



UiT The Arctic University of Norway

Department of social sciences

Expansive Encroachments and Challenging Changes

Shifting landscapes and adaptive measures among reindeer- and sheepherders in a city-near environment

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Abstract

In the outskirts of Tromsø, the largest city in northern Norway, both reindeer herders and sheep farmers are trying to navigate through a changing landscape. The animal husbandries that have been practiced here since time immemorial, are experiencing increasing challenges as the city continues to grow and develop. This study aims to bring forth some of these challenges, such as land encroachment and building of new residential areas and infrastructure. An increasing number of predators, recreational users and dogs in the grazing lands are also affecting the herder's work. These aspects affect the reindeer herders and sheep farmers negatively, as it is more difficult to keep their animals safe as the pastures are shrinking. Further, this study looks at how the herders try to adapt to challenges to be able to continue with their husbandries.

In symbiosis with the film, *Among Herders*, this thesis presents a deeper and more nuanced understanding of how herders in a city-near environment dwell in landscapes that are used by various actors, with different motivations and perceptions of the environments. With political ecology as the framework, this extends the thesis' range to include the power relations that affects the herders' way of life and is important for understanding the complexity of their situations. Thus, I will argue that this text presents an important contribution to the understanding of animal husbandries.

Keywords: reindeer herding, sheep farming, developing city, land encroachment, adaptation, dwelling, political ecology.

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Chapter 1: Introduction

The day we walked over the mountains (Field descriptions 22.9)

“We had been hiking for five hours across the mountains from Breivikeidet, when Tommy said it was time to take a break. The sheep were exhausted, as were the herders and the other people helping them gather the sheep. We still had a long way back to Tønsvik ahead of us. The sheep had wandered long distances over the summer, far away from where we had let them out on summer pastures just a few months earlier. The September sun was shining over the valley, bringing out the beautiful autumn colors of the landscape. The sheep stood peacefully underneath the shining sun, and close to us a herd of reindeer were grazing too – equally peaceful. I felt the harmony of this moment; both sheep, reindeer, people, and dogs not further apart than a couple hundred meters – embracing the same environments. It was beautiful.

Even though everything was well, I could not help but feel a bit melancholic. I had not seen the reindeer for several months, and the calves had already gotten quite big. The sight of them took me back in time to April when I first started my fieldwork with the reindeer herders, when we had moved the reindeer to the summer pastures. And those weeks when we were witnessing the first calves being born, felt so distant in time from where I was now. That had been a joyous time of the year, but Mihkka and his family had struggled as many of their calves got killed by predators over the span of the summer. For the reindeer herders, it had been a difficult summer season so far. Their reindeer would still be out on the summer pastures for a while before they would be gathered and moved to the winter pastures. The sheep had also been out grazing on their summer pastures for a long time, and it was finally time to bring them back home. It hit me that the sheep herders – like Mihkka with his reindeer - were about to find out how many animals they had lost during the summer season. I felt a bit worried.

Suddenly a man passed by us whilst we sat there. Tommy looked astonished, almost shocked. In the last 40 years doing this autumnally hike gathering sheep, he had never encountered anyone else coming this way. They exchanged polite words, and Tommy asked if he had seen any sheep on his way here. Unfortunately, he had not, so we had to continue the search on our own. It had become two o'clock and we were only halfway. The mountain areas were big, and the sheep were spread all over. Five hours later we were finally reaching the end of Tønsvikdalen. We had been out hiking for almost 10 hours, and my sports watch showed that we had walked 22 kilometers. It had been an astonishingly long day outside in the mountains and we had gathered not more than about 60 sheep. That may sound like a lot, but in the total

number of about 1200 sheep wandering about in the mountain area, 60 was only a fraction of the total amount. The herders needed to get the sheep back home as soon as possible, since wintry weather and snow could be right around the corner.

Before we made it back home, we still needed to cross the river to get to the barns. To herd the sheep across the Tønsvik bridge seemed dangerous with all the traffic on the road, so we decided to lead them across the Tønsvik river instead. It was chaos getting them over, the sheep were too scared to go in the water. Tommy and John Arne, the sheep herders, had to force some of the sheep into the river and carry some of the smaller lambs over so the stream would not take them. We came up of the river on the other side, behind the residential area. The darkness was falling upon us, and the whole neighborhood had quieted down for the evening. But now it chimed with noise from about 60 sheep bells. We marched towards Tommy's farm where Runar had been preparing for the arrival, putting up fences to lead the sheep directly into the farm property. The last thing anyone wanted now was to go chasing after sheep in peoples' gardens. After an exceedingly long day in the mountains and being soaking wet from crossing the river, all we wanted was to go home, rest, and have dinner. The next day, we were going to do the same thing over again."

The mountain areas on Tromsø municipality mainland, just some kilometers outside Tromsø city center - which is on an island - are excellent pastures with plenty of food for both sheep and reindeer. The grazing lands are even considered to be some of the best in whole Norway, Anders Oskal, the Secretary General of the Association of World Reindeer Herders, claims.¹ However, working with animal husbandry in a peri-urban environment comes with both pros and cons. The animals and their herders are not alone in using these landscapes. The city is expanding with the building of new residential areas, roads, and other types of industrial infrastructure. There is an increasing number of people using these areas for recreation, and they are using larger parts of the landscape. In other words, on the already decreasing grazing lands there are even more people using it for leisure. These are some of the aspects that are affecting the work of the herders.

What this thesis will explore is the challenges the two animal husbandries are facing, both in relation to keeping their animals out in the mountains and by being close to a developing city.

¹ (A. Oskal, personal communication, 12. May 2022).

In the text I will gradually unfold the complexity of these challenges and show how the sheep farmers and reindeer herders continue to adapt their way of living in response to these challenges. The findings are based on fieldwork I conducted over a four-month period in 2021. I have participated in the daily activities and job duties of these two husbandries in the late spring and early summer season, which is the busiest and most vulnerable time of the year. The reindeer and sheep give birth in this season and are then moved to the summer pastures with their newborns. During these months I have been looking out for the animals, fed them, helped them give birth, gathering them back home from seasonal pastures and been on guard against predators. I have been driving their snow mobiles and tractors and been given a lot of responsibility as a helping hand. By participating, I have gained a deeper understanding of the animal husbandries and the various issues both sheep herders and reindeer herders are facing, and how they in their everyday practices relate to the challenges correlated to the closeness to the city, other people, and the predators in nature.

Entering the field

I moved to Tromsø from Helsinki, Finland, since as an active outdoor person I wanted to live in a place with mountains and nature close by. Additionally, I wanted to do my masters project related to issues regarding loss of nature, for example in connection with climate change or deforestation, as I am interested in environmental protection. However, I moved here during a pandemic, and it was quite difficult to meet new people and make connections. I first came in contact with Mihkkal Issat Oskal (Mihkka), a young Sámi reindeer herder, through my supervisor, who operated as a gatekeeper to the field (Stocking & Chinnery, 1982). He had told me that Mihkka was the oldest son of a reindeer herding family who kept reindeer right outside Tromsø city, on the mainland in Tønsvik. I was intrigued by how hundreds of reindeer could live so close to the city. Tønsvik was also headlining in the news at that time since the harbor was about to welcome its first nuclear submarine from the United States, which caused outrage in public debates²³⁴. Reindeer and nuclear submarines in one place felt like an absurd combination, and it was indeed something that affected the reindeer and the herders negatively.

² <https://www.itromso.no/meninger/2020/10/13/Atomv%C3%A5pen-p%C3%A5-norsk-territorium-22816665.ece>

³ <https://www.nrk.no/tromsogfinnmark/atomubater-i-kommunal-havn-i-troms-1.15030928>

⁴ <https://www.nordnorskdebatt.no/atomhasard-i-tromso/o/5-124-120751?fbclid=IwAR3WFIpBpkRPtKyFUvPoIYHeGcRSk2ZFFok6IPWxfmu8WoiCAg5zcIt2hCQ>

They were losing land, so that the harbor could be expanded and be better suited for industrial purposes. This sparked my interest (and emotional impulses) even further, and luckily Mihkka agreed to meet with me. However, during the first meeting it turned out that he and his father had moved their reindeer away from Tønsvik, to go on summer pastures in the neighboring fjord Ramfjorden instead, closer to where they are living, due to pressure on the pastures and dogs.

The area in Tønsvik was now solely used by Mihkka's cousin Johan Isak Turi Oskal, the owner of Tromsø Arctic Reindeer. He is running a place where tourists have the chance to experience traditional Sámi culture, feed the reindeer and go sledding with them, and see northern lights. The reindeer would be in corrals during the winter season at Tromsø Arctic Reindeer, located only few hundred meters away from the harbor. Therefore, the right to use these pastures by the waterfront was about to end, because of the expansion project. In the summer season the reindeer are out in the vast mountain areas behind Tønsvik. However, Mihkka and his father have the recent years experienced the area getting more crowded with people hiking, biking, and skiing. This causes stress for the reindeer, especially in the calving season. Consequently, they decided to take their reindeer on summer pastures elsewhere. They had used this area for over two decades, but it got more difficult to do that each year. Since 2020, they have had the reindeer on summer pastures in Ramfjorden, an area about 25 kilometers away from Tromsø city and they are still using these grazing areas rather than Tønsvik today.

My fieldwork started in April when we moved the reindeer to the summer pastures. For two months I was mostly out on the pastures with Mihkka, his family members, and their friends who helped them. During this time, I saw the herders' joy being out in the mountains when summer was approaching and the newborn calves were born, but at the same time the worry and the sorrow of not being able to protect all of one's animals. Staying with the reindeer and their herders, I learned about the various issues they were facing, both in Tromsø and on a national level, some of which were quite pressing and visible, like the predatorial threat. Other issues were passing by as part of the bigger backdrop; both types of threats defining how the reindeer herders go about their way of living. The loss of land and the struggles behind all the policy making was a recurring theme. Therefore, I was still curious about the submarine and the debate relating to that, as I knew it had affected the reindeer herders significantly. Thus, I had several trips to Tønsvik in May when the (first) submarine arrived. Mihkka also took me

to Tønsvik to show their old grazing lands, to go ice fishing, and to meet Johan Isak.

Eventually, I got acquainted with sheep herders Tommy Jensen, John Arne Holm, and Runar Holm working in Tønsvik. I first met them when I was out on an evening walk in Tønsvik valley, and they were driving their sheep out to the summer pastures. After having spent a lot of time with Mihkka learning about the complexity of their way of living and the various issues reindeer herders were facing, I could not help but wonder what the situation was like for the sheep herders. Were they also facing these same challenges, such as land loss and predators? What was the situation like for them? The next two months of my fieldwork were thus spent with them, and I was equally surprised by my findings, such as the tensions between the farms and residential areas.

This is how I came to combine the two animal husbandries in my fieldwork. Two animal husbandries with different animals, and different ways of herding. It is two diverse cultures and ways of living: yet, the landscapes and many of the challenges are the same. I hope this study can provide new insights into the effects societal development has on these livelihoods, and how the herders are adapting to them. The increasing number of predators and recreational users in the grazing lands, in combination with loss of pasture to industrial infrastructure and new residential areas - as well as a weakened economy for the husbandries - have resulted in an increase in the herder's work. They must take on other full-time jobs, drive their animals between seasonal pastures, keep them gathered and monitored with additional feeding of pellets, and sometimes even relocate, to keep their animals safe and continue working with animal husbandry.

