made a bouillon from the stomach soup to give to him. He survived. All reindeer herders are aware of this method from their parents.

Story told by Maria Pogodaeva

CHALMI, HILTA HILEN – STOMACH SOUP

The slaughter of a reindeer *(Idekhe)* or the occasion of a successful hunt for wild reindeer or mountain sheep means time for a feast for an Even family. The first dish is always made from the intestines of animals – a stomach soup *(Chalmi, Hilta hilen)*. When you slaughter domestic reindeer, you immediately make an incision in the solar plexus and cut a blood vessel located along the spine, this is blood for making blood sausage. It turns out a lot of whey and with that you can make a sausage with a bright color.

The entrails should be carefully and completely pulled out from the body so as not to spill the contents of the rumen onto other organs. The rectum *(Momikan)* and cecum, *(Mevki)* should be kept for the preparation of blood sausage. Other entrails: rumen *(Goodi)*, abomasum *(Orakan)* and omasum *(heŋŋi)* should be washed with warm water. And the small intestine *(hilta)* and duodenum (Kurikich) are washed very carefully, without washing out the contents because they contain a variety of useful enzymes for human consumption, especially in the small intestine. In the old days, the bouillon from stomach soup without fat used to be given to malnourished people who had been hungry for a long time. It can be lethal to eat immediately after a long period of hunger. To such people, do not give a lot of the stock, only small portions every half an hour to revitalize the flora inside their stomach. After only a day or two, this person could drink more bouillon and eat nonfat cuts of viscera. Gradually he/she will recover after this dish. Many people have been revived thanks to this knowledge.

After washing the intestines, you put them into a large pan of boiling water in a specific order. First the rumen, then the abomasum, the midriff and the duodenum. At the end, you put in the small intestines. The small intestines are not boiled for long and are removed after 2 - 3 minutes, otherwise they will dissolve, and the bouillon will become bitter. After boiling all entrails, they are cut into small pieces and added to the bouillon. This soup is poured into bowls and served hot. Even food culture is diverse and rich and a wealth of knowledge is embedded in the Even food system and it is important to preserve, use and develop this knowledge system. Our food systems are little studied and the taboos and sacred knowledge surrounding it offer rich insights and clues as to how Even people can thrive moving forward into the future.

Mikhail Pogodaev cleaning intestines and stomach for stomach soup. Photos: Svein D. Mathiesen.

Photo: Svetlana Avelova

YUKAGIR: YUKOLA & CHUMUODODJE

BY VALENTINA TOKHTOSOVA

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

Ice and snow

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

Uelen

Providenya

YUP'IK

Bering Sea

ARCTIC OCEAN

CHUKCHI

Anadyr

Koryak Mountains

PACIFIC OCEAN

East Siberian Sea

Cherski

YUKAGIR

CHUVAN

EVEN

KORYAK

Central Range

EVEN

Petropavlovsk Kamchatsky

Laptev Sea

NGANASAN

Yuryung-khaya

Saskylakh

Khatanga

ENETS

DOLGAN

Olenek

Central Evenki Range

Chersky Range

Verkhoyansk

EVEN

Verkhoyansk Mountains

Topolinoye

Djugadjak

Sea of Okhotsk

Aldanskoye Highland

Yakutsk

UIL'TA

KETS

EVENKI

RUSSIA

Siberian Plateau

Khatystyr

Aldan

NEGIDAL

Neryungri

Iengra

EVENKI

Stanovoye Highland

Lake Baykal

EVENKI

CHINA

Enlarged area

0 200 400 km

Yukagir are a small numbered people spread across three regions of Eastern Siberia: the Republic of Sakha (Yakutia), Magadan and Chukotka, along the Kolyma and Indigirka rivers. They have become known as Tundra and Taiga Yukagir. Together they number just over 1500 people. Yukagir have traditionally been nomadic and semi-nomadic hunters, with wild reindeer being one of the preferred game, along with moose, wild sheep, sable, and of course fishing. Yukagir in the tundra regions also practiced small-scale reindeer herding primarily for transportation purposes. Yukagir are today settled, but some lead a semi-nomadic life during reindeer migration and hunting seasons.

YUKOLA – TEL'IEDAL'5A

For *Yukola* you need a large fish (broad whitefish). *Yukola* is a dried fish dish that is used for nourishment during long migrations and in winter. For long-term storage, people prepare a «fish flour» from *yukola* by powdering the dried fillet and storing it in canvas bags. Drop this «flour» in a bowl with boiling water, and you are rewarded with an instant fish broth.

Cooking method:
Gut and scale the fish without washing. De-bone the fillet, cut out the backbone down to the tail, so that two fillet parts remain connected by the tail. Make herringbone cuts on the fillet without cutting the skin. Then dry the fish on special wood stands – hangers – in the sun until it dries up, but do not let it get too firm. Smoke the fish over the fireplace in the chum.

CHUMUODODJE – SMOKED REINDEER MEAT

People preserved *Chumuododje* (smoked meat), as it could be used while traveling, its long digestion time provided an enduring sensation of satiety. It can also be used for meat soup, its broth being light, easy to digest and with a specific taste.

Cut the meat along the broad backbone sinews in lateral parts, and separate the meat carefully. Cut the meat in flat pieces and dry it in the sun until it has completely hardened. Then keep it over the fire and smoke in the chum. After a time, the meat is ready. Cut the smoked meat in pieces and serve with fat.

Marianna Yaglovskaya holds upfine cuts from the backbone. Cherski, Sakha (Yakutia).

Photos: Mikkel Anders Kemi

Photo: ICR

DUKHA:
HUNGUUN & THE WILD POTATO

BY BURMAA BATKHISHIH, KHOSCHIMEG BAYANDALAI, SARANTUYA GANBAT, BAYARMAGNAI GANBOLD, TSETSEGMAA GOMBO, UDVAL PUREVJAV, UUDUS ZOLZAYA, ZAGALMAA ZORIGT

Area of reindeer husbandry

Wild reindeer / caribou

EALLU activity location

INDIGENOUS PEOPLES

LAND COVER

Forested

Agricultural

Treeless

International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)

RUSSIA

Stanovoye Highland

TOFALAR

SOYOT

TODZH

TUVAN

DUKHA

Lake Baykal

Tsagaannuur

MONGOLIA

Terelj

CHINA

Enlarged area

0 100 200 km

The Dukha are a nomadic people whose traditional migration patterns have been disrupted by border closures in the 1920's and are present day Mongolia's only reindeer herders. Currently just over 200 live in the Mongolian taiga and their family based herding system comprises of herds of between 7 and 160 reindeer. Reindeer are used for milk production, transportation and more recently, antlers for handicrafts. Meat production is not a significant part of' reindeer husbandry.

The move with their reindeer in the Eastern Sayan mountains, that mark the border between Mongolia and Siberia over an area of ca. 20,000 km2 at elevations of between 1850 and 2100 meters. They mark the southerly boundary of indigenous reindeer husbandry and their animals are adapted to high summer temperatures of up to +400C.

HUNGUUN

Hunguun is one of the traditional meals that Dukha people consume as part of their everyday diet and the dish has been passed down from generation to generation. The dish is favored for its health benefits, pure ingredients, and its portability during hunting and migration.

Ingredients:
Reindeer milk, flour, salt, and water.

Preparation:
Mix all the ingredients into a firm dough, forming it into a round shape with a hole in the middle, not unlike a large bagel.

Method:
Make a large fire, with lots of wood, in order to create a good supply of and ash. Place the round shaped dough into the ash and let it lie there, cooking for 30 minutes. Then turn it over and repeat on the other side for another 30 minutes. Remove from the ash and it is ready to eat immediately.

THE WILD YELLOW POTATO

The wild yellow potato grows in the forest and taiga regions with flower blossoms of a white or purple color. It starts growing in spring, and matures in autumn in mountainous areas and/or mountain slopes and is characterized by its bright crimson flowers. The wild potato is collected in autumn and is used in winter, spring and summer. Before rice and flour, it was an especially important source of carbohydrates. The wild yellow potato is divided into male and female potatoes. The male potato has a ball on the top of the stalk. It also has widely spread leaves on the top of the stalk, which can be used in a meal either dried or not. The wild yellow potato is said to prevent fatigue and help those who consume them live a longer life.

Preparation
1. Gather the wild yellow potato and clean.
2. Separate them from one another and boil them with water.

If you decide to use it in winter, you will dry them in the sun for 3-5 days.
Wild yellow potatoes can be used with the following meals: Soups, fried vegetables, dumplings and mashed with milk

Photos: Top two, Svein D. Mathiesen.
Bottom: Kasper Fogh

SOUP WITH WILD YELLOW POTATO

1. Any kind of meat can be used; reindeer, boar, deer, moose, sheep and goat etc.
2. Wild yellow potatoes - 500-700g
3. Salt
4. Wild onion

Boil all the ingredients together until cooked. Add salt or seasoning to taste.

FRIED NOODLES WITH WILD YELLOW POTATOES

1. Wild yellow potatoes, dried or not dried, 1-2 kgs
2. Any type of meat 800 grams
3. Salt
4. Wild onions
5. Water

Steam the wild potatoes for 20-25 minutes together with the meat, then add your homemade noodles and steam for another 15-20 minutes. Once done, add 4 tablespoons of vegetable oil or any kind of cooking oil to add some more flavor. Mix all the ingredients together in the hot pan.

FRIED FLAT DUMPLINGS WITH WILD YELLOW POTATOES

1. Wild potatoes
2. Rice
3. Salt
4. Wild onions
5. Sunflower oil
6. Piece of fat

Steam the wild potatoes for 20-25 minutes and then mix with rice. Then making a firm dough, make a flat dumpling and fry it in the sunflower oil in the pan on a low flame on both sides.