Before I dive any deeper into my findings of the fieldwork, the animal husbandries' historical context will be presented in chapter 2. Some of the previous studies within husbandry will also be assessed. Then, in chapter 3, follows a more thorough description about the fieldwork context, about the herders I have been working with and the places we have been working in. I will further be discussing how I was working with the herders during my fieldwork in chapter 4, which opened my eyes for how they were dwelling in political landscapes. This outlines the theoretical chapter which will be assessed in chapter 5. This takes us to the current situation of reindeer herding and sheep farming in Tromsø, where I will examine the challenges in the grazing lands in correspondence to being in the mountains and to the growing city. People and their dogs, predators, land use changes, city expansion, and loss of grazing lands are some of

the issues I will highlight. These will be discussed in relation to how the herders are trying to adapt to these changes and challenges in both chapter 6 and 7. The empirical data show in a sensorial way the relationship the herders have with their animals and how they are trying to protect them from all the harm that might be inflicted upon them. By adding ethnographic descriptions, I am simultaneously telling a story whilst analyzing the material. My arguments will further be strengthened by applying theoretical concepts to the discussions that will give the analytic result an academic weight and significance.

Chapter 2: Aspects of the history of the animal husbandries in Troms

In Norway, around 3000 Sámi individuals work as a reindeer herder, which is a profession reserved exclusively for the Sámi (Government of Norway, 2019). Reindeer herding has previously been a nomadic lifestyle, where the herders have walked with the herds between different seasonal pastures. The Sámi are still moving their reindeer between different seasonal pastures, but nomadism has in many cases been replaced by a more settled life form (Andersen et al., 2021). This shift happened in the 1960s when it became more common to use motorized all-terrain vehicles, like snowmobiles, for reindeer herding. It has made herding simpler since it is possible to control bigger herds over larger areas in less time (Bjørklund, 2013, p.76). However, the reindeer herders have limits on how many reindeer each district is allowed to have (Reindeer Husbandry Act, 2007; Mauken/Tromsdalen Reinbeitedistrikt, 2018).

The reindeer herding areas are divided into six regional grazing areas which are Nord-Trøndelag, Øst-Finnmark, Vest-Finnmark, Troms, Nordland, and Sør-Trøndelag and Hedmark. These areas are further divided into eighty-two grazing districts (Ministry of Agriculture, 2022). The legal basis for making such a division lies with the Ministry of Agriculture, responsible for area boundaries and the Reindeer Herding Board (Reindrifstyre) that are responsible for the district boundaries (Mauken/Tromsdalen Reinbeitedistrikt, 2018, p.10). The reindeer herding district in Midt-Troms uses their traditional Sámi areas and moves between seasonal pastures in three municipalities. The district contains both District 27 – Mauken (Meavki), district 17 – Tromsdalen peninsula (Stuoranjárga) and district 18 - Andersdalen/Stormheimen (Niedavuovdi/Vuovlenjunni), which can be seen on the map below.

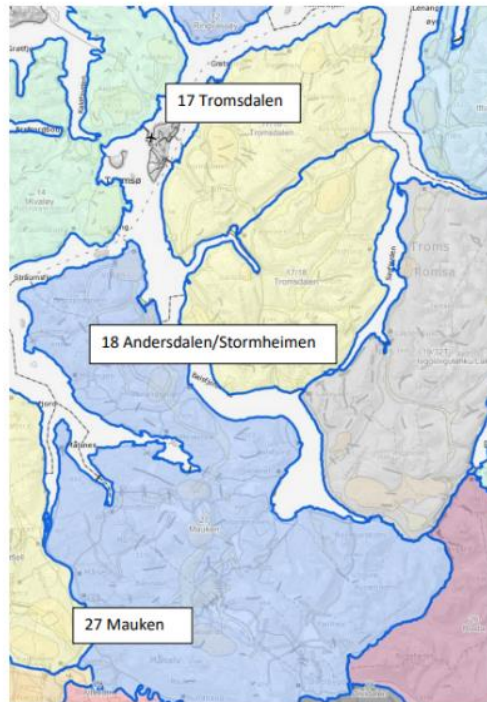


Figure 1 – Map of reindeer herding districts in Midt-Troms

In the district there is one family group, which has eight siida shares. A siida is a unique form of organization for the reindeer husbandry Sámi, within a family line (Benjaminsen, Eira, & Sara, 2016). The Reindeer Husbandry Act uses the term siida as a “group of reindeer owners who practice reindeer husbandry jointly on specific areas” (Reindeer Husbandry Act, 2007). Around thirty-four persons are affiliated with the Mauken/Tromsdalen reindeer herding district, and this represents approximately 20% of the reindeer herding husbandry in Troms (Mauken/Tromsdalen Reinbeitedistrikt, 2018).

Reindeer herding in Troms

Ramfjorden and Sørbotn (Gáranasvuotna and Oarjjeluokta) where Mihkka and his family currently live, has a rich Sámi history that goes way back. The areas around are known as a vital gathering place of a Sámi hunting community in the Viking Age (Nielssen, 1991). There are findings that indicate that reindeer were domesticated and managed in herds already back then (Nielssen, 1991). The coastal Sámi were introduced to sheep and cows around 1500-1600 (Bjørklund, 2013, p.73). Both reindeer and sheep products, such as cheese, wool, and fur became important for trading. Tromsdalen peninsula and the surrounding fjord landscape provided the opportunity for varied resource utilization for the Sámi, who used to hunt, fish, and do agriculture in the area (Kårtveit, 2020).

In the period leading up to World War II, the Tromsdalen area was used as the summer grazing pasture for reindeer herders who came from the border areas between Norway, Sweden, and Finland (Sveen, 2003, p.9). They stayed mostly on the mainland in Tromsdalen (Sálašvággi) and went to the island of Tromsø mainly to buy certain goods. Tourists arriving in Tromsø with cruise ships were fascinated by the Sámi culture, and often went to Tromsdalen to see the Sámi (Sjoholm, 2012). However, the border closed 1940-1945 because of the World War, thus closing a migration route for seasonal pastures that had been used for thousands of years (Sjoholm, 2012). Consequently, there were lots of unused pastures, and that is when Mihkka's grandfather came from small village outside Kautokeino and brought his flock of reindeer here. Since then, the summer grazing land of Tromsdalen peninsula has been used by the Oskal siida in the Mauken/Tromsdalen reindeer grazing district. The Oskal family have established permanent homes in Sørbotn (Oarjjeluokta) from 1957 (Sveen 2003, p.96). As their siida's winter pastures are in Mauken in Målselv (Meavki, Málat) (Sveen, 2003, p.6), further inland, they have been located conveniently between the winter and summer pastures.

Nevertheless, there has been some forced relocating of the Sámi throughout the history, even for his family, Mihkka explains. The reindeer corrals older generations had in Tromsdalen (Sálašvággi) got burned down by vandals. Vandals are still present to this day; a sign with the Sámi name for Tromsdalstinden, Sálášoaivi, got ruined twice just a couple of years ago, first by scratching out the letters⁵, then by spraypainting⁶. Mihkkas' family have experienced being squeezed further north on Tromsø mainland - away from the city - in several ways; by the people, by the municipality, and the general expansion of the city. The lands in Tønsvik where some of Mihkkas' relatives now operate have been in their use for about two decades.

Sheep farming in Troms

The area of Tønsvik, where the sheep farms are located, is of historic importance. Some of the first settlements in the Tromsø region were out in Tønsvik due to its strategic location (M. Skandfer, lecture at UiT, 13. September 2021). It is easily accessible from the sea in every direction but protected from the open sea and heavy storms by Kvaløya and Ringvassøya.

⁵ https://www.nrk.no/tromsogfinnmark/_-utrolig-at-det-finnes-folk-som-er-sa-primitive-1.12300155

⁶ <https://www.nrk.no/tromsogfinnmark/samisk-turskilt-er-igjen-ramponert-1.12443431>

Therefore, it was a significant harbor node, making it historically a vital place. There are archeological findings that animal husbandry was practiced there for a long time. The residential area mainly started to develop in connection to the Grøtsund military fort being built just after World War II (M. Skandfer, lecture at UiT, 13. September 2021).

This area was previously the countryside to Tromsø, and there were farms along the whole way from Tromsdalen to Oldervik, says Arn Ulf, the father of Tommy and previous sheep farmer himself. In the last century, over a dozen farms existed in the area. Everyone living out there was self-dependent, working with animal husbandry and agriculture. People were both poor and self-reliant. Due to increasing living standards, most people started jobs in the city, first as secondary jobs to supplement the farming life. Although, their city jobs became increasingly overtaking, and one by one the farms closed down. Tommy's farm is one of the oldest in the area and is still up and running. He inherited the farm from his father, who is now 89 years old and retired. Tommy is one of the few who has not quit sheep farming to work in the city; he still manages to do both.

People in Troms have been combining farming/herding with other activities through all times, it is stated in the report "Arctic agriculture – smart, good and sustainable" (2019) by the County Governor of Troms and Finnmark. Working a few jobs provides the opportunity to be economically stable in uncertain times. Many farmers also engage in additional industries to a greater or lesser extent, thus filling several functions in rural communities. Only around 20% of farmers in Troms and Finnmark are full-time farmers (Statsforvalteren, 2019). A full-time farmer is one who collects more than 90% of their income from agriculture. They are mostly the dairy producing farmers. Especially in sheep husbandry, it is common to have other income-generating work in addition to agriculture (Statsforvalteren, 2019). A reason for this is simply that the farmers are not paid enough, thus it is almost impossible to live purely off sheep husbandry. This indicates that the people working within animal husbandry like this way of living and are willing to adapt by having two jobs, so that they can continue with animal husbandry.

Both reindeer herding and sheep farming are currently under the Norwegian Directorate of Agriculture. They are responsible for all disciplines in the agricultural sector, including agriculture, forestry, reindeer husbandry, and other activities based on agricultural resources (Landbruksdirektoratet, 2022). That means that they are to follow the policies and guidelines

set by the Directorate of Agriculture. However, there is heavy pressure on the husbandries regarding policy making, compensation and grants, and a general sense of feeling underappreciated. The herders feel that it is becoming more difficult to keep on doing these jobs. Nevertheless, these husbandries play a vital role for the society, both food production wise and culturally. One could claim that both reindeer and sheep can be seen as cultural icons for Norway. The reindeer is of essential importance for Sámi both culturally, socially, and economically (Government of Norway, 2019; Benjaminsen, Eira & Sara, 2016). Reindeer herding has been practiced here for thousands of years. Sheep have likewise dwelled in these landscapes for a long time. During the era of national romanticism in 1800, peasants were seen in a new light, and they are present in both poetry, literature, and paintings from that time (Baciu, 2012; Gjerde 1989). Paintings from Adolph Tidemand such as *Norsk Bondeliv*, and literature from Bjørnstjerne Bjørnson who wrote *Synnøve Solbakken* in 1857 – a book that showed that Norwegian farmers were as important as the royalty and kings – are some of the most important works from that time (Baciu, 2012; Gjerde 1989). They made animals, mountains, and nature become a part of the Norwegian national identity. Sheep today are connected to several holidays and seasons, such as Christmas and Easter, when the Norwegians traditionally eat “pinnekjøtt” and “lammelår” (lamb thighs), and the autumn when they eat “får-i-kål”.

Some previous studies

There are several studies on reindeer and sheep husbandry, but few combining both. The studies presented in this chapter have been valuable to contextualize my findings from the fieldwork, as they too have studied issues such as loss of grazing land, predators, and people using the grazing areas for recreation - which are some of the main challenges for the herders in my study.

“We adapt... but is it good or bad? Locating the political ecology and social-ecological systems debate in reindeer herding in the Swedish Sub-Arctic” (2017) by Gallardo et. al. examines from a political ecology and social ecology perspective four different Sámi siidas in Northern Sweden. They discuss the threats the siidas are facing and the strategies the Sámi use to adapt. The study is based in Kiruna, a city that is also expanding, like Tromsø. In Kiruna they too experience a rise in tourism, people using the grazing areas for recreation, increasing number of predators, new infrastructure getting built, and loss of grazing lands. Gallardo et. Al. conclude that the reindeer herders are forced to constantly regulate their activities to new and

increasing forms of encroachment. They argue that reindeer husbandry has been steadily weakened as a result of numerous state interventions over time (Gallardo, 2017, p.681). The main issue is that the herders, regardless of different Sámi organizations or the Sámi Parliament, “have limited political or legal leverage to influence development planning of large-scale projects deemed to be in the national (or even regional) interest” (Gallardo, 2017, p.682). Consequently, most herders in their study experienced that there was little to be done to the numerous land encroachment plans, except to adapt, or give in.

Geir-Harald Strand (2021) studies the increasing number of predators in a local Norwegian context in his article “The combined effects of centralization and carnivore management on sheep farmers and sheep farming in Norway”. The article highlights mostly the predator management, but also brings forth issues such as “urbanization, social change, economic uncertainty, and large carnivores with research addressing the consequences in terms of the effect their decisions have on the larger farming system” (Strand, 2021, p.323). He examines the changes over a 20-year period focusing on the predator management systems and the shifts in the urban-rural dimensions. During the study period from 1999 to 2017, the number of farms in Norway went down with 39% (Strand, 2021, p.324). According to the herders in this study, predators are a main concern in animal husbandry. Being on the lookout for predators was also some of the most time-consuming tasks I shared with the herders during fieldwork, which is why functioning predator management is essential for the efficiency of the husbandries.

One research that combines sheep farming and reindeer herding is Rybråten’s and Hovelsrud’s article called “Local Effects of Global Climate Change: Differential Experiences of Sheep Farmers and Reindeer Herders in Unjárga/Nesseby, a Coastal Sámi Community in Northern Norway” (2010). It compares how these two husbandries get affected by climate change - more specifically how moth larvae outbreaks as a result of climate change - affect reindeer herding and sheep farming. Even if Rybråten and Hovelsrud focus mostly on the impacts that climate change has for the husbandries, they additionally highlight other issues and challenges such as loss of land and predators (Rybråten & Hovelsrud 2010, p.320). They write:

Future land use changes and the expansion of physical constructions, such as cabins, might lead to further reductions in today’s grazing land, and thus limit the adaptive capacity in sheep farming and reindeer herding in years to come. Combined with the fact that projected climate changes appear to be more severe than previously

experienced climate variability, this might well suggest that earlier ways of contending with climatic variation might not be adequate for coping with future climate change. Land use changes and reduction in grazing land, combined with consequences of climate change, thus creates a set of exposure-sensitivities for both sheep farmers and reindeer herders in Unjárga/Nesseby (Rybråten & Hovelsrud, 2010, p.331).

The greatest threat for the husbandries is reduction of grazing lands, which in turn will cause more difficulties for the reindeer herders and sheep farmers to adapt to issues related to climate change in the future. They conclude that a high level of flexibility among animals and herders is required to face these challenges. Also, their experiences and feelings attached to their home and way of living, can increase their capacity to adapt to the upcoming issues related to climate change (Rybråten & Hovelsrud 2010, p.332).

In conclusion, there are many challenges the husbandries are facing. They are challenged by the increasing numbers of predators, since many of them are government protected. Additionally, people in grazing lands, developing cities, land encroachment and land use change are challenges they face. All these previous studies bring forth the question of what can be done, as changes are occurring at speeds never seen before. Anders Oskal says that: “Change means both challenges and opportunities, but we are not in a good position to explore the opportunities just yet”⁷. As there are current urgent issues for the herders and their way of living, they must first be able to adapt to those, before possibly being able to discover new opportunities, ways of living with and herding the animals that are pleasant - and not forced upon them.

⁷ (A. Oskal, personal communication, 12. May 2022)

Chapter 3: The herders, the pastures, and the animals

In this chapter I will introduce the reader to the herders I have been working with, and the places we have been working in. The previous chapter gave a brief historical context of these places, whereas this chapter shows the current living conditions there today. In the first part of the chapter, I will start out describing the herders and give some background information of them. I will then, through ethnographic descriptions and maps, contextualize the places where they work.

Key persons

I have spent most time with Tommy, Runar, and Mihkka in the field. However, their networks are wide, with many friends and family members helping them. I have had the chance to meet and spend time with several of their family members, relatives, friends, and neighbors as well, all of which have a compassion and drive to adapt to the pressuring changes that threaten their livelihoods. The supportive and extensive networks are an invaluable and necessary asset to the existence of sheep farms and reindeer herding operations. Nevertheless, these networks of helpers surround the three key people that I have been spending most of my time with, so I will keep the shortlisting to that.

Tommy is a man in his late fifties who is running his grandfather's old sheep barn in Tønsvik. In addition to sheep farming, he is working full-time as a plumber at a company in the city center. His job requires some traveling to other municipalities every now and then. During the terribly busy times in late spring, early summer, and autumn he takes some time off work, in order to work with the sheep. Sheep farming has been in his family for a few generations, and Tommy inherited the farm from his dad when he retired. Tommy's father is 89 years old and lives right next to the barn, and Tommy lives on the other side of the barn. He has a wife, and two kids that are in their thirties. Unfortunately for him, it seems like none of the kids wants to take over the farm when he one day chooses to retire.

Runar is a sheep farmer in his early thirties. Runar is technically working full-time in the barn, but he has lots of other side jobs, such as working as a slaughterer, doing some construction work in Tønsnes harbor, and cleaning the roads for snow in the winter. In his spare time, he likes to hunt and fish. He works with his dad **John Arne** in the barn. John Arne has, like

Tommy, another full-time job, working with repair and maintenance of ships and boats. He too must travel with the job.

Mihkka is a Sámi reindeer herder in his mid-twenties. His dad has a siida share and Mihkka has his reindeer within this siida. He has two younger siblings, a brother, and a sister, who also own some reindeer of their own. Mihkka is a carpenter and works with a project of expanding Evenes military airport. His last jobs have been in construction work, and he normally works in shifts, 12 days on the job and 9 days off since he has been working quite far away from home. When he is away working with construction, his family is taking care of his reindeer and during his free days, he spends most of his time out on the mountain with the reindeer. He is interested in fishing, and he also hunts small game. He used to work as a guide at Tromsø Arctic Reindeer, which **Johan Isak**, his cousin, owns.

The places on Tromsdalen Peninsula/Stuoranjárga

The fieldwork took place in the outskirts of Tromsø, which is the largest city in northern Norway, foremost around Tønsvik and Ramfjorden/Sørbotn, where the herders are based. These areas are indicated by circles on the map below, Tønsvik with a red circle and Sørbotn with a yellow one. However, the reindeer were essentially grazing in the area of the whole map, and the sheep on Tromsdalen peninsula.

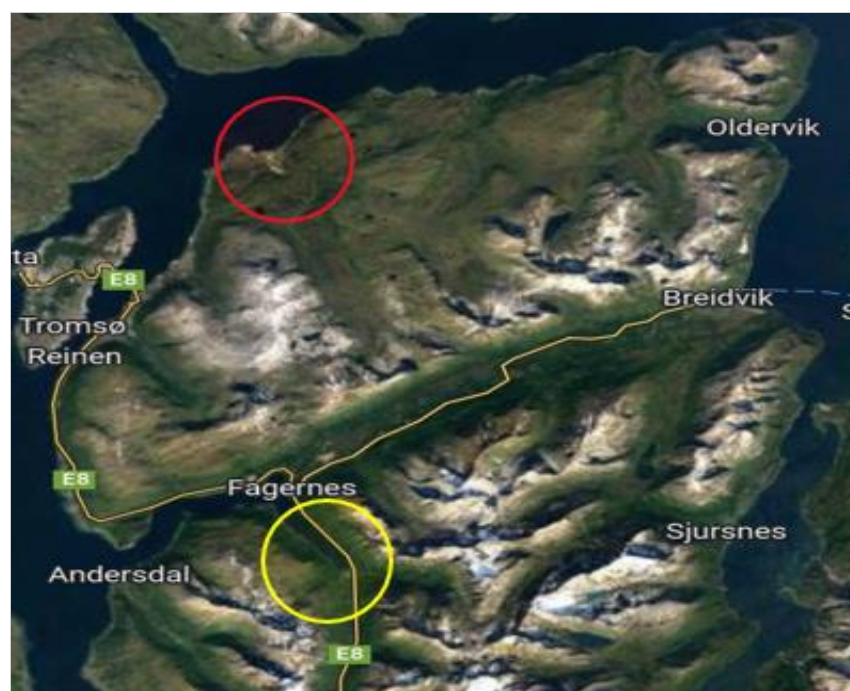


Figure 2 – Map of Tromsø mainland and Tromsdalen Peninsula

Ramfjord/Sørbotn (Gáranasvuotna/Oarjjeluokta)

Ramfjord is a fjord about 20 kilometers southeast of Tromsø city. In the surroundings of the fjord are the settlements Lauksletta, Fagernes/Ramfjordmoen, Sørbotn, and Hanslarsanes. These are areas one passes when driving towards Tromsø on the main highway E8. Most of the residential area lies by this road, where approximately 1000 inhabitants live (Kårtveit, 2020). Mihkka and his family lives in Sørbotn, located at the end of the fjord. From where they live, it is only a 30-minute snow mobile, or motorbike, ride up to the summer pastures at Blåfjellet (Sáttovárri). My fieldwork started with the moving of the reindeer from the winter to the summer pastures in the middle of April. Here follows a brief description from my field diary that day, in order to give a better understanding about the place and the activities.