MASHED WILD POTATOES WITH MILK

There are two ways to cook wild potatoes with milk: steamed or fried in the fire.

Method 1
1.Wild potatoes
2. Milk
Steam the wild potatoes for 20-25 minutes and then mix and mash with milk

Method 2
1. Steam the wild potatoes for 20-25 minutes
2. Then fry them under the ash in the fire
Thoroughly clean the ash from the potatoes and eat.

Photos: ICR

Photo: Kasper Fogh

Rinsing Seal. Photo: Provided by Cyrus «Naunġaq» Harris, Maniilaq Association

INUIT ALASKA: TUTTU, MIPKUQ, UGRUK, TUNUQ AKUTAQ

BY EILENE ADAMS, SONITA CLEVELAND, CYRUS «NAUNĠAQ» HARRIS, SANDY TAHBONE AND MARJORIE TAHBONE. INTRODUCTION BY INUIT CIRCUMPOLAR COUNCIL ALASKA


Area of reindeer husbandry
Wild reindeer / caribou
EALLU activity location
INDIGENOUS PEOPLES
LAND COVER
Forested
Agricultural
Treeless
Ice and snow
International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)
CANADA
U.S.A.
RUSSIA
PACIFIC
OCEAN
ARCTIC
OCEAN
Gulf of Alaska
Bering Sea
Chukchi Sea
Beaufort Sea
Bering Strait
Bristol Bay
Yellowknife
Whitehorse
Haines Junction
Mackenzie Mountains
Alaska Range
Brooks Range
Inuvik
Tuktoyaktuk
Nome
Uelen
Providenya
Anadyr
King Cove
Unalaska
St. Paul Island
Atka
INUVIALUIT
GWICH'IN
INUIT
YUP'IK
CHUKCHI
ALEUT
Enlarged area
0
200
400 km

Food is the center of Inuit culture and takes years of education to learn how to obtain and prepare. Many points have to be included when considering our foods – the passage of our Indigenous Knowledge[1], physical, mental and regulatory accessibility to foods, weather conditions, timing of gathering and preparation, funding for equipment and fuel, sharing, language, social networks, and respect are just a few (ICC Alaska. 2015).

Our foods, recipes – are a connection from past to present. As one of the authors points out, it is not possible to sum up all that is involved in food preparation in a single recipe. However, we hope the below recipes (our Indigenous Knowledge) will provide you with a sense of our *niqipiaq/neqpiat* (real food: Inupiaq/Yup'ik). Referred to as Inuit internationally, Iñupiat, Saint Lawrence Island Yup'ik, Yup'ik and Cup'ik make up four Inuit regions within Alaska (see figure 1). A recipe has been provided from each of these regions, by Eilene Adams (North Slope), Cyrus Harris (Northwest Arctic), Sandy and Marjorie Tahbone (Bering Strait) and Sonita Cleveland (Yukon-Kuskokwim).

TUTTU (CARIBOU) SOUP

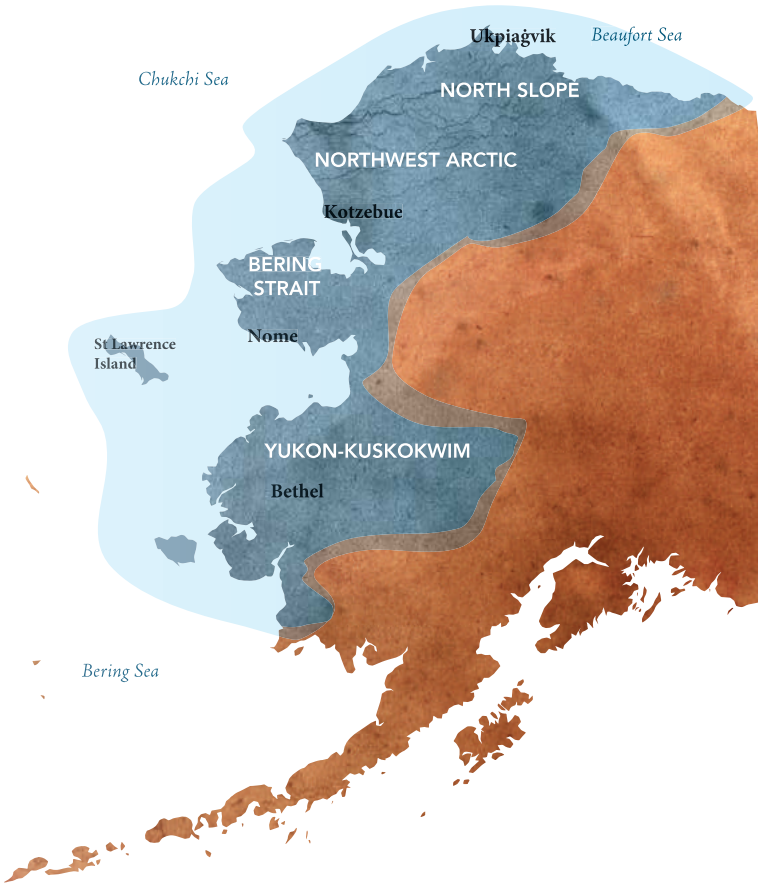
By Eilene Adams, Barrow, Alaska

Tuttu soup is a favorite dish of all ages. People have been eating *Tuttu* soup for as long as we know. We all grew up eating Aaka's (grandma's) *Tuttu* soup daily – whenever caribou is available. We like to hunt caribou in the fall,

when they have more fat. Caribou brings both physical and mental health to our people – we have learned to use all parts of the caribou for survival. This is part of our value system and how we respect our environment. All parts of the caribou are used for food, clothing and tools. Antlers are used to make tools, sinew is used to make boots and even as dental floss, the stomach lining is used to water proof boots, gloves and other clothing items. Today we include ingredients that are bought from the store, such as flour. But it does not have to be made with flour and at one time no one used flour.

Ingredients:
Caribou meat (brisket and hind quarter are preferable, but any caribou meat will work), 1 cup of rice, ½ cup of flour, one onion.

Boil caribou meat until tender - add rice, onion and cook for about ten minutes. Next add flour and cook another ten minutes. Some people like to also add noodles, potatoes, carrots or other vegetables.



Photos: Eilene Adams

1 The Inuit Circumpolar Council uses the term Indigenous Knowledge as opposed to Traditional Knowledge. However the term is applied to the same definition as developed by the Arctic Council Permanent Participant Ottawa Traditional Knowledge Principles. The Alaska Inuit and Inuit Circumpolar Council Alaska authors of this section therefore use the term Indigenous Knowledge in this chapter.

Photos: Cyrus «Naunġaq» Harris, Maniilaq Association.

MIPKUQ (BLACK MEAT IN SEAL OIL) – «IÑUPIAT SOUL FOOD»

Provided by Cyrus «Naunġaq» Harris, Maniilaq Association

Mipkuq is dried *ugruk* (bearded seal) meat preserved in seal oil, and for thousands of years it has been essential to the diet of Iñupiat. *Mipkuq* perfectly suits the Arctic region. It provides a source of energy-dense lean protein, packed with heart healthy omega-3 fatty acids, and has a long shelf life that provides Iñupiat nourishment throughout the harsh winter or, in the early days, when other foods were not readily available.

In the summer, when land fast ice is gone and there are offshore ice floes, teams of hunters harvest several adult *ugruk* on the sea ice and bring them back to camp. Adult *ugruk* grow 7–8 feet (2.0–2.5 m) in length and weigh 575–800 pounds (260–360 kg), which requires teamwork to transport and process. Delicious, nutritious and energy-dense, *Mipkuq* is highly sought after and present at nearly every meal and shared or traded with friends and extended family. It is used as a side dish, dipping sauce, or ingredient for other types of *niqipaq* (real food).

In addition to physically sustaining Iñupiat people, *Mipkuq* also sustains Iñupiat spirituality. Traditional Iñupiat stories have called for the hunter to fill their mouth with seawater, which is then transferred into the mouth of the captured *ugruk* to return their spirit back to the wild. This practice was said to bring good fortune in future ugruk harvests for generations to come. It is also customary to give the season's first catch to an elder as a sign of respect and gratitude. This reflects the *Iñupiat Ilitqusiat* (values) and sense of community associated with preparing, sharing, and consuming niqipaq foods such as *Mipkuq*.

MIPKUQ (BLACK MEAT IN SEAL OIL)

Ingredients:

- Front straps, back straps and blubber from one adult *ugruk*

Equipment:

- Knives/*Ulu/Gaffe*
- Flat cutting board (for butchering the ugruk)
- *Iññisaq* (meat drying rack)
- *Qavrak* board (a board for separating blubber from skin)
- 30 gallon rendering bucket
- Breathable cover for rendering bucket (game bag, cheesecloth, etc.)
- 4 ft. debarked spruce stirring stick
- Pot (for boiling meat)
- 5 gallon buckets for *Mipkuq* storage

Harvest, gut, and rinse the *ugruk*. Once the cleaned *ugruk* is hauled to camp, place it on a flat cutting board and remove the skin/blubber from around the seal meat. Let the skin/blubber lay out on the cutting board overnight to dry. Carefully trim any additional meat attached to the blubber so that the blubber is clean. Separate the blubber from the skin *(qavrak)* using the *qavrak* board, and cut blubber into 1" x 3" looped strips. Trim and discard low quality blubber where blood has soaked into the blubber. Place good quality blubber strips in the 30 gallon rendering bucket, and cover with a breathable covering to allow for air exchange and to protect from insects. Closely monitor and stir the blubber/oil at least two times per day and let the oil render at ambient outdoor Arctic temperatures (~ 60°F or 16°C) in a protected area away from dust and rain. Oil rendering times can vary, with an approximate rendering time between one to two weeks. In the old days, blubber strips would traditionally be rendered within the intact sealskin hide called a seal 'poke'.