The day we moved the reindeer (Field descriptions 18.4)

“I arrived in Sørbotn early in the morning, shortly before Mihkka’s uncle came with a big trailer with the last reindeer from Mauken where they have their winter pastures, to Lavangsdalen. We emptied the big trailer and put the reindeer in the corral by the road, where the other reindeer were waiting. It felt quite surreal that there were a few hundred reindeer standing so close to the main road, where big trucks and tons of cars were passing by all the time. The snow had turned grey from all the traffic. In less than a day all the reindeer would be gone, far up on the mountain and far away from the traffic. Today was a big day, since the move marked the start of a new season. The entire day went by preparing scooter tracks, fencing, and waiting for the conditions to be right. The weather was unstable the entire day, but it seemed like it would get better in the night. Me, Mihkka, and his friend Simen, were waiting at Mihkka’s apartment for the “go-signal” from his dad. The hours were passing by, and then at 3am he finally called and said it was time. We were six people and our snow mobiles. We opened the fence, and the reindeer were storming out. Almost immediately we had to cross a river, which was a bit challenging since it was only partially covered in ice. After that, a thick forest of tiny trees and a demanding uphill terrain. The landscape did not seem very suitable for snow mobiles or reindeer moving, I thought to myself, as we all were struggling to get up. However, the herders were skilled and managed to maneuver their way up between the trees on their snow mobiles. Then finally, an open landscape. White plains and white hills as far as the eye could see. From there it was easy cruising on the snow scooters, but the reindeer seemed a bit tired. No wonder since it had taken four hours to get here. Our mission was to take them close to a small movable hut on skis they had up there; the gumpi.

Mihkka and his family had worked very hard just a few days before to get it up, because this hut was essential when the calving period was about to start.

At 9am we finally reached our destination. It was incredibly beautiful up there, as the backside of Tromsdalstinden rose right up in the horizon. No cars or other people to be seen or heard. Both the humans and reindeer settled. This is where the calving would start, in just a few weeks. It would also be the grazing area for the reindeer for the next six months or so. I felt very calm, but extremely tired. At that point me and Mihkka had been awake for 24hours straight, so we decided to head back down. On the way back to Mihkka's place we had to cross the busy E8 road. Down from where the road was it was not possible to see that there were hundreds of reindeer on the mountain, and that felt somewhat bizarre. However, soon the construction of the new E8 road starts, right at the foot of Blåfjellet. I guess the reindeer will be more noticeable then."

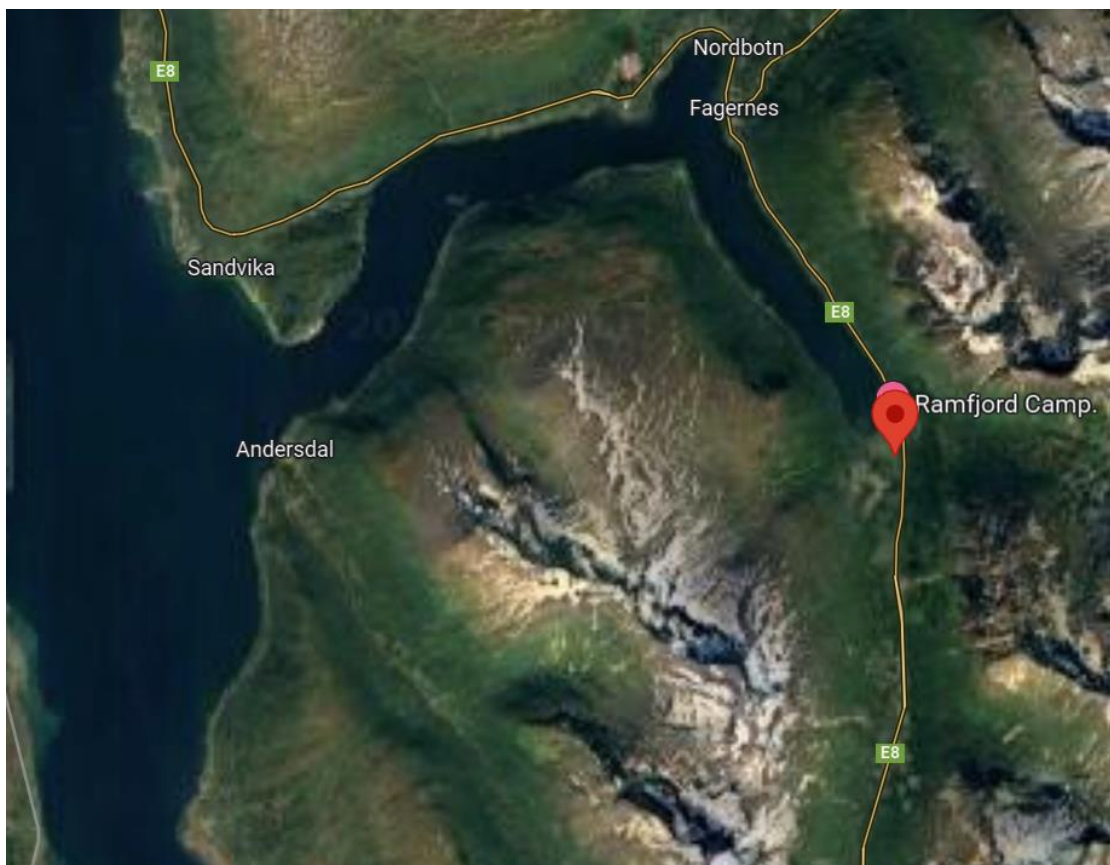


Figure 3 – Map of Ramfjorden/Andersdalen. Sørbotn is marked with the pin, and Blåfjellet, where the reindeer have summer pastures, is the mountainous area right next to it, towards Andersdal.

Tønsvik (Goahteluokta)

Tønsvik is a village located only 15 kilometers from Tromsø city center. Today, around 500 inhabitants live there. The residential area is located mostly by Tønsvikvegen, a road that leads from Tromsø all the way to Oldervik, which is as far as one can go north before reaching the sea, at the shores of Ullsfjorden. There are several industries located in this small settlement, such as fisheries, construction, industrial harbor, tourism, shooting range, sheep farming and reindeer herding, some of which can be seen on the map below. I have marked these industries/husbandries on the map since they are quite entangled with one and other.



Figure 4 - Tønsvik

Tromsø Arctic Reindeer (marked with the yellow circle) brings about 300 tourists daily to the area in the busy winter season, making it a successful destination. It is located only a few hundred meters from the Grøtsund harbor (orange circle). There are quite ambitious plans for the expansion of the harbor, which aims to be “Arctic's leading port and industrial area for service and development”⁶. The reserved area for development is 1.000.000m² and extends up from the waterfront towards the road, visualized by the arrows. This means essentially the whole area will be built out and industrialized. The other marked places on the map are the two sheep farms where I have been during the fieldwork period. They are the only two active farms between Tromsø and Oldervik, both located here. One of them was built in the 1920s, and it belongs to Tommy (blue circle). The other farm belongs to John Arne and Runar. Their farm

was only built only two years ago (red circle). Below follows an extract of my fieldwork notes, from a day we were moving sheep out on summer pastures in Tønsvik, to contextualize Tønsvik and some of the activities there. The extract shows how the sheep herders use the landscape to take their sheep out on summer pastures, and what a time-consuming process that is.

One of the days we moved the sheep, Tønsvik (Field descriptions 8.6)

"The alarm rang at 7.00. I had not slept many hours, as we had been working until almost midnight the day before. I swung the door to the camper van open and was greeted by the morning sun and its mild beams. In the surrounding forest, there were weak sounds of sheep bells. I was camping out at the parking lot in Tønsvik valley and helping the sheep farmers to get their sheep out on the summer pastures. After a quick breakfast, I walked over to Tommy's barn, which was only a few hundred meters away. It looked like he had already been up for a few hours, and he was in the middle of feeding the remaining sheep. He had let out about half of the sheep on summer pastures, but it would take him a few more days to get them all out. His neighbor and friend Robert came over shortly after me, and he helped him with registering the sheep and getting them in the van. There was only room to take about four sheep and their lambs at the time. We drove a few kilometers into the Tønsvik valley, let the sheep out from the car, and walked with them another kilometer or two. The sheep seemed excited to be out.

We returned to the barn and did the same thing a few times over. On the third time we met John Arne, the owner of the new barn in Tønsvik. Tommy and he wanted to fix the dirt road leading into the valley, which was in poor condition. It had large potholes in it, which they tried to cover with a netting system and by putting sand soil on it. Apparently, the cabin owners in the valley did not contribute much to maintaining the roads. After they were done, I went with John Arne to their barn, as Tommy had to go to his other job. John Arne was doing the same procedure as Tommy with driving out the sheep, only he had about four times as many sheep. His son Runar was doing other tasks, such as driving out manure on the land patches they would cut grass on. During the day he got many phone calls from different people, which interrupted his work. There was one sheep that had gotten stuck in a football goal, a few sheep that were out walking on the road, and some of them were by the beach. He needed to take them back to the valley. Even if they had all been driven out far in the valley, some made their way back to the waterfront. Not only was it time-consuming to drive them all by van to summer pastures, but some of them had to be driven twice. The herders have started to drive the sheep into the valley so that they would not go into peoples' garden. After standing inside the whole

winter, it was difficult to herd them by foot since the sheep were so excited to be out, and they would run off and snack on peoples' flowers. Most people in the neighborhood had put up fences around their houses, for this exact reason.

Later during the day, more people came to the valley to enjoy the beautiful summer day. John Arne and I decided to drive to Movik instead, and up on a closed mountain road which he had the key to. They were living in Movik and had previously had their barn there before they became surrounded by all the new houses. To continue with sheep farming, they had to relocate and build a new barn. It was also necessary for them to build a bigger barn and increase the number of sheep to make it economically profitable.

The view from the mountain was spectacular, the city and the surrounding mountains. Tromsø city seemed so close from up here, almost too close. Right below us there was a big construction site for the new Skjelnan residential area. There was a plan to build six hundred new residences here. This would be the biggest residential area this far north, so far. I watched the far horizon instead, with all the mountains in Malangen and on Kvaløya majestically rising from the sea. John Arne sat down for a bit and watched the sheep disappearing into the forest and enjoyed the view for a bit. "The best view in Tromsø", he said satisfied. The days were passing by amazingly fast, and time seemed to be an illusion now with the midnight sun. We did one more round of driving, and when the clock showed 22.30 it was time for us to call it a day. I walked back to the camper van and fell asleep to the distant sound of sheep bells."

In addition to the husbandries and industries, Tønsvik is surrounded by lots of wonderful nature – such as long expansive valleys in between mountain ranges, the sea and fjords, which are dwelled by both animals and humans. Reindeer and sheep go on pastures in the vast forest and mountain areas, which stretch from Oldervik all the way to Tromsdalstinden in the north-south direction and Breivikeidet in the east. The nature is attractive for recreational users as well, with lots of hiking paths and ski tracks that start in Tønsvik. There are many easy day hikes, and three mountain tops have made it to the "Ti på Topp" list. Ti på Topp is an initiative to get more people motivated to go out hiking and is suitable for hikers on all levels (Bedriftsidretten, 2016). The recreational users of the area can also rent out one of the three cabins by The Norwegian Trekking Association (DNT) in the backland of Tromsø. DNT is the largest organization for outdoor activities in Norway, and they are responsible for the public cabins and hiking paths (DNT, 2021). These cabins are – quite inconveniently for both reindeer and shepherders – located in the grazing area and the calving lands for the reindeer. In other words, there are several stakeholders, visitors, and users of the area. Animal husbandry has been practiced in

the area for a long time but is currently experiencing pressure in several ways. The herders find it challenging with so many recreational users in the area, since it disturbs the grazing animals. Thus, initiatives such as Ti på Topp is unwanted by the herders because it brings even more people.



Figure 5 - Map with all the DNT cabins and official hiking routes on Tromsdalen peninsula

I spent most of my time in Tønsvik in early summer and fall with the sheepherders. Mihkka also took me to meet Johan Isak and see the grazing lands. All the herders, for both reindeer and sheep, are friends and they collaborate a lot, having the same interests for keeping the husbandry lifestyle, and wanting each other to succeed. Their collaboration is naturally enhanced by standing together as a fellow minority against the same threats. They benefit from each other's presence since they work together on maintaining the roads into the valley and the ATV tracks. They are also informing each other about predators or unusual activity in the area. In the fall, they help one another with information about the location of the animals. In the next chapter I will discuss how I got to work and collaborate with the herders, by actively participating in their daily lives and creating the film, *Among Herders*, with them. I will argue for the strengths of visual means in conducting ethnographic research, and how it has helped me perceive the landscape they are dwelling in a new light; by being with them, doing the things

they are doing, and observing, in other words sharing experiences; it has helped to share the way of seeing things also.

Chapter 4: Being Among Herders - Methodology

I have previously lived and studied in big cities in both Finland and Sweden, but I wanted to move to Tromsø, much because of the wonderful surrounding nature I aspired to use for recreational benefits and activities. When I started the fieldwork with the reindeer- and sheepherders, who spent most of their time in the beautiful mountain landscapes, I was delighted that I would get to spend many months participating in their work with them, in these beautiful surroundings. As relatively new in Tromsø, I had imagined, and experienced these landscapes as both peaceful and undisturbed places. Moving about with the herders opened my eyes to new ways of seeing things in the landscape and the nature's effects on those who were dwelling in it. Alpa Shah writes that by participating we can “discover new ways of thinking about, seeing, and acting in the world” (Shah, 2017, p.47).

Gradually, the use of space and landscape became an aspect that I was paying even more attention to. First, how the herders navigated the landscape with their animals, and secondly how they were relating to other human and nonhumans in the same landscape. I realized how many issues they were facing in these surroundings I had previously – possibly naively so – just seen as peaceful. Recreational users such as hikers and skiers in the grazing lands disturbing the animals, dogs, predators, building of new residential areas and cabins. All these elements were disrupting what I prejudiced thought as harmonic. Much to my mortification, I also realized that I had been one of the “problematic people” they were talking about. Before I met the herders, I had once in October brought a dog without keeping it on a leash on a hike close to the Tønsvik area, and I had been skiing close to the areas where Mihkka had reindeer. It was embarrassing for me that I did not know beforehand that my actions could have affected both animals and their herders, or at least that I had gone about without thinking about possible consequences of my actions. Suddenly, I got annoyed when my friends told me that they were going skiing in a certain area if I knew that there could be reindeer nearby. I noticed that by being involved in the herders' daily life, I could relate to them and their issues with a new perspective and it made me aware of how others were dwelling in the same landscapes, that I formerly only used for relaxing and spare time activities. Tim Ingold highlights the importance of being aware of the landscape, as he has also lived with and studied herders (Ingold, 2000).

By being and working together with the herders I gradually got a comprehension of the various challenges they were facing in their jobs, and I could see how they were relating to them. Through actively participating, filming, collaborating, and then spending two months in the editing room watching and putting together the material for the film *Among Herders*, I have gotten a solid understanding of the issues that this thesis brings forth. In this chapter I will highlight my own positionality in the field. Thereafter, I will discuss how I participated as a filmmaker in the daily lives of the herders and argue what strengths visual anthropology can provide for ethnographic research.

Reflexivity

Raymond Madden writes in "*Being Ethnographic*" (2010) that to reflect upon one's position in relation to informants is an important skill to have as an anthropologist and is crucial for successful ethnographic research. In fieldwork, the researcher's age, gender, occupation, race, and religion, can come to affect how informants behave and how much the researcher gets access to. It explains for example the anthropologists/filmmakers' social position and how that position might affect the people one is working with or the result of the fieldwork (Pink, 2003).

I am not Norwegian, nor did I have any experience in neither herding activity nor animal husbandry. These identity markers were the factual 'luggage' I brought into the first meeting with the herders. The most noticeable thing – or rather distinction – in my introductory relation to the husbandry dwellers, was the fact that I came in as a woman, in a very male dominated environment. These mostly biological factors are though involuntary so, me being a woman is unchangeable, although it is important in my positioning and role repertoire. Other markers or characteristics that without doubt affected both my position and relation to the herders, were the fact that I was both an anthropologist – there to do research on their lifestyle – and more so, that I was carrying a camera with me to capture it all. All these elements that define me, are relevant for understanding the nature of my relationship with the people I have been filming.

These might be reasons it took me some time to earn the herders' trust. In the beginning they were careful about talking about problems and issues that they were facing. First, I thought that they feared telling me things since I was there as a researcher. Madden argues that informants always have in mind that the researcher is there to get information about them and will therefore be influenced by this regardless of how relaxed they can be in the researcher's company

(Madden, 2010, p.67). There is probably a truth to this, but I believe at some point - if you get well along with the people you are working with - these “researcher-informant” statuses are blurring out. By sharing the interest in the research topic, and through participation and through being together, it gradually became an experience of being a shared project – and the oppositional statuses like “researcher-informant” was repealed. They got replaced by friendship and partnership, which I personally feel will create more reasons to do a study that can benefit everyone involved in the project, by making it a shared project. I would leave my camera behind and just work with the herders, for example climb challenging mountains to bring sheep back, which I think they appreciated a lot. Also, Tommy saw how I enjoyed working with the sheep, and asked me to watch over his barn and sheep for a week when he and his family went on vacation.

Another aspect of reflexivity is how the relationship between researcher and people is established and how knowledge is produced and shared. Therefore, the filmmaker should be clear on how, why, when, and for whom films - and ethnographic studies in general are made (Pink, 2003). Pink highlights the importance of film projects that empower the film subjects, so the films can represent them and do good for their cause in the first hand (Pink, 2003). This is what shared anthropology and collaborative filmmaking ideally should look like. I tried to accomplish this by being transparent of what I was doing and for which reasons. I have also made sure that the herders were satisfied with the final film, and I hope it can be used as a tool to inform a broader public of some of the issues that they are facing, in a respectful manner.

Working with the herders

The herders and I spent lots of time moving the animals to summer pastures and following up that both the calving and lambing period went as smoothly as possible – respectively for reindeer and sheep. Even if our time together mostly consisted of hectic work, there was also time for long conversations, barbeques on the mountains, fishing, and much needed coffee breaks. On many occasions, our days would last from 8 in the morning till 23 in the evening. Almost all days were spent out in nature, which both me and the herders enjoyed. I participated as much as I could in their daily lives.

By engaging, and working together, a deeper understanding of various social and cultural situations is created. It also gave me an understanding of what the herders were *actually doing*.

This is important striving for what Clifford Geertz call “the native’s point of view,” a term he minted (Geertz, 1974). What was crucial for me whilst doing participant observation was to actively participate, to be a complete participator, if you will (Spradley, 1980). For me, this meant that I would not decline any offers to do or try things, whether it was driving a tractor or helping a sheep give birth, which means I had a series of various roles in the field. In September I attended several sheep gathering hikes, helping collect sheep in the mountains. By sharing this experience, I learned from the work of herding. And according to Ingold’s understanding; meaning is created through the sharing of practices (Ingold, 2000).

As I was actively participating and filming, the film project also became a shared project for us where meaning was created. An example of this is when Mihkka sometimes would ask me to film when he was preparing dinner by gutting a fish or plucking a bird. He engaged himself in the project, wanting to share his knowledge and expertise. It made me understand that being able to hunt or fish his own food, was an essential aspect of his way of dwelling in the landscape. Thus, it became an important tool to capture how the herders conceived the landscape they dwell in. I will in the following section argue for the benefits visual tools both have in learning and understanding the environment we are studying, as well as both the human and non-human dwelling that is taking place in these environments.

Filming with the herders

I argue that the issues I am raising - the herders challenges and adaptation strategies - can be answered by visual tools. David MacDougall stresses in his book “Transcultural Cinema” (1998), that the visual aspect plays an important part for anthropology. Foremost, people’s activities and ways of acting are something that plays out visually before our eyes before we as anthropologists (or arguably everyone) interpret and find patterns as we convey as a societal traits or cultural markers. Regardless of an approach for research or not, MacDougall argues this is the case. Focusing on the visual as part of the approach, I felt that our experiences – mine and the herders – bordered or overlapped. The visual becomes a basis for shared experience that MacDougall argues is of significance.

In addition, it portrays the emotional and sensory aspects of the herders’ relationship with their animals and the landscape, which is the essence for why they are working in animal husbandry. It shows the concrete practices of work, and all the emotions it involves. Thus, the camera was

introduced already the first day on the field with Mihkka. I wanted to normalize that the camera would be used quite frequently during my fieldwork. However, filming outdoors, with new people, on the back of a snowmobile or on top of a mountain surrounded by reindeer, was not an easy setting for a beginner. As I wanted to disrupt the herders lives as little as possible, I would not ask them to recreate the scene again if I failed to film something I found interesting and wanted captured on film. It was important for me that their lives could go on as normal, regardless of me nor the camera being present. When I started filming with the sheep herders in June, I had to go through the process of making the herders comfortable being around a camera again. These were some of the challenges with filming, but they got outweighed by all the positive incomes filming gave, such as being able to capture sensorial images.

Paul Stoller argues that filmmaking is a way of being in the world (1989), and David MacDougall that the visual creates new ways of knowing (1998). As I was collaborating with the herders, I became a part of their world as much as they became a part of mine. Since we all shared an interest in issues regarding nature, animals, and land use, we found a common ground to work on, and thus filming became a shared project, where we constantly learned from each other's experiences. Filming became useful in many ways. For example, when Mihkka assisted a reindeer giving birth to a stillborn calf and let the mother free only to find out that the calf was alive after all, we used this footage later to identify the mother that had run away in complete panic, so that she and her calf could be rejoined again. It was an emotional moment, and it became an important scene in my film. It also shows how Mihkka handles a situation he has never been in before (Westerlund, 2022, TC; 00:05:18-00:06:58). Both sheep farmers and reindeer herders found it important to document the damage eagles caused by killing animals, and how brutal it was since nothing could be done about it, as eagles are protected animals. This turned out to be one of the main themes for the film, as the eagles were an exceptionally difficult challenge the summer season 2021. Not to forget, the footage also created joy; Tommy appreciated that I was able to film the sheep gathering hike, a hike that he had done for 40 years but never gotten any recordings from. During the hike, he proudly kept telling both strangers and familiar people that he had managed to get a film team to film his life, and that he would probably be going to Hollywood soon.