Photos: Cyrus «Naunġaq» Harris, Maniilaq Association.

The black meat is made from the seal front and back straps. To prepare the black meat, hang the harvested *ugruk* meat to dry in the *iññisaq* for two to three days. This allows the meat to form a dry outer layer and develop a black color that indicates a taste that is not overly «gamey» or «fishy». The back straps are then filleted into an approximately 1/2" thick continuous blanket of meat and hung in the *iññisaq* to dry. Each day throughout the *Mipkuq* making process, the back strap meat blanket is monitored and turned over daily. For the front straps, after the initial 2-3 day drying period, they are cut into long 1" thick strips and hung back up to dry. Once the front strap strips reach 50% dryness, those strips are boiled in a large pot of water for approximately 15 minutes. After cooking, re-hang the cooked front strap strips in the *iññisaq* to dry for several more days.

Once the cooked front strap strips and back straps have dried sufficiently, remove the black meat from the *iññisaq* and cut it into serving size portions (about 4 inches in length). Evenly distribute the black meat portions among 5 gallon buckets filled with the freshly rendered seal oil. The fresh *Mipkuq* is stored in a *siġḷuaq*, or underground cooler, for 3-7 days to give the black meat time to absorb the oil. Once the *Mipkuq* is good, it is stored in the freezer. The last step in the process is to feed your Iñupiat soul and enjoy your fresh *Mipkuq* with family, friends, and community members!

The Maniilaq Association is currently working on a collaborative project to establish a regulatory approved process to make *Mipkuq* and routinely serve it to elders at our long-term care center.

Photo: Cyrus «Naunġaq» Harris, Maniilaq Association.

THE BEAUTIFULLY SIMPLE WAY TO PREPARE *UGRUK* (BEARDED SEAL)

By Sandy and Marjorie Tahbone, Nome, Alaska

It is rare (this day and age) that I will get fresh seal meat other than in spring; which is the time when many seals are harvested in our community and the majority of the meat is dried and stored in seal oil with rendered blubber. And having fresh boiled seal meat, blubber, and intestines is mouth-watering and I look forward to preparing this dish every spring.

It is rather difficult, for me to explain how to cook native food. It is not like you can go to the store and pick up a few pounds of meat and intestines and they are ready to cook. If this were the case, I would say perhaps for 4 servings you would need 4 pounds of rib meat for boiling, 2 pounds of blubber, and a yard of guts! Knowledge gained through years of processing is hard, for me, to pass on in written form and trying to do it using very few words makes it more difficult. I have given directions for a person who has knowledge about processing bearded seal.

Ingredients:
Seal meat, Seal blubber, Seal Intestines, Onion, Potatoes (optional), Salt, Water

This dish is prepared by slowly or gently boiling the meat, blubber, and intestines. The meat does not take that long to cook and is preferred medium to rare, but is okay to cook well done; so you will remove meat when done and continue cooking the blubber and intestines. The portions depend on how many people you are going to feed, so you will need to use your own judgment and common sense by adding more or less of the ingredients.

When I am processing bearded seal in the spring for dry meat I dry the meat with no blubber on the meat taking the time to get every bit of fat off the meat before I hang it for drying; and save the meat that is hard to remove fat for cooking (the flap of meat that covers the ribs). I also save the ribs for cooking as well, especially if the seal is young and fat runs through the rib meat and is not good for drying. I prepare the intestines for cooking by first running water through the entire intestine for the initial cleaning then cutting them into two foot sections and turning them inside out for final cleaning. After the intestines are cleaned I cut them into 6-8 inch pieces for cooking. Prepare the blubber by removing it from the hide and if the blubber has been exposed to air for a time you will need to remove the top and cut it into 1-inch wide and 6-inch long sections for cooking.

Cooking time for bearded seal meat is short not like cooking walrus. You can either use fresh or frozen seal meat, blubber and intestines. Prepare seal meat, blubber, and intestines as described above. Chop onions and quarter the potatoes. Put all ingredients in a pot and cover with water. Boil slowly, taking the meat out when desired rare/medium/etc. Continue cooking until the potatoes are cooked (fork tender). Take everything out of the pot and put on a serving platter. Serve the broth in cups and enjoy with some fresh spring greens in seal oil.

Photo: Sandy and Marjorie Tahbone

TUNUQ (ANIMAL FAT) *AKUTAQ*

By Sonita Cleveland, Quinhagak, Alaska

There are many ways to make *akutaq*. My favorite is *tunuq akutaq* because it is something different and provides a gamey taste that other types of *akutaq* do not. We eat it often and many grow up eating different types of *akutaq*. I watched my grandma make *akutaq* and she taught me how to make it. As my grandma taught me she always told me food shouldn't be wasted: if we have it, it should be eaten. Now when I make it, it is like I am not doing it by myself. My entire family likes *tunuq akutaq* and so we eat it often.

We mostly make *tunuq akutaq* around the fall when we go moose hunting. If there is enough fat, we store it to make food, such as *akutaq*.

Making *tunuq akutaq* begins with rendering the *tunuq*. When we first get the moose or caribou or reindeer, we cut the pieces of moose or reindeer fat into small chunks, and we lay them across a baking sheet or cake sheet and bake for 2 to 3 hours at around 250 F, until it is rendered. When it is rendered, we take it out and pour it into another baking sheet and let that harden. Then we break it into chunks with an *uluaq* and freeze them and wrap them in foil, saran wrap, or ziploc bags and put in the freezer. When it is time to make *akutaq* the *tunuq* is taken from the freezer and melted or if the *tunuq* is fresh, we can render some to use. Some people melt the *tunuq* in a frying pan. I don't like the slightly burnt taste it that a frying pan gives and so we put chunks of fat in a big cake pan and bake it on a low heat for a few hours.

From spring to fall, we collect different berries to store. For this recipe, we often use blackberries or cranberries. Every time we want *tunuq akutaq,* we just take some berries and *tunuq* out of the freezer.

Ingredients:
1 cup sugar – melted
1 ½ Crisco
1 ½ *tunuq*
3 cups of berries

I like to use equal amounts of Crisco and rendered fat, a hand full sugar, and berries. First, whip up the sugar and Crisco until it is blended by hand, pour in the melted rendered *tunuq* and keep mixing. Lastly, add the berries. While mixing all of the ingredients together, the *akutaq* begins to stiffen – this is when it is ready to eat. Sometimes people put in white fish. We boil the white fish first, take bones out, lay it across a cookie sheet – or just use it. Chum salmon or halibut is sometimes used in place of whitefish.

Many people today make *akutaq* with only Crisco although this was not the case long ago, as people did use Crisco or sugar. I prefer *tunuq akutaq* over Crisco *akutaq* because it keeps us full and has a better flavor. *Akutaq* is nutritious, despite the Crisco – these are natural oils and it is our organic food. When going out to get wood or fish, grandma always told me to *taquaq* (take food with) such as dried fish and *akutaq* to keep you warm, full, and to have energy.

The older people we invite, like the elders, really like it when we make them *tunuq akutaq*. It is a rare treat for them and many say, 'I remember my mom making this when I was younger.' I know by eating it, it will give them memories of when they were younger. I am named after my grandma's mom. When my uncle had the *akutaq* that my grandma had taught me to make, he said, 'you take after your name sake.' This is part of our knowledge passing through our generations. Unfortunately, many of the younger generation do not know how to make *tunuq akutaq*. As I get older, I will teach the younger generations.

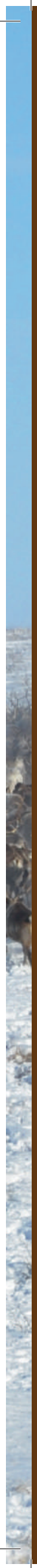
Seals resting on the ice. Photo: Cyrus «Naunġaq» Harris, Maniilaq Association.

Canada's only reindeer herd, Inuvik, Mackenzie Delta, Northwest Territories. Photo: Peggy Jay.

INUIT CANADA:
CARIBOU MEAT GRAVY

BY CHANTAL GRUBEN

Rounding up Canada's only reindeer herd near Inuvik, Northwest Territories. Photo: Alexandra Pulwick



My name is Chantal Gruben; I'm from Tuktoyaktuk, Northwest Territories, in Canada. My grandparent's adopted me when I was 2 years old. I've learned from them to prepare some of our traditional foods.

I chose this dish because, long ago when my mother was a child, her family didn't have rice or soup mix but, her mother always made sure they had flour to make bread. So, they used the flour and water to fry with the meat and made it as caribou meat gravy. My mother also remembers that, her mother even used to make this dish with seal.

I was recently in Kautokeino, Norway for an EALLU traditional fods workshop and had a fantastic experience. It was amazing to learn about a lot of the other traditional knowledges around the world and leave Canada for the very first time. I met some very nice friends and I couldn't have been happier with what I have experienced, and the hospitality I received. I am honored to present to you my recipe for this cookbook. Enjoy!