Working in a collaborative way, builds a stronger relationship with the people and the filmmaker, Paul Stoller argues (Stoller, 1992). Not only was filming a connective factor but looking back at the footage I could experience and see many things in a new light. Things that

I had not seen in the heat of the moment, since our daily lives were quite hectic, and it was difficult to process everything that was happening around me. Small details, such as how deeply they care and love their animals, I saw much clearer when watching the footage. Just that one tiny stroke over the fur or the wool, the small comforting sounds to calm an animal down, and the hidden feelings of sorrow, when the herders lost an animal. In these situations, the herders tended to become less talkative, and it seemed that their mind went completely elsewhere; maybe someplace where they pictured that their animals could dwell around these mountains freely, without having to worry about predators harming them. In those moments, their eyes that normally were full of joy and pride – just became ... empty. These details were noticeable during editing, but something that might go unnoticed whilst being in the moment and the situations with them. Filming gave depth to my research and helped me to show things that were difficult to put in writing.

An example of this is the relation the herders have to nature and animals, which can be challenging to express in words. The human-animal relations are important to understand what it takes being a herder, and the visual and sensorial data the film footage provided helped both me, and hopefully the film-viewer to grasp, in a profound way, what it means to be a herder. Sensorial and emotional aspects provide us with valuable information, from which we can learn how people express values, belonging and identity (MacDougall 1998). When me and Mihkka assisted a reindeer birth or cared for a dying calf, as well as when Runar had to shoot an injured sheep to end its misery; it was in those moments I could truly see the relationship they had to their animals. These moments were very emotional for all of us involved and having experienced together it made us connect more. The joy, the empathy, the sorrow, and the worry the herders have for their animals comes forth more strongly visually. It tells us who the herders are as persons, and their motivations for what they are doing. Therefore, I leave it to my film to show the human-animal relations genuinely, and the emotions involved. In conclusion, through my film work I have aimed at showing how both humans and animals dwell in these landscapes, and how they create the world they are part of in relation to others. This will be discussed further in the next chapter, where the theoretical approach will be presented.

Chapter 5: Herders dwelling in political landscapes

Like previously mentioned, I realized – quite early on - as part of my fieldwork that the landscape not necessarily appeared as peaceful for the herders as it preliminary did for me. Where I from the outside, prior to the project, had a view of the nature and beautiful surroundings as peaceful and exempt from challenges, my understanding developed and shifted throughout my interaction and relation with the herders.

Mihkka and his family were left with no choice but relocating, as a result of the changing landscape in Tønsvik. Consequently, they moved away from a place that was special for them. As this study examines what sort of challenges the sheep farmers and reindeer herders are facing, how they proceed to engage with the environment where these challenges occur, and what strategies are used in order to be able to keep on practicing these industries – a few concepts and frameworks have been helpful to analyze the findings; the concept of *dwelling* by Tim Ingold (2000) and the framework of *political ecology* as presented by Bengt Karlsson (2015). In this chapter we will dive deeper into the theoretical approaches used in this study. The following extract from my fieldwork when we visited Tønsvik with Mihkka will contextualize the theories.

The day Mihkka showed me his paradise, Johanfjellet (Field descriptions 28.5)

“Today me and Mihkka went visiting Johan Isak in Tønsvik. In the car on the way there Mihkka talked excitedly about the time they had their reindeer in Tønsvik, and all nice memories he had from there. Many of them were related to the great fishing places. Today, he had packed ice fishing equipment with him, so that we could go ice fishing on one of his favorite lakes. ‘A few years ago, on 17th May (the National Day of Norway), me and Simen sat ice fishing and drinking beer in the midnight sun, while everyone was out in town drinking and partying. We spent almost a week up on the mountain without going down once’, he told me.

In Tønsvik we met Johan Isak, Mihkka’s cousin, and James Ewen, an English filmmaker who was making a documentary about reindeer. They had been filming for several weeks now, and today would be their last day filming. However, the weather was quite bad with lots of wind and low visibility. We figured it might clear up later, so we headed up on the mountain on snow mobiles, through a place called the “reindeer corridor”. This was a corridor with fencing on both sides, used to herd the reindeer up and down the mountain. On the way up we spotted an

eagle circulating in the air. Both Mihkka and Johan Isak looked a bit worried and did not let the eagle out of their sight until they saw it flying far away. The look on James Ewen's face on the other hand was almost hopeful, as a film shot of an eagle would have been great for the documentary. We arrived at Johan Isak's tiny wooden cabin, which stood at the foot of Johanfjellet. It was like the one Mihkka had, also built on skis in order to easily move it around if necessary. When we got up here, I finally understood what Mihkka meant when he had explained that this area was much more suitable for reindeer pastoralism than Blåfjellet, where they had their reindeer now. The whole topography of the area was different, with a far better overview of the area. From this cabin, we had an incredible view over the mountains, the ocean, and the village of Tønsvik that looked so tiny. Just behind the residential area stood Tromsø Arctic Reindeer, and right next to that the industrial harbor. Johan Isak explained that he had gotten an extension to use the lands a few years more, so that he would not have to move within a year, which was the original deadline from the municipality. We drank coffee, ate lunch, and shared stories in the cabin while we were waiting for the weather to clear up.

However, the weather only got worse for every hour, so Johan Isak and James Ewen decided it was time to give up, as they would not get any good film material today. Me and Mihkka decided to give fishing at his secret fishing spot a try. The visibility was only getting worse, and it was a proper whiteout. But he knew where to drive, even if we could barely see in front of us more than about one hundred meters. We finally arrived at the lake after about a 20-minute drive. Even if I was not that much into fishing, his enthusiasm, eagerness, and knowledge about the fishing waters and the environment was catching on. And after I managed to catch a fish, I felt a bit more enthusiastic. It was nice to be at one of his favorite places, doing something that he enjoyed so much. Even if he did not catch any fish, it seemed that he was happy that he got to show me this whole area which was so dear to him. It was quite noticeable that he missed this place, and it clearly showed the emotional bonds to the place he used to call home."

The extract shows how all of us dwell in the same landscapes, but we do it differently. The documentary filmmaker was there as a visitor and wanted good shots for his film with clear weather and eagles. For Johan Isak and his reindeer, it is home, and a place that is supposed to be safe. Mihkka is there as a visitor, but with knowledge and memories of the place as home. He knows how to navigate in the landscape even without any visibility. And me, who was also there as a visitor, but with no previous experiences from the place, only the knowledge about it I have gotten through Mihkka. I was there to learn about and see the landscape that was so

important for them. Previously, I had only learned through Mihkka why they had to move from Tønsvik, so meeting Johan Isak who still worked there was interesting for me as I got to learn his perspectives on the issue. I understood that there were many different actors who had various interests in the landscape, both down by the waterfront, such as the harbor, and up in the mountains, where people for example wanted to build cabins. This was something that Johan Isak did not wish. Various actors with different interest in the same landscapes can create conflicts over the land use, and it can be examined through the lens of political ecology (Karlsson 2015). Bengt Karlsson writes that a political ecology approach normally has a tendency to diminish nature to simply something humans have complete control over and can use its resources the way they like, as he sees the importance to increase the political ecology spectrum to “account for the more dynamic and complex aspects of the multitude of life that constitutes nature” (Karlsson, 2018, p. 22). Thus, I am combining political ecology with Tim Ingold’s concept of dwelling, as I will argue that they together can provide a broader perspective to analyze how the herders perceive their surroundings. I will start with discussing Ingold’s concept of dwelling.

Dwelling

Dwelling refers to the way people perceive their surroundings and make themselves at home in the world. It gives us an understanding of how people relate to the environment they are in and how they make sense of that, and how knowledge is produced (Ingold 2000). As an anthropologist, it means that we must have our eyes open to diverse ways different actors involved in a specific landscape dwell there, something I extended methodologically by bringing a camera. Further Ingold argues that dwelling by both human and nonhumans is what establishes the flow of life, and in this flow, landscapes are moments that are “constantly shifting relations of dwelling. All organisms develop in movement and action, simultaneously sensing and impacting on their surroundings as they do so” (Ingold, 2000, p.186). In other words, landscapes are constantly changing, by those who dwell in them. And it is this entanglement, or dwelling, of both humans and nonhumans that constitutes the environment (Ingold, 2000).

Dwelling has thus become much used in recent years in environmental anthropology. For example, Lounela, Berglund, and Kallinen have gathered in their book “Dwelling in Political Landscapes” (2019) thirteen essays from various anthropologists using the dwelling

perspective in their studies. Lounela et. al. write that the dwelling perspective can show “how relations among societies and natures are formed, maintained and lived” (Lounela, Berglund, & Kallinen, 2019, p.8). Focusing on dwelling over time, anthropologists and other researchers might get a better understanding of how people (around the world) experience changes in their environment that occur at a pace which has not been experienced before. The authors highlight the development of fast environmental changes worldwide, by recognizing “human and nonhuman entanglements mostly within transformed landscapes” (Lounela, Berglund, & Kallinen, 2019, p.8-9). As researchers have debated, landscapes are created through the practices of how one dwell and participating in specific encounters. That way landscape opens to different socio-natural assemblies and relations (Lounela, 2019 ; Ingold, 2011; Tsing, 2015). Further, dwelling has proved to be fruitful as it highlights the significance “of organism (animals and humans), experience, movement, emergence, imagination, and perception” (Lounela, 2019, p.55). Thus, the dwelling perspective goes hand in hand with the ambitions of using sensorial visual methods and it has helped me to both see and relate to the herders’ experiences, how they move about in the landscape, how they understand and use it, how they co-exist with others in it, and how they picture their future within it.

The herders need to adapt to other peoples’ and nonhumans’ ways of dwelling, because they share the same landscapes, using it each in their own way. While many of the authors in the book “Dwelling in Political Landscapes” praise Ingold’s approach, they also acknowledge that dwelling can be a difficult concept to apply in order to address issues of power asymmetries and social injustices and can therefore be seen as “apolitical” (Lounela, Berglund & Kallinen, 2019, p.9). Ingold has in recent years come to recognize this dilemma and affirms that the dwelling perspective might suggest that the inhabitant is “at peace with the world – and with him or herself” (Ingold, 2005, p.503). And this is not always the case, even if dwelling indicates a way of being at home in the world, home is not always a peaceful place where we can go along undisturbed. Such is the case for the herders of this study.

There is a need to acknowledge that the disturbances the herders are facing are related to more than the fact that humans and nonhumans dwell differently. Therefore, Ingold asserts the need to see a political side within the dwelling perspective, since human lives “are lived collectively within fields of power” (Ingold, 2005, p.503). As the sheep- and reindeer herders do not own any land their animals graze on - they only have the rights to use it - they are a part of a power field, where various actors also have the rights to use it. This can be seen in how the grazing

lands both shrink in size due to residential or industrial development and become more crowded as more people are using them. Both husbandries are strongly regulated by national directives and policies, which further adds to a dimension of power. So how does one make themselves at home and co-exist with others in the world if one's peace is disturbed constantly, which creates boundaries and barriers in one's dwelled landscape? This calls for looking more closely at aspects of power, as Ingold himself suggests. Thus, the framework of political ecology can help us understand these issues at play.