CARIBOU MEAT GRAVY

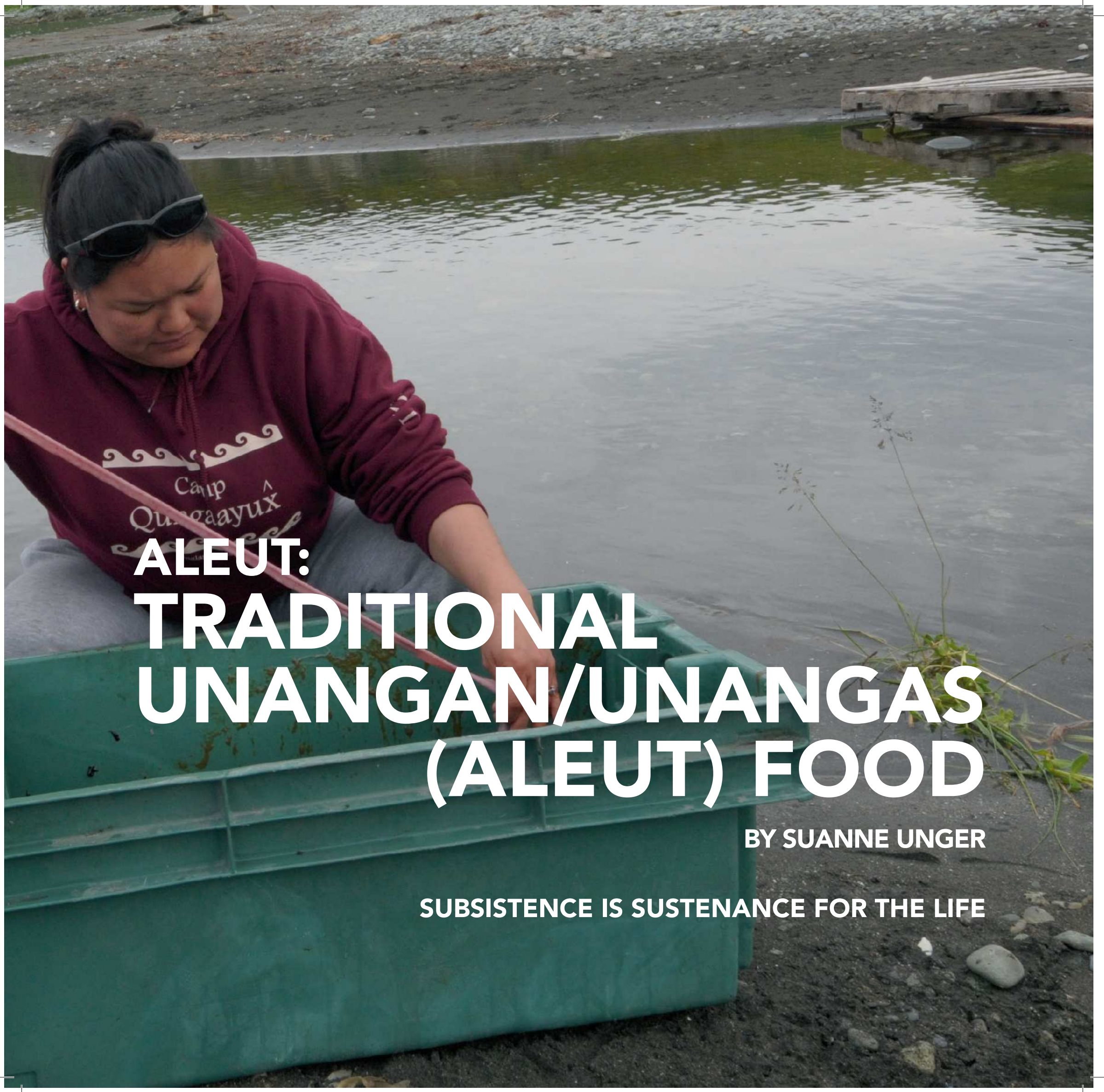
2-4 Servings

Brown Diced up Caribou Meat on medium heat with oil

Stir in 1 handful of flour, add 1 cup of water, and desired spices or soup mix
Bring to boil, stirring occasionally.
Remove from heat and gravy will thicken as it stands.

Serve with Homemade Bread.

Josephine Shangin cleaning seal intestine in Unalaska. Pic: Qawalangin Tribal Council for the Qawalangin Tribe of Unalaska



ALEUT: TRADITIONAL UNANGAN/UNANGAS (ALEUT) FOOD

BY SUANNE UNGER

SUBSISTENCE IS SUSTENANCE FOR THE LIFE


Area of reindeer husbandry
Wild reindeer / caribou
EALLU activity location
INDIGENOUS PEOPLES
LAND COVER
Forested
Agricultural
Treeless
Ice and snow
International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)
CANADA
U.S.A.
RUSSIA
PACIFIC
OCEAN
ARCTIC
OCEAN
Gulf of Alaska
Bering Sea
Chukchi Sea
Beaufort Sea
Bering Strait
Bristol Bay
Yellowknife
Whitehorse
Haines Junction
Mackenzie Mountains
Alaska Range
Brooks Range
Inuvik
Tuktoyaktuk
Nome
Uelen
Providenya
Anadyr
King Cove
Unalaska
St. Paul Island
Atka
INUVIALUIT
GWICH'IN
INUIT
YUP'IK
CHUKCHI
ALEUT
Enlarged area
0
200
400 km

Qaqamiiĝux̂ qalgadam ukulganaa ngiin ugutaasakun (Eastern dialect, Unangam tunuu).

Qaqamiiĝux̂ qalgadax̂ anĝaĝix̂ ngiin ax̂tanaa akux̂ (Western dialect Unangam tunuu).

The Aleutian and Pribilof islands are home to an abundance of foods from the sea and land. Traditional *Unanga-n/s* foods, harvested from the land and sea, are an essential part of *Unanga-n/s* culture and livelihood and have been for thousands of years. *Unanga-n/s* have survived off of these foods for centuries and continue to harvest and prepare many of these foods today.

The *Unanga-n/s* traditional diet historically depended on foods from the sea; seal, sea lion, whale, fish and tidal foods provided the majority of nutrients in the diet. Birds, plants, caribou, and later reindeer in some communities, were also important sources of food. All of these foods continue to be used today and are supplemented with store-bought foods. The recipes have changed dramatically over the years with the increased availability of store foods and the influence of different cultures.

BRAIDED SEAL INTESTINE

The intestine of seal is referred to as *an'gix̂ or chidgix̂ (E) / an'gix̂ (A)* in *Unangam tunuu*. Seal intestine was one of the resources used in the past for making the hooded parka, or *chigdax̂ (E)*. As a food item, the intestines of the seal can be used to prepare «braided seal gut» or *An'gim chikuĝigan kiichkaĝii (E), an'gim amaĝii (A)*. Seal gut is usually braided by women, however few people know how to do it today. The gut from a small young seal, one to one and a half years old, is best to use

«One of the other key important aspects of harvesting of traditional foods and sharing in the villages is that it helps to keep the communities, and individuals and families together through extended family feasts, through community celebrations. Having traditional foods in these kinds of gatherings are so important in keeping people together as a community and as extended family»
– Larry Merculieff, St. Paul Island, APIA 2007.

Butchering a sea lion in Unalaska.
Photo: Debora J. Roberts

Lucy Kenezuroff, Belkofski. Photo: APIA Archives.

Josephine Shangin, from Akutan, demonstrates how to braid seal gut. Photo: APIA archives.

Vince Tutiakoff, Sr. boiling braided seal gut in Unalaska. Pic: Qawalangin Tribal Council for the Qawalangin Tribe of Unalaska

for braiding because it is easier to handle and clean and it's not as stringy as an older seal. It can be braided and stuffed with any parts of the seal, such as the heart, lungs, or kidney, but is typically braided with the fat [*Atka*]. Once the braided gut has been prepared, it is boiled, cooled, and then eaten with mustard.

Lucy Kenezuroff learned how to braid seal gut from her dad, John Nevzuroff. Lucy was born in 1930 in King Cove to Annie Galishoff, and then moved to Belkofski. She came from a family of 13 kids. «I used to watch my dad braid seal gut. One time I was sitting out on the porch, my dad had strings all lined up to tie, to use for foxes and stuff. I took some of them strings, sit down and was putting them around my finger. That's how I taught myself to braid seal gut. Using a rope».

Lucy's braided seal gut recipe has two ingredients: a cleaned gut of seal and seal fat, cut into strips. The end of the seal gut must be split open and scraped out until it is clean. This takes a lot of work. After it has been scraped, Lucy soaks the gut in salt water and continues to stir it and clean it further. Her parents used to get water out of the bay to soak the gut. The gut gets soaked in salt water for a day or two. Lucy cuts the fat into strips and stuffs it in the gut while she is braiding it. The fat helps keep the gut soft. After she is done braiding, she cuts the braided intestine into three pieces, each about a foot long, to cook it. It is then cooked in boiling water for about an hour, or until it is tender. She likes to eat it right after it is done cooking with some plain rice: «I don't wait till it gets cold. I always dive in when it's hot… it's a real tender meat…it almost tastes like corned beef in a way.» While Lucy prefers to eat seal gut warm, some others prefer eating it cold with mustard.

JELLIED MEAT – *STUUDINAX̂ (E/A)*

Considered a delicacy by the Unanga-n/s, sea lion flippers can be cooked, fermented, or boiled and made into a dish called *stuudinax̂ (E/A)*. *Stuudinax̂ (E/A)* is a variation of head cheese, or meat jelly, that uses the natural gelatin found in the bones and cartilage of the flippers to gel. In the past, flippers were sometimes cooked until they came apart. When cooled they were sliced and eaten with potatoes, onions, other vegetables, bread, salt, pepper, and mustard. Some people ferment the flipper in a paper bag for up to ten days until the skin gets loose. Then, it is eaten right away or preserved in salt or frozen.