Political ecology

Political ecology is a framework that can be applied to study how various actors with different social, ecological, and economical interests in the same area can co-exist, and what challenges that might create (Karlsson, 2015). Bengt Karlsson writes that political ecology can be used to highlight society-nature relations, in situations where struggles over land and natural resources occur. It is often contrasting perceptions of the environment that are the root for conflict. Important aspects in political ecology are often unevenness in power relations and other forms of social injustice these contrasting perceptions causes (Karlsson, 2015). The political ecology framework has more recently started to acknowledge urban settings and contemporary issues such as infrastructure development, climate modeling, and food industries, to name a few. Therefore, due to this framework's potential of addressing various issues intersecting with each other, it is suitable to analyze complex issues at many levels.

However, there are aspects to the political ecology framework that often do not get as much consideration as it should. Karlsson himself, working excessively with environmental issues in relation to Indigenous Peoples' struggles over land and resources, tributes the strengths of a political ecology perspective, but also highlights some of the weaknesses. The framework has much focus on the human agents and power, which in turn has cast a shadow over other living organisms, that also often should be an important part of the analysis (Karlsson, 2016). This makes nature abrogated to only have the part of being something humans can control the way they like, which is something that Ingold denies (Ingold, 2000).

Karlsson argues that there is a need for an updated political ecology, a version 2.0 if you will, "which brings in nature in a new way and at the same time makes the category of the political more inclusive" (Karlsson, 2018, p. 22). A more appropriate approach would therefore be one

that is observant to the existence and agency of various species and “the way human affairs are entangled with and are an intrinsic part of what we use to think about as the natural world” (Karlsson 2016, p.381).

Therefore, the intersection between political ecology and the dwelling perspective, becomes an appropriate tool for understanding the complexity of the animal husbandries; both heavily dependent and affected by socio-natural conditions. By adding together two complementary techniques, and combine them with empiric and ethnographic material, I highlight how the herders’ dwell within constantly changing landscapes. With these perspectives I intend to see what challenges they are facing in the mountains and by being close to the city, and how they, through adaptation and flexibility, co-exist with others dwelling in the same environments. Lastly, we will look at how they adapt through various strategies in the ever-changing landscapes.

Chapter 6: Adapting to challenges in the mountains of Tromsdalen peninsula and Andersdalen

In this chapter, I discuss the challenges the sheep and reindeer herders face in the mountains, and how they adapt to them. First, I will show how the increased number of recreational users is a problem, as many do not respect grazing animals. Hikers, bikers, and skiers might be troublesome especially in late spring and early summer, when they can disturb the calves and lambs that are highly dependent on their mothers. Secondly, the herders have seen an increase in the number of dogs in the grazing lands, who - if kept loose - might chase, attack, and kill the sheep and reindeer. There is an obvious link between the first and the second challenge. The third threatening challenge are predators as lynx, wolverines, eagles, and other birds, such as crows and ravens. Eagles are government protected; therefore, they are a difficult enemy for the herders to face. In the last part I will therefore examine how the herders try different strategies to adapt to an environment that is impossible to control. By sharing their knowledge, they try to increase the public awareness of also nonhumans dwelling in the landscape, to reduce unnecessary stress for the animals during vulnerable times. Simultaneously, they try to find a way to co-exist with other human dwellers, the recreational user's, by engaging them in their way of dwelling, namely, to keep an eye out for the animals. The aim is to give the recreational users an active role in informing the herders about injured animals or lurking predators in the mountains.

Hikers, bikers, and skiers

“Official hiking paths increase human activity in the calving lands. This causes stress for the reindeer herds, which are in a vulnerable time. Many people do not know how to behave in nature during this time. There is a wish to reduce human activity in the calving lands. However, there are not enough efforts from the municipality to inform the general public about this period, when the reindeer needs a calm environment.”

(Mauken/Tromsdalen Reinbeitedistrikt, 2018, p.16, my translation).

The reindeer herders express their concern about the increased number of humans in the calving lands. Storkollen, which is right by Blåfjellet in Sørbotn is a popular mountain for randonee/downhill skiing, located very close to the calving lands. In Tønsvik, people go cross-

country skiing in the vast open landscapes. There are prepared ski tracks, which go from one DNT cabin to another. These are close by the calving lands where Johan Isak keeps his animals, meaning he is affected by them. The calving period is from the beginning of May to June. During this period, the reindeer are very vulnerable to disturbances, such as sound and smell of people, thus meaning that outdoor activities and dog sledding are quite disrupting. Disturbances can cause such stress in the reindeer, making them act on instincts of fear, and they might run away from their calves and abandon them. The reindeer herders need to constantly keep an eye on the reindeer during this period. Also, the local authorities (the municipality of Tromsø) have started to place out signs, like the one below, to make recreational users aware about the calving lands.



Figure 6 - A sign from Tromsø municipality on the way to Johanfjellet. Picture from Trond Waage 2022.

The sign informs that the hiker is entering calving lands and should keep a distance from the animals and that dogs must be leashed. This is an attempt from the municipality to inform recreational users of the reindeer in the area, made on request by the reindeer herders. However, people often ignore these signs. There are several signs in Tønsvik put up to remind people to keep their dogs on a leash, nevertheless there are incidents almost yearly with dogs attacking sheep and reindeer. The following extract exemplifies the challenges the herders have with dogs.

Dogs

Killer dogs (Field descriptions 22.9)

“We were preparing for the slaughter car to arrive in the morning when Runar received a phone call. His dad had successfully gathered six sheep with his sister in between the houses in Kroken residential area. He wanted Runar to come with the trailer and pick him and the sheep up. On the way back to the farm Runar explained that one of the sheep had gotten bitten by a dog two days before. The owner of the dog had called and told them about the accident, which was something that did not happen often. Runar and John Arne had spent a few days looking for the sheep but could not find it until now. When we got back to the farm they examined the wound, which looked quite deep. They concluded that the vet had to look at it. She examined the sheep thoroughly, cut off some wool around the wound, looked inside with a headlight, and felt the wound carefully, both from the inside and outside. Runar held the sheep in his arms, carefully stroking and massaging her wool the whole time. After about a 20-minute examination the vet concluded that it did not look too good, because there probably was a major inflammation inside the leg. Runar looked bothered, as he understood what needed to be done. For reassurance he asked her; ‘So, I must get rid of her?’ ‘The wound will never heal,’ the vet replied.

As soon as the vet drove off, he picked up his phone and phoned a friend of his, who sometimes helped out at the farm. ‘Can you drive to my place and get the bolt pistol? And take the blue box with the bullets with you, they are in the kitchen cabinet.’ Runar explained to me that since the dog owner called and agreed on paying 5000 kroner for the damage, Runar and John Arne would not require for the dog to be put down. His friend arrived shortly after and together they executed the sheep. I wondered how he would react, as I knew from previous discussions about dog accidents that this was bad. I tried to analyze Runars’ reaction, but his

face was just... expressionless. He put the pistol away, washed off the knife and his boots and walked away. It was a very tough day for him because after he had emergency slaughtered the sheep, the slaughter car arrived shortly after. He had explicitly told me how selecting which sheep to get sent away for slaughter was the worst part of the job, being a farmer. This was an obvious indication of how Runar got emotionally attached to the animals - and understandably so.

Runar said that dog owners rarely call them if a dog attacks a sheep, and presumably this is because they are afraid of the risk that their dogs might be put down. Not only is it an economic burden, since they do not get compensated for the sheep, but it is just as much an emotional burden. It is a fear they have throughout the whole summer, from the first day they let the sheep out on summer pastures. Not knowing how many sheep will make it back home or wondering if there are sheep out in the mountains suffering because a dog owner is too frightened, or ignorant, to make a phone call is straining. I remember clearly how Tommy on the first day we were letting the sheep out on summer pastures, turned to me when he had watched the sheep disappearing deeper in the forest. “This is where we leave them. Now they are going to be out until September or October. Let us hope that predators do not take them, and that people keep their dogs on a leash”. He was both happy and worried that the sheep were about to spend the whole summer outside. Happy that they would get to roam around freely and eat fresh grass, but worried about the other dwellers in the same environments, which he had no control over. As he knew from previous years, there would always be sheep he would never see again.

There has been an increasing amount of people that use the Tromsø mainland area for recreation, along the entire west side from Tromsdalen to Snarby (Kårtveit, Riseth & Johansen 2020). Both reindeer- and sheepherders have experience tragic incidents where calves and lambs are separated from their mothers, and that their animals get attacked. Many people have gotten themselves “part-time” dogs, a trend that seems to have especially risen since the outbreak of Covid-19. For example, Tromsø Villmarkssenter, a tourist center based on activities with husky dogs, had a “borrow-a-buddy” program where anyone, even people without dog experience, could borrow a dog for a certain period. Husky dogs are referred to as the “killer dogs” amongst the sheep farmers. This year too, dogs have attacked both sheep and reindeer so that they have been forced to be put down due to the injuries. About three weeks after the incident described with the sheep, three reindeer got attacked by a dog in Tønsvik. One of them

was in such bad shape that it had to be put down, and the other two got away with smaller injuries.

During the summer season from May until September, there is a general leash obligation. As many of the sheep are still outside even after September, and since reindeer stay out all year around, this is problematic for the animals and the herders. On the official hiking routes there is a leash obligation throughout the entire year – meaning that dog owners often do not obey the rules, a situation that sadly happens too often. As seen in my film, Runar talks about how people generally do not care about the leash obligation as they think that their dogs would never attack (Westerlund, 2022, TC; 00:22:43-00:23:30). However, as seen in the following description, sometimes even the herder's own dogs might work against them.

When the good dog becomes the bad dog (Field descriptions 19.9)

“Today we were eight people and four dogs on the sheep gathering hike in the Tønsvik valley. Tommy, John Arne, Runar's girlfriend Mairin, her friend, and some neighbors were part of the group. I had met most of them before, but not the friend and her shepherd dog Blink Mairin had brought along on the hike. Everyone was quite excited, but also noticeably tired after an exceptionally long hike yesterday. Therefore, before we split into smaller search groups, we all sat down and had some coffee and cookies. A middle-aged couple walked by, and Mairin's' friend asked them spontaneously whether they wanted to join us for the search. They did not feel like sheep gathering, but they were politely discussing with us for some time.

After the coffee, we split into a few smaller search groups. Tommy suggested that our group of four should walk up to a certain viewpoint, because he knew from experience sheep could be seen from there. And he was right, we did see few in the far distance. He explained to me that many of sheep tended to walk towards Breivikeidet, as they had previously lived on a farm there. Mairin's' friend, Blink, and another person were responsible for bringing them back, but the sheep did not feel like collaborating. The people and Blink were struggling to get them to walk in our direction. When we finally merged our groups Mairin's' friend told us that one of the sheep was injured, since Blink had bitten her. Tommy turned the sheep around on her back, and bitemarks and blood were visible on the belly of the sheep. Luckily, it did not look like life threatening wounds. The friend was mortified and put her dog on a leash. Blink was still excited and could not understand why he was kept on a leash, and the whole way back down the friend was cursing and telling the dog how he would never get to come along on sheep gathering hikes again. Tommy seemed a bit annoyed at the whole situation, and I was

just surprised by how one of the “good dogs” turned out to causing damage just like the “killer dogs.” Even if the sheep farmers were completely dependent on the sheep dogs, sometimes they did not work in their favor either.