JELLIED MEAT – *STUUDINAX̂ (E/A)*

Recipe by: Mary Bourdukofsky, St. Paul Island, 2009 (Quoted in Unger 2014)

Ingredients

2 sea lion flippers
2 onions, chopped
3 carrots, chopped
1 teaspoon garlic, minced
3 tablespoons Worcestershire
Johnny salt, small amount (if needed)
1-6 tablespoons vinegar, to taste
2 tablespoons chicken bouillon
8 packages gelatin
4 dill pickles, chopped
1 can olives, sliced (green or black)
6 boiled eggs, sliced
Salt and pepper, to taste

Directions

Cut the sea lion flippers at the joints and soak in water 1-3 days. After the flippers have soaked, place in pot and cover with water. Bring pot to a boil, and boil for a couple of hours. After it has cooked, remove the bones. Chop the remaining meat by hand or carefully with a food processor so you don't produce a paste.

Place chopped flipper, onions, carrots, vinegar, chicken bouillon, and spices into a pot and add an amount of water that is equal to the mixture (for example, if the mixture is 2 inches high in pan, add 2 inches of water). Bring to boil and boil for ½ hour. Remove from stove and add pickles and olives. Add gelatin and stir to dissolve.

Tip: Mary's mom never used gelatin to make *stuudinax̂ (E/A)*, however, Mary feels that the gelatin helps bring the oil out of the *stuudinax̂ (E/A)* and makes it less oily.

Pour mixture into 6 small bread pans making sure to leave room on the top for the sliced eggs. Take a paper towel and remove any oil that comes to the surface in each of your pans. When the paper towel no longer absorbs oil, gently press sliced eggs on top before mixture gels completely. Slice and eat with bread as a sandwich. Serve with vinegar, Worcestershire, or steak sauce.

Braided Seal Intestine. Photo: APIA archives.

UNANGAN/UNANGAS VALUES:

Value of the Unanga-n/s: Help others – Agitaasiin sismida (E)/Anĝaĝinas kiduda (A) (ANKN, 2006).

«The whole thing about hunting and being a hunter in the community is that we provide a very useful food diet for people who grew up on it, a lot of elders. A lot of them nowadays can't eat it but they really enjoy seeing it maybe and tasting a little bit of it and knowing that this kind of tradition of hunting sea lion and seal has not been forgotten. I'm trying to instill that on my boys.»

– Vincent M. Tutiakoff, Sr., Unalaska, 2010 (quoted in Unger 2014).

Value of the Unanga-n/s: Do not do anything to excess- *Manachin ilam axtalakan agliisaachin (E) / Anaĝis mal agumis ilam axtalagada (A).*

«For hunting and fishing the elders told me not to kill or take anything that I do not need. They asked me to control the wildlife. They never wasted anything that is edible.»

– Nick Golodoff, Atka, 2012 (Quoted in Unger 2014).

Photo: Jean Polfus

GWICH'IN:
CARIBOU ARE HALF OUR HEART

BY JACEY FIRTH-HAGEN


Area of reindeer husbandry
Wild reindeer / caribou
EALLU activity location
INDIGENOUS PEOPLES
LAND COVER
Forested
Agricultural
Treeless
Ice and snow
International Centre for Reindeer Husbandry, Winfried Dallmann, Alexander Komarov, Konstantin Klokov, The Circum-Arctic Rangifer Monitoring and Assessment Network and the Conservation of Arctic Flora and Fauna (CAFF)
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ALEUT
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OCEAN
ARCTIC
OCEAN
Beaufort
Sea
Chukchi
Sea
Bering Strait
Bering
Sea
Gulf of
Alaska
Bristol
Bay
Mackenzie Mountains
Brooks Range
Alaska Range
Yellowknife
Whitehorse
Haines Junction
Inuvik
Tuktoyaktuk
Nome
Uelen
Providenya
Anadyr
King Cove
Unalaska
St. Paul Island
Atka
Enlarged area
0
200
400 km

Gwich'in are Indigenous Athabaskan Dene peoples who have inhabited the areas of the interior region of Alaska in the U.S.A, and the Northern Yukon, and Inuvik Region of the Northwest Territories, Canada; since time immemorial. Gwich'in are commonly referred to as just̨ Gwich'in» due to the English translation being «The people of a certain area», so saying, «the Gwich'in people» would be similar to saying «the people» twice. Gwich'in are also known as *Dinjii Zhuh,* which refers to a person as a whole, rather than the area in which they inhabit. Gwich'in are known by many different names including 'the caribou people'. Today, Gwich'in are settled in 11 different communities and ten different bands across northern Alaska and Canada, still to this day practicing ancestral traditions such as hunting, fishing, trapping, moose hide tanning, and sewing. The land, animals, language, and culture are very important to us with many different organizations and initiatives aimed towards autonomy.

The Gwich'in language is considered critically endangered as approximately out of 9,000 or so Gwich'in, only 500 people still speak the language. Although the Gwich'in language is taught in the primary and secondary school system, the number of language speakers continues to decline. Organizations that exist to combat language decline include the Gwich'in Social and Cultural Institute, the Gwich'in Language Revival Campaign #SpeakGwichinToMe, and the Yukon and Alaska Native Language Centers.

As a young girl I travelled throughout the land with my father learning about the importance of the caribou *(vadzaih)*, being taught how to identify animal tracks and different food sources of the caribou and being taught stories and proverbs. One such is a rite of passage for manhood in Gwich'in culture, which is when a boy hunts his first caribou, which then must be given away and shared with community members, specifically elders. Another is that half of our Gwich'in heart is that of a caribou, as our reliance on the animal is so large, that we cannot exist without them. Gwich'in were originally a semi-nomadic people, following the caribou, which we depended on for food, shelter, clothing, tools, and weapons. My aunty vividly remembers living on the land with her grandparents for months at a time and all of her clothing being made out of caribou hides, from her shirt to her jacket to her pants, and even her toboggan, and watching her grandfather make snowshoes from caribou sinew and willows.

Other animals and plants harvested for Gwich'in sustenance were and still are big game such as moose, waterfowl such as ducks, geese and swans, as well as small game like ptarmigans, rabbits, and grouse, including an abundance of beloved berries such as cranberries, blueberries, and cloudberries. No part of an animal is ever to be wasted and there is to be no disrespect when it comes to harvesting and handling an animal, including when it comes to the care of the land.

The decline of the caribou due to over-hunting, climate change, mining exploration and development, inefficiency and or absence of harvest management and land-use planning, are all grave threats to the survival of the caribou, and therefore also us Gwich'in. Critical calving grounds inside the Arctic National Wildlife Refuge are threated by development in Alaska.

Different caribou dishes loved and enjoyed include caribou marrow, ribs, heart, intestines, soup, stew, and dry meat *(nilii gaih)*. Two different recipes that I would like to share are *itsuu* (pemmican) and *nilii gaih* (dry meat).

Photo: Jean Polfus

I have chosen these two dishes for their cultural and personal significance. *Itsuu* is traditionally a ceremonial dish, gifted during a period of mourning and *nilii gaih* is a personal favorite of mine, prized for its taste and unique flavor. Both dishes are prepared seasonally by either men or women, and predate flour. They are also favored due to their convenience when travelling long distances.

Itsuu is more commonly known by the Cree word 'pemmican' and is a traditional Gwich'in ceremonial dish. *Itsuu* is a sweet tasting and filling comfort food and the animal fat in the dish is very sustaining. Traditionally, *Itsuu* is made with frozen caribou fat mixed with left over caribou dry meat with local berries. A contemporary way to make *itsuu* is with boiled caribou meat, grounded up with added sugar and berries with melted margarine then formed into meatballs and frozen.

A story that I have about *itsuu* is when my uncle's common-law partner passed away, my father gifted him itsuu and this was one of my first traditional Gwich'in teachings.

Nilii gaih, or dry meat is another beloved delicacy made by slicing any wild meat (specifically caribou meat) very thinly and then drying it on a rack, turning it over periodically. Some people prefer to pound the meat to make it softer.

Dene (neighbors to the Gwich'in) people from Tuĺ'a hunt shúhta ʔepę́ (mountain caribou) during a fall hunt along the Begádeé (Keele River) in the Shúhtagotʼįnę Nę́nę́ (Mackenzie Mountains) of the Northwest Territories, Canada. Shúhta ʔepę́ meat is cut into thin strips and air dried to create «dry meat» that can be saved and eaten later. Other parts of the caribou, including hides are also prepared for multiple uses. All photos by Jean Polfus

Successful moose hunt. The authors son, Cashis Peter. Photo: Karrie Brown.

ATHABASKAN:
MOOSE BLOOD AND DRY MEAT SOUPS

BY KARRIE BROWN


Area of reindeer husbandry
Wild reindeer / caribou
EALLU activity location
INDIGENOUS PEOPLES
LAND COVER
Forested
Agricultural
Treeless
Ice and snow
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CANADA
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GWICH'IN
INUIT
YUP'IK
CHUKCHI
ALEUT
Enlarged area
0
200
400 km

The Athabaskan peoples, residing in Arctic and sub-Arctic Alaska, U.S.A., and the Yukon Territory and Northwest Territories of Canada have traditionally occupied a vast geographic area of approximately 3 million square kilometers. This enormous region has been continuously occupied by Athabaskan peoples for at least 10,000 years and includes three of North America's largest river systems (Mackenzie, Yukon and Churchill Rivers). It also includes large areas of both tundra (barren lands) and taiga (boreal forest) as well as North America's highest mountains (Mount McKinley and Mount Logan) and the world's largest non-polar ice field (St. Elias Mountains). The southeastern boundary of the Arctic Athabaskan peoples' traditional territories includes portions of provincial northern Canada.

The ancestors of contemporary Athabaskan peoples were semi-nomadic hunters. The staples of Athabaskan life are caribou, moose, beaver, rabbits and fish. Athabaskan peoples today continue to enjoy their traditional practices and diet.

Except for south-central Alaska (Tanana and Eyak) and the Hudson Bay (Chipweyan), Athabaskan peoples are predominately inland taiga and tundra dwellers. Collectively, the Arctic Athabaskan peoples share 23 distinct language and live in communities as far flung as Tanana, Alaska and Tadoule Lake, northern Manitoba, nearly 5400 kilometers apart.

Shäkat is the Southern Tutchone name for summer, harvesting season. This was an annual activity I did with my Grandparents, gathering a vast list of traditional food from the land for the long winter ahead. Starting in mid July through to September we fished for salmon, picked berries, and hunted for moose, which we call *Kanday*. This was a major food supply

Moose hunt. The authors grandmother, Audrey Brown and cousin, Matthew Brown. Photos: Karrie Brown

for the *Dän*, the people. Before my time all the food was gathered, and this was about survival for your family as there were no grocery stores in the days of my great-grandparents.

Most times it would just be me and my grandfather together out hunting. Skinning and cutting 1000 pounds of moose meat was a lot of work for just the two of us. He always had stories that had important lessons for me. He talked highly of his father and how they would be traveling a long way on foot in the cold weather, and to warm up they would drink moose blood soup. Taking several hours to skin and pack up we were usually home at night and grandma would be worried about us. After hanging the meat for a full day it was time to process and make cuts and dried meat. I always asked my grandma to retell me the story of when her family went through a hard time. Her father had been gone one week following moose tracks and her mom and four other siblings had been harvesting squirrels for food. They were very lucky that the moose had circled around close back to the cabin. Moose blood soup and Dry Meat soup were always my favored meal growing up and I cook them often in return for my grandparents.

Dry Meat Soup. Photo: Karrie Brown

KANDAY DÄL TADHA̱L – MOOSE BLOOD SOUP

Add moose blood to 4 cups of boiling water
Take moose fat and fry
Add fat and grease to the soup
Add few TBLS of flour if you like to thicken
Boil 40 min
Stir often

ÄTHANÄGÄN TADHA̱L – DRY MEAT SOUP

Soak dry moose meat in water over night
Take moose fat and fry
Boil 40 minutes
Add rice and onion for flavor.

The author's grandmother, Audrey Brown, butchers a moose. Photo: Karrie Brown

APPENDICES

Notes on the Authors

Adams, Eilene (Iñupiat). Eilene is Iñupiat from Barrow, Alaska. Eilene has learned Indigenous Knowledge from her families and communities all her life. Today, her family continues to collect, process and consume their traditional foods.

Antipina, Elena. Director of the Arctic College of the Peoples of the North, Chersky, in the Nizhnekolymsky District on the Kolyma River of the Republic of Sakha (Yakutia), Russia.

Avelova, Svetlana (Evenki) Svetlana is from reindeer herding family, living in the village of Khatystyr, Aldan district (Rep. of Sakha). She took her higher education and completed postgraduate study in Evenki language at the Indigenous Peoples Institute of Herzen State Pedagogical University of Russia. She is currently working at the International Centre for Reindeer Husbandry.

Avevkhay, Roksana (Koryak) comes from the village of Verkhny-Paren' in the Magadan region, in the Russian Far East. She is a second-year student at the Bachelor program of Education and Native Languages in the Indigenous Peoples Institute at the Herzen University, St.Petersburg. Roksana is very keen on science and research work and in the future would like to work in academia. In her free time Roksana likes to make traditional handicrafts, namely beading and embroidery.

Batkhishih, Burmaa (Dukha) was born in in the Tsagaannuur soum center of Khuvsgul province of the Northern Mongolia. She is married to a reindeer herder and lived in the East Taiga as a reindeer herder before she became a student at Mongolian University of Agriculture majoring in Economics in Ulaanbaatar. She is 4th year student there and has a three year old son.

Bayandalai, Khoschimeg (Dukha) was born in the Tsagaannuur soum center of Khuvsgul province of the Northern Mongolia. She is from a reindeer herding family who lives in the West Taiga of Khuvsgul province. Both of her parents are famous reindeer herders who own the largest herd in the region. Khoschimeg is 3rd year student at the Kindergarten teacher's school in the Mongolian University of Education in Ulaanbaatar city.

Bolotaeva, Olesya (Koryak) was born in the North East of the Kamchatka region in the small village of Achayvayam (in Koryak language - Echg'eyv'ezem ˛river without sand»), Olyutorsk district. Olesya comes from a hereditary family of reindeer herders - Kekket and K'oyan'. At the behest of her grandmother K'oyan', Olesya Bolotaeva entered the Herzen University in St.Petersburg and after graduation began her work in the same institution. Currently she is a teacher and an Associate Professor of Paleo-Asiatic languages, folklore and literature, at the Indigenous Peoples Institute at the Herzen University, St.Petersburg. Since 1993 Olesya Bolotaeva has taken part in the folk theater-studio Northern Lights, performing the music and dance of Indigenous Peoples of the North, Siberia and Far East of Russia.

Buljo, Máret Rávdna (Sámi). Máret was born and raised in Guovdageaidnu, Norway. She has been living in Nordland for last 11 years, with her husband and three children. Her daily life is based on all the elements of reindeer herding: her family, traditional foods, handicrafts and reindeer.

Burgess, Philip. Born and raised in Ireland, Philip has been working for the International Centre for Reindeer Husbandry since 2006. With a Masters in Arctic Studies from the University of Lapland, Finland, he has a passion for the Arctic and exploring how best to outreach the work of ICR in word, image and film. He currently lives in Toronto, where he and his wife are raising two bilingual Sámi and English speaking boys. Summers are spent with family by the Deatnu, in Sápmi.

Brown, Karrie. Karrie Brown was born on December 12, 1986 in Whitehorse Yukon. She is Champagne Aishihik and lives in Haines Junction with her partner Zachary and son Cashis. Living and growing up with her grandparents Audrey and Fred Brown who were very active on the land and always taking Karrie along with them, she learned the landscape of her country and what the plants and animals provided for food. Fishing for salmon and making dry fish from the Yukon River in the summer, picking a variety of plants and berries, her favorite was Moss berries, and collecting tree sap and juniper bush. Karrie is very familiar with the trap line she inherited from Fred. As a kid most weekends in the winter were spent with her grandpa Fred skidooing the line, cutting trails, setting conibear traps and camping at the cabins her grandpa built before she was born. Many times it would just be just her and her grandpa skinning and packing up a moose to take back to the family. Currently Karrie works a seasonal position with Parks Canada as a Renewable Resource Technician. During the winter she is working slowly on getting her trap line up and active like her grandpa. Karrie spends a lot of time beading and making Mukluks, skills she le-

arned from her Grandmother Audrey at the age of five, she is very thankful such an amazing skill was passed down to her.

Chuprina, Anna (Dolgan). Anna is a third year student in the Bachelor program in Culture at the Indigenous Peoples Institute of the Herzen University in St. Petersburg. Anna was born into a family of reindeer herders in the Popigai village of Taimyr (Dolgan-Nenets) in the Municipal District of the Krasnoyarsk Krai.

Cleveland, Sonita (Yup'ik). Sonita is a Yup'ik Indigenous knowledge holder from Quinhagak, Alaska, traditionally spelled Kuinerraq in Yup'ik. She was raised by her mother Katherine Cleveland and her grandma Annie Cleveland. Sonita learned to prepare and cook Yup'ik foods throughout her lifetime of helping her mom and grandma, embodying how Indigenous Knowlege passes on from generation to generation. Sonita enjoys fishing, gathering greens, berries, and foods from the land, and living the traditional Yup'ik lifestyle.

Degteva, Anna (Vepsian) Anna comes from the Republic of Karelia. Since 2007 she has been working with the International Centre for Reindeer Husbandry on various projects both at the national and international level, but mainly focusing on work in the Russian reindeer herding regions. Anna Degteva's scientific interests include topics such as holistic impacts assessments; knowledge systems of Indigenous Peoples; resilience and adaptation of reindeer herding societies in the Arctic to rapid change.

Dondov, Binderiya. Bindi works as a Finance manager of an Interior Design and Construction company called «GerBridge LLC». Before joining this company, she worked at a number of international organizations, including WRH and ICR, with whom she has been interpreting and other tasks since 2004.

Dubovtsev, Andrey (Sámi). Born in 1987 in Tymen. Andrey was a student at Lovozero Secondary School from 1993-2004. He then studied carving in Lovozero, which he followed by being a student at the Modern Liberal Arts Academy specializing in linguistics. He has also studied in Budapest. In 2013-2015 he was working as a reindeer herder at the integrated agricultural production company «Tundra», where he has become an assistant manager of the slaughtering house of the «Tundra» company. He speaks Kildin Sámi, English, Russian and Hungarian.

Eira Sara, Rávdna Biret Márjá (Sámi) Rávdna is born and raised in a reindeer herding family in Guovdageaidnu, Sápmi and is now a PhD student at the Sámi University of Applied Sciences. Her field of interest is Sámi reindeer herders food systems focusing on the Sámi traditional knowledge about slaughtering processes, meat production and conservation. She has been working with the International Centre for Reindeer Husbandry since 2009. She has a Bachelors degree in reindeer herding studies from the Sámi University of Applied Sciences (2009) and a Masters degree in Indigenous Studies from the University of Tromsø (2012).

Fefelova, Olga Vyacheslavovna (Sámi). Olga was born in 1998 in Olenegorsk, Murmansk Oblast and has been living in Lovozero since the day she was born. She has finished 9 grades at the local school, and now is a student at the Northern National College. She plans to continue her education but wants to return to her village. Reindeer husbandry holds a special importance to her.

Firth-Hagen, Jacey (Gwich'in). Jacey is 23 years old and born and raised in Inuvik, Northwest Territories, Canada and a proud youth representative of the Gwich'in Council International. After I graduated High School I moved to Yellowknife, the capital of the Northwest Territories where I pursued education and employment for numerous years becoming an avid volunteer for local environmental and social justice organizations and a radio show host for a youth radio show celebrating youth accomplishments filled with interesting information on safe partying, and the creator of The Gwich'in Language Revival Campaign #SpeakGwichinToMe promoting the critically endangered Gwich'in language and the importance of Indigenous languages. Today I am currently in my second year of Northern Outdoor and Environmental Studies diploma and am set to graduate in 2017 at the Yukon College in Whitehorse, Yukon, Canada.

Ganbat, Sarantuya (Dukha) was born in the Tsagaannuur soum center of Khuvsgul province of Northern Mongolia. She is from a reindeer herding family in the East Taiga, in reindeer herding brigade no.1 of the Khuvsgul province in Northern Mongolia. She is a student at the Ikh Zasag International Institute majoring in Foreign Trade relations in Ulaanbaatar.

Ganbold, Bayarmagnai (Dukha) was born in the tent of a reindeer herding family who live in the West Taiga of Tsagaannuur soum in Khuvsgul province, northern Mongolia. In 2016, he graduated from the Eco-Asia Institute majoring in Environmental management. Currently he is working as volunteer ranger in

the Tsagaannuur soum of the Khuvsgul province in order to protect nature of his home place.

Gerasimova, Alena (Evenki). Born in 1986 in Neryungri (Sakha Republic, Yakutia), grew up in the Evenki village of Iengra and has been migrating with her grandparents reindeer in the taiga. She has a Bachelor and Master degree in Chinese history from Saint-Petersburg State University, and a Masters degree in Arctic Studies from the Saint-Quentin-en-Yvelines University in Versailles. Alena is a member of the Evenki nomadic tribal community of «Oldoyo», which was created by her father Evgeniy in 1993. She still visits the reindeer herding camp, where her uncles and cousins look after the family's reindeer. She is currently working at the International Centre for Reindeer Husbandry.

Gerasimova, Nadezhda (Evenki). Born in 1960 into a reindeer herding family in Iengra (Republic of Sakha (Yakutia)). Before going to school, she lived in the taiga with her family. In 1967, Nadezhda went to boarding school, where she learned Russian. In 1980, she graduated from the Ulan-Ude pedagogic college and began to work as a primary school teacher in Iengra. In 1982 she married and now has three children – Stanislav, Alena and Kseniya. In 1987 she received a Diploma in higher education at the Blagoveschensk Pedagogical Institute. Since 1993, she has worked as the chief specialist on Indigenous issues in the Neryungri administration. Every summer is spent in the taiga with her family, at her parents' reindeer herding camp. Nadezhda has reindeer in the Evenki nomadic tribal community "Oldoyo". From her parents she learned how to work with reindeer, milk reindeer, make clothes and shoes, and more. She loves cooking traditional food, and has just authored a cookbook on Evenki traditional foods.

Gombo, Tsetsegmaa (Dukha) was born in the Tsagaannuur soum center of Khuvsgul province of Northern Mongolia. She is from a reindeer herding family who live in the East Taiga, in reindeer herding brigade No.1 of the Khuvsgul province in Northern Mongolia. She is a student at the Mongolian University of Agriculture in Ulaanbaatar.

Gruben, Chantal (Inuit). Chantal is a young Inuit woman who was raised by her grandparents and lives in Tuktoyaktuk, Canada. She was a participant at the EALLU workshop in Kautokeino, Norway in early 2017.

Gulyaev, Maxim (Even). Maxim is a young Even reindeer herder from Topolinoe. When he was 5 years old he was a participant of the project "Lena" and lived for one year in Norway and learned the Sámi language. Every summer he is working as a reindeer herder at the Nomadic family-clan-based obshina named after his Great Grandfather Piotr Pogodaev. Today he is a student at the Yakutsk College for Economics and Finance.

Hansen, Kia Krarup. Kia is a PhD student at UiT the Arctic University of Norway in Tromsø. She is originally from Denmark, but has been living and working with reindeer herders in Finnmark and Troms for many years. Kia holds a Bachelors and Masters degree in Biology - Arctic Animal Physiology from the Department of Arctic Biology (UiT), with a focus on reindeer and reindeer husbandry. Together with students and employees at the Copenhagen Hospitality School, she has developed and presented dishes based on Sámi traditional food culture for a cookbook and the food festival in Århus, Denmark 2013. Her interest in reindeer husbandry is interdisciplinary, and includes traditional knowledge and adaption to change in Arctic societies. Over the past few years, she has been working on different projects with the International Centre of Reindeer Husbandry. She loves to spend time outdoor, mushing and hunting.

Harris, Cyrus "Naunġaq" (Iñupiat). Cyrus is an Iñupiat Indigenous Knowledge holder from Kotzebue, Alaska. Cyrus has lived his entire life in the Kotzebue region and has spent this time living in the country and at camp with my parents, hunting, fishing, dog mushing, and gathering resources for our living. Today, he lives in Kotzebue and passes is knowledge onto his children and grandchildren, while working to ensure that his community has access to traditional foods.

Kaurgina, Vlada (Chukchi). Vlada is a second year student at the Arctic College of the Peoples of the North, in the village of Chersky, in the Nizhnekolymsky District of the Sakha Republic, Russia. She is studying reindeer husbandry.

Kaurgina, Zhanna (Chukchi). Teacher at the Arctic College of the Peoples of the North, Chersky, in the Nizhnekolymsky District on the Kolyma River of the Republic of Sakha (Yakutia), Russia. Reindeer herder.

Krasavin, Aleksandr (Sámi). Born in 1998 in Olenegorsk. Spent his childhood in the tundra, and before going to school was living on the tundra near the Kharlovka river and Nalyam lake, Murmansk Oblast. After finishing school, Aleksandr entered the Northern National College in Lovozero, Murmansk Oblast. His specialization is reindeer herding and machinery operation. Like his

father, Aleksandr likes fishing, and going to the tundra on a snowmobile. Since his parents have reindeer, Aleksandr is going to work in the tundra according to the family tradition. He believes that someone has to take care and watch after their reindeer. Aleksandr is also learning from his father how to build reindeer sledges.

Krivoshapkina, Irina. Deputy Director at the Arctic College of the Peoples of the North, Chersky, in the Nizhnekolymsky District on the Kolyma River of the Republic of Sakha (Yakutia), Russia.

Mathiesen, Svein Disch. Svein has a PhD from the University of Tromsø (UIT), in the Department of Arctic Biology and Department of Medical Biology, Faculty of Medicine in 1999. Today he is employed at the International Centre for Reindeer Husbandry Centre (ICR) in Kautokeino as the institute leader of the University of the Arctic Institute for Circumpolar Reindeer Husbandry (UEI), and is also permanently employed as a Professor at the Sami University of Applied Sciences and Professor II at UIT Arctic University of Norway in Tromsø. Mathiesen is a member of the Norwegian Scientific Academy for Polar Research. He has supervised several masters and doctoral students. His main interest today is interdisciplinary knowledge about adaptation to climate change in the circumpolar north and how to build local expertise in Indigenous communities in the North through international cooperation.

Okotetto, Elvira (Nenets) was born into a Nenets nomadic reindeer herding family, in the very north of the Yamal Peninsula, on the Sayakha tundra. In 2011, she graduated from the Yamal Multi-discipline college, with the specialty «Informatics and ICT» and since then has been working as a teacher in Secondary school № 4 in the city of Salekhard. In parallel, Elvira has been taking higher education at the Tyumen Industrial University. In 2017, she will graduate as an expert in Computer Science and Engineering. Elvira has very diverse interests: apart from a professional interest in computer sciences and telecommunications, she devotes her time to studying foreign languages (English), psychology and local history.

Okotetto, Marta (Nenets) is from the Priuralskaya tundra, Yamal Nenets AO. She was born into a family of private reindeer herders, who maintain the traditional nomadic way of life. In the summer of 2017, Marta will graduate from the Yamal Multi-discipline College, where she studied in the Elementary Teaching School program. It is Marta's deep wish to continue her education at the University level and to learn more about the culture, languages and social life of Arctic Indigenous Peoples. At the same time, Marta would like to contribute to the economic development of her people - the Nenets – and, therefore, has a particular interest in business and entrepreneurship.

Osenin, Nikolay (Even). Reindeer herder. He was born in 1942 in Alysardakh in the Ust'-Maisky district of the Sakha Republic. All his life he worked as a reindeer herder in different reindeer organizations. He used to be the leader of Brigade #5 of the Tomponsky sovkhoz in the Republic of Sakha. Today he is retired and lives in Topolinoe.

Oskal, Anders (Sámi). Anders is the Executive Director of the International Centre for Reindeer Husbandry in Guovdageaidnu/ Kautokeino, Norway. Oskal is a reindeer herding Sámi from Northern Norway, with a Master of Science in Business Administration specialized in Innovation Economy. He also represents the Association of World Reindeer Herders in the Arctic Council, and is an Executive Committee Member of the Arctic Economic Council. Oskal was also a co-author of the IPCC AR5 WGII released in 2014. Prior to his current position, he worked for a number of years with business development in reindeer herding. Oskal is the project leader of the EALLU project.

Pogodaeva, Maria (Even). Reindeer herder. She was born in 1952 by the Okatchan creek in the Ust'-Maisky district of Sakha (Yakutia) in the tent. She got an education in the 'Ola Veterinarian technikum' in the Magadan region and in the Yakutsk State University as a biologist. All her professional life has been devoted to reindeer husbandry. In 1984 she was elected to the Supreme Council of USSR and afterwards to the Regional Parliament of Sakha Republic, where she served as the Chair of Standing Committee on Indigenous Peoples Issues. After a visit of Sámi reindeer herders to Topolinoe in 1990 she became one of the leaders of the World Reindeer Herders Association and served as the Vice-President of WRH from 1997 until 2009. Currently she is a private reindeer herder and the leader of Nomadic family-clan-based obshina named after Piotr Pogodaev.

Pogodaev, Mikhail (Even). Reindeer herder. Mikhail was born in 1978 in Topolinoe, Sakha Republic in a reindeer herding family. In 2001 he graduated from Saint-Petersburg State University of Economics and Finance and in 2007 he defended his PhD thesis in the same university. In 2009 he was elected as the chair of Association of World Reindeer Herders and still serves in this position.

Currently he is also the vice-chair of the International Centre for Reindeer Husbandry, President of the Council at the UArctic EALÁT Institute at ICR, is Chair of the Even Peoples Association and is a researcher at the Institute for Humanities and Indigenous Peoples of the North Issues at the Siberian branch of the Russian Academy of Sciences.

Prokopjeva, Alena (Even). Reindeer herder. She was born in Topolinoe, Sakha Republic in 1969. She graduated from Yakutsk State University as a philologist and Moscow Pedagogical University named after M. Sholokhov as a psychologist. She used to work as a teacher at the UNESCO Arctic School for Indigenous Peoples of the North in Neryungri, Sakha Republic. Currently she is a teacher and leader of the Arctic College for Peoples of the North branch in Topolinoe.

Purevjav, Udval (Dukha) was born in the Tsagaannuur soum center of Khuvsgul province of Northern Mongolia. She is from a reindeer herding family who live in the East Taiga, in reindeer herding brigade No.1 of the Khuvsgul province. She is a student at the Nursing school of the Mongolian University of Medical Science in Darkhan, Mongolia.

Riddervold, Astrid is a 93 year old Norwegian leading expert in food culture. Her background as both a chemist and ethnologist is unique in this context. It was originally her Master's degree thesis in ethnology, which formed the basis for the book «Conservation of food», which was published first in 1993. In 2003 Astrid Riddervold pioneered the documentation of traditional knowledge of the smoking of reindeer meat in coproduction with Inger Anita Smuk. Riddervold has written several books and articles on the preservation of food.

Sara, Elna (Sámi) works as Information Manager at the International Centre for Reindeer Husbandry in Kautokeino. She has worked for the Association of World Reindeer Herders since its inception in 1997. From a reindeer herding family, she has worked in the field of international cooperation in reindeer husbandry since 1990. She also worked for NBR-NRL, the Sámi Reindeer Herders Association of Norway for 15 years. She lives in Guovdageaidnu/Kautokeino.

Serotetto, Nechei (Nenets) comes from a nomadic family of private reindeer herders, on the Yamal peninsula, YNAO. She is a first year Masters student at the Indigenous Peoples Institute at Herzen University in St.Petersburg, studying linguistics and pedagogy. Nechei is particularly interested in traditional knowledge related to preserving reindeer products and slaughtering. That is why she is currently doing a comparative analysis of the knowledge and technologies of reindeer slaughtering by the Sámi in Western Finnmark and the Nenets in Yamal. For this purpose Nechei has learned the Sámi language. In addition, she devotes her time to learning English and making traditional handicrafts.

Smuk, Inger Anita. (Sámi) Inger Anita is a reindeer herder from Eastern Finnmark. She has been working in international cooperation between herding peoples for many years and is currently Chair of the Board of the International Centre for Reindeer Husbandry. She has a deep knowledge on the process and benefits of suovas, the smoking of reindeer meat.

Lyubov Sidorova (Evenki). Born in 1975, she works as a reindeer herder and tent worker, as well as being the accountant at the nomadic tribal community - «In the name of Vladimir Stepanovich Sidorov». She is also making handicrafts and national clothing.

Sorokin, Anatoly (Koryak) was born in the village of Tilichiki in the Olyutorsky district of Kamchatka. He belongs to the settled coastal Koryak, namely nymylan-alyutor. At present Anatoly is in his last year of a PhD program at the Kamchatka State University named after Vitus Bering, in Petropavlovsk-Kamchatsky, researching the lexical system of the Alyutor dialect of Koryak language with a special focus on reindeer herding, fishing and hunting terminologies. His main research interests are linguocultural studies and linguistics.

Tahbone, Sandy & Marjorie (Iñupiat). Sandy and Marjorie are mother and daughter Iñupiat Indigenous Knowledge holders from Nome, Alaska. Both have spent their lives, and continue to, use their Indigenous Knowledge to obtain, process, and consume their traditional foods. Both are strong participants and provide much to keep their community physically and mentally healthy with recognition of the importance of cultural identity.

Tokhtosova Valentina (Yukagir). Deputy director of educational issues at the Arctic College of the Peoples of the North, Chersky, in the Nizhnekolymsky District on the Kolyma River of the Republic of Sakha (Yakutia), Russia. Her specialization is teaching.

Turi, Issát (Sámi) Issát is a reindeer herder who divides his time according to the season between the village of Guovdageaidnu in Finnmark and Ráidna,

an island in Troms county, in Northern Norway. He has a particular interest in the traditional Sámi way of slaughtering reindeer and preserving meat. He has worked internationally with reindeer herders in Mongolia and Russia. Recently he has been working with a special program on the outreach of traditional knowledge related to Sámi culture to European journalists and chefs.

Unger, Suanne. Suanne works for the Aleutian Pribilof Islands Association, Inc. She is the author, compiler and coordinator of the recently published seminal work on Aleut traditional food culture, QAQAMIIĜUXˆ: Traditional foods and recipes from the Aleutian and Pribilof Islands. She lives in Anchorage with her family.

Yaglovskaya, Maria (Chukchi). First year student at the Arctic College of the Peoples of the North, Chersky, in the Nizhnekolymsky District on the Kolyma River of the Republic of Sakha (Yakutia), Russia. Her specialization is Ecology.

Yakovleva, Olesya (Yup'ik). Olesya is from the clan of Lyakag'mi. Her Yup'ik name is Ayvylik which means little walrus. Olesya was born in the village of New Chaplino (Tasik), in the east of the Chukotka Autonomous Okrug in Russia. She studies the languages of Indigenous Peoples of the North, Siberia and the Far East at the Indigenous Peoples Institute at Herzen University in Saint Petersburg. Her PhD research topic is the system of food making in the Yup'ik –Ayvan Languages.

Zakharova, Sofia (Dolgan). Sofia was born in the Anabar region of the Republic of Sakha (Yakutia). She was born in a tent near the Laptev Sea and the "Utskurder" area, in the reindeer herding brigade No. 2. She has an education in agriculture, and her major is Livestock Engineer. Sofia is a mother of five children. Currently she works as a teacher in reindeer husbandry and master of vocational training at the Arctic College of the Peoples of the North, Chersky, in the Nizhnekolymsky District on the Kolyma River of the Republic of Sakha (Yakutia), Russia.

Zolzaya, Uudus (Dukha) was born in Tsagaannuur Soum of Khuvsgul province of the Northern Mongolia. She lives with her family and parents who are reindeer herders in the west Taiga. She is from reindeer herding brigade no.2 in the West Taiga of the Khuvsgul province. Currently she is a 4th year student at the Mongolian University of Art and Culture majoring in Cultural Management in Ulaanbaatar.

Zorigt, Zagalmaa (Dukha) was born in the Tsagaannuur soum center of Khuvsgul province of the Northern Mongolia. Like other Dukha students, she lived in the West Taiga of Tsagaannuur soum in Khuvsgul province, northern Mongolia throughout her childhood. Currently she is a 2nd year student in the city of Murun, Khuvsgul province at the Dalai Van Institute majoring in Environmental Management.

LIST OF EALLU ACTIVITIES

- SDWG EALLIN St Petersburg/ Herzen Univ. 24-25 November, 2014
- SDWG EALLIN pre-launch, Tromsø, Norway, January 19, 2015
- EALLU/ AIPCI/ SCPAR, Kautokeino, Norway. March 19-24
- EALLU/ Reindeer Herding Anniversary in Canada. Inuvik. March 27-31, 2015
- MoUs with ICR/ AIPCI with partners in Inner-Mongolia, China. May 21-24, 2015
- 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, November 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 Reindeer 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, Yamalo-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, 2017

OTHER EALLU DELIVERABLES

- New Course on Biodiversity and Traditional Knowledge (10 ECTS) at the Sámi University of Applied Sciences, Kautokeino, Norway (2016-). ICR/ EALLU-related components focus on food culture and Traditional Knowledge.

- New MSc Program in Sustainable Reindeer Herding and Traditional Knowledge developed (120 ECTS). Applied from Sámi University of Applied Sciences, Kautokeino, Norway. ICR/ EALLU-related components focus on food culture and TK, economic organization and innovation.

- Course Seminars on Russian Indigenous Peoples´ Food Culture. Implemented at Herzen University, St Petersburg, Russia. EALLU-related components focus on food culture, language and TK.

- Delivered Education for Arctic Indigenous Youth. For example, First BSc Thesis in Nenets Language, on Nenets terminology, by Ms. Nechei Serotetto, Yamal. Herzen University, SPb, 2016 (also a contributor to this book).

- AMAP AACA-C Barents Report Indigenous Peoples´ Chapter. ICR/ EALLU-related components on local economic development, economy and TK.

- New Cookbook: “Traditional Cuisine of Evenki People from Iengra and Southern Sakha (Yakutia)”. Author Mrs. Nadezhda Gerasimova, Senior Evenki Herder from Sakha Rep., Russia (also a contributor to this book)

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