Before starting the descent down, we merged the groups of people and sheep. John Arne and his dog Molly had found more than thirty. When we were heading back towards Tønsvik, there were suddenly many hikers and joggers coming our way. It was midday on a sunny Sunday, so many people could be expected in the area. Someone in our group yelled to them to circulate far around us, so that the sheep would not get stressed and divided. Tommy stopped some of them to have a talk as he tried to get information whether they had seen sheep on their run. Unfortunately, they had not, and we continued down with the sheep we already had gathered. Around forty today. 600 more to go.

Anu Lounela argues that changes in the landscape transform social relations (Lounela, 2019). During many of our sheep gathering hikes, Tommy knew from experience where the sheep might be seen, as they often tended to be in certain places. As more people have started to dwell in the landscape, the sheep have started to go to more remote places and are often difficult to find. Thus, Tommy tried to ask everyone we encountered if they had seen or heard sheep. Lounela suggests that new different kinds of encounters happen in so called disturbed landscapes, which are landscapes that have changed for the person perceiving it (Lounela, 2019).

Since more people have started to dwell in the landscapes, the sheep have also changed their way of dwelling. Many of the sheep also tend to go the same areas they have been previously. As Tommy has noticed a pattern of certain sheep walking off to more difficult reachable places, he has placed GPS trackers on some of these individuals. Through the knowledge he has generated by being with the sheep in the landscape, he has understood that the sheep have also changed the way they dwell. The sheep have their own agency and go to places they can find undisturbed grazing lands. When they get interrupted by people and dogs who try to herd them, they sometimes challenge both herders and the shepherd dogs. This shows us how the way they dwell in the landscapes have changed, and how Tommy uses both embodied knowledge and technology to work as a herder. Through engagement with the landscapes and environment, Tommy has attributed what Ingold understands as skills – beneficial maneuvers – which helps him in his ongoing developing engagement in these environments.

As most people seemed unaware that the mountain area was full of animals, it was often his own experience and knowledge he had to trust. By engaging friends and family in the sheep gathering, they all became valuable helpers who could help in their own ways. One example is Mairin, Runar's girlfriend. According to Runar, she did not like to be in the barn and sheep that much, as she preferred working with horses. Although, she was still actively participating in the sheep gathering hikes very much in her own way, namely training dogs in shepherding. She had three shepherd dogs, which she trained and traveled around to competitions with. Her dogs are very obedient, and often Mairin's dogs benched Tommys' dog Panda. Mairin would often bring friends on the sheep gathering hikes, some of them also active dog trainers. Her knowledge and her way of dwelling became an invaluable asset for the sheep herders. On the sheep gathering hikes I got to meet many of the herders' friends and family, whom I had not seen during the beginning of the summer. It felt like sheep farming swiftly became an activity for the whole community, whilst it was only the sheep farmers responsibility the rest of the year. Suddenly everyone could be of help, even just the information about the sound of a sheep bell somewhere around in the forest was valuable information. On some hikes it was just me, Tommy, and Panda, but most of the time there would be someone else joining us. All extra help was always welcomed, as the sheep were spread out over the big mountain areas.

During the fall another specific group of people dwell in the mountains as well, namely hunters. They spend plenty of time in the forest and on the mountains hunting for moose, grouse, and other small game, and the farmers have a good collaboration with them. Runar is part of a hunting group himself. Since they spend much time in the forest, they often spot sheep, and report back to the sheep farmers where they have seen them. They often have dogs that are running freely in the mountains, as part of their hunting strategies. The hunting season starts in September when the general leash obligation is over. Hunters' dogs have generally not attacked other animals, but Tommy has told me about situations/incidents where their dogs have gone chasing after sheep, splitting up herds, and causing stress amongst sheep. It seems though, that hunters and their dogs are tolerated more by the herders than regular dogwalkers, as the hunters are guaranteed to help with sheep spotting. Unluckily for the sheep farmers and reindeer herders, the hunters cannot hunt the predators that are bothering the sheep and reindeer. In the following section, the challenges related to predators will be discussed.

Predators

The trash and the dying calf (Field descriptions 26.5)

“The main purpose of this day was to go up and collect some rubbish, and to feed the few reindeer that were left. Most of them had started to move towards the valley, since the snow was finally melting at lower elevations. We drove from the gumpi, further west than we had before, and not far away was a little cabin that I had not seen earlier. ‘Previously we got to borrow that cabin, it is the landowners. But not anymore. Neither will he let us use the tractor road up here, although it is so much easier to get up there than through the forest,’ Mihkka explained to me. The forest was indeed quite hard to pass through. Just two days ago we tipped over with the snow mobile. Mihkka explained how the conflict between the landowner and his uncle had started after his uncle had not collected rubbish well enough. Last year a helicopter had flown up with pellets for the reindeer, but some of the packing material for the food had been left out on the mountain.

Mihkka was walking around collecting pieces of the rubbish. There was not a lot, but it did stand out in the landscape that was otherwise so untouched. ‘I hate that you get to go and clean up after others, this doesn't belong in nature’ he said irritated. It seemed that he was irritated at his uncle for leaving it in the first place, and for the landowner to make such a big deal about it. Mihkka explained that it was uncertain if they could build the reindeer corral up here this summer due to this. They would not be able to do that if they were not allowed to drive up with all the material on the tractor road. ‘But we’ll see what happens, maybe we can come to an agreement’ he said.

We collected the rubbish, put it in the sled, and drove towards the gumpi. It was supposed to be a quick trip, since the weather was bad, and we got cold from the heavy wind mixed with rain and snow. However, on the way back, we saw an injured calf that required some assistance. The calf had claw marks in the neck, and it could not stand on its own. ‘Perhaps an eagle has tried to lift the calf and released it from a height so that it has broken some bones,’ Mihkka speculated. He helped the calf up on its legs and held his own hands under its belly and begun to slowly walk with it. But the calf has no strength in its own legs. As he tries to feed it, he says:

‘The calf is very cold; it is probably living its last hours now. Unfortunately, this is the case every spring. Now you see how important it is that we are here with the reindeer. It is almost not strong enough to properly drink milk, it is just gurgling. But at least the calf has drunk some, and who knows, miracles have happened before. Maybe it can get up after drinking

a bit more'. He sits patiently and pats it and tries to get some warmth in it by rubbing his hands over the calf's back. I admire his attempt not to give up on the little calf, but both me and him know it will not survive. 'What are we going to do with it?' I asked him. 'We should take some pictures of the calf to document the damage' he answers. But other than that, we just leave it there. The eagle, perhaps the same one we have seen several times up here, finally got its chance and will probably have a victory meal later, I think for myself as we drive away, leaving the small, injured calf to its destiny.

We noticed halfway down that the cover for the sled had blown off, and so had all the rubbish. We had to turn back and drive around looking for the trash, which we luckily found quickly. But at this point I was very cold because I had been wearing wet shoes for the last few hours, and the wind was just getting stronger. We were driving around and back and forth looking for the black cover. After searching for the cover for about half an hour, I told Mihkka that we must give up, since the weather was just getting worse, and the coldness started to become unbearable. So, we left without the black cover, but got the trash with us. It felt quite absurd that we went up in the poor weather to get things that did not belong in nature, but then we ended up leaving something there after all. But the cover would probably be found later. I felt bad that I could not manage the coldness any better, and if it were not for me, Mihkka would probably have stayed there until he found it. This goes to show how me being present also was a contributing factor as to how Mihkka had to – or at least chose to – change his engagement and partaking with the surroundings in certain situations”.

Jenni Mõlkänen writes that landscape is not made by one group of people, it is formed in relation to “different interests, meaning-making processes and ways of seeing” (Mõlkänen, 2019, p.105). The landowner and the reindeer herders perceive and understand the landscape completely differently, and their differentiations in ways of seeing creates tensions and conflicts. The landowner sees the importance of untouched nature, whereas the herders see the landscape as something else. It is a place full of possibilities and threats. For them, the landscape is a place where their reindeer can thrive, which also makes them thrive. During the calving period, especially late April and May, there is always at least one reindeer herder in the mountains to keep an eye out for the predators. To keep their reindeer safe, which is their priority number one, they feed them extra pellets. That way the reindeer do not wander off in different directions to find food. The pellets have become an adaptation strategy against predators but are also necessary during harsh winters. In this case the packing material for the

pellets has enraged the landowner, so that the reindeer herders are not allowed to use the easy road up, instead making it more complicated for them to get on the mountain where they need to be to protect their reindeer. Their priorities, perceptions, and ways of dwelling are completely different from one another, which results in arguments. Thus, as Mihkka can only use the road on the landowners' terms, he needs to be careful with the garbage and make it a priority. That is why he spends hours on the mountain in poor weather, as he knows what the consequences might be if he does not. The landscape must be kept clean, to stay on good terms and co-exist with the landowners. This too can be connected to political ecology, and how different interests in the same places might clash with each other.

What was additionally adding to the challenges for Mihkka and his family this year was the lacking number of people working. Since they had relocated from Tønsvik and split the siida, it was only Mihkka's closest family and one of his uncles at Blåfjellet. They got help from a few extra sets of eyes from friends from time to time, but otherwise it was just the four of them. And as Mihkka's younger brother works as a fisher, he was also gone for several days in a row, just like Mihkka. This means that the shortage of people – which makes it hard enough – gets supplementary complexity with the coordination of the few people's time. Mihkka seems to put all his time into this, to make the herding lifestyle go around. Therefore, friends, neighbors, and acquaintances become a necessity in the work of watching the herds, without them even being on the mountain. Often, Mihkka would get a phone call from the village if someone had spotted an eagle or a crow, and they could prepare to scare the birds away or strengthen the surveillance of the reindeer if necessary.

The extract also shows Mihkka's attempt to keep the reindeer calf alive, which has been attacked by an eagle. The numbers of eagles have increased in Norway, and it is not legal to hunt them (Norwegian Environmental Agency, 2018). As the eagles have been protected since 1968, there is not much the herders can do about them. If they would shoot, a fine of 90,000 NOK and 30 days probation could be expected as punishment, Mihkka told me. Therefore, Mihkka documents the damage and hopes to receive an economic compensation. It is frustrating and emotionally stressful for the herders to find their animals suffering or dead, and not be able to do anything about the situation. Even smaller birds, such as crows and ravens, are causing problems. They tend to try to poke out the eyes of the calves. Another problem is that they will eat cadavers, and therefore not leave anything left for documentation and compensation. In addition to the eagle and other birds, lynx and wolverine tend to kill domesticated animals,

especially reindeer but also sheep. Contrary to the eagle, there are some hunting quotas on lynx and wolverine. However, they are still a difficult enemy to face, and the number of animals the herders lose each year goes up to a few hundred when combined. The official numbers from the Norwegian Environment Agency are presented below. These are the animals that have been documented and some of which the herders get compensated for. However, as the charts show, they do not get compensated for all their losses.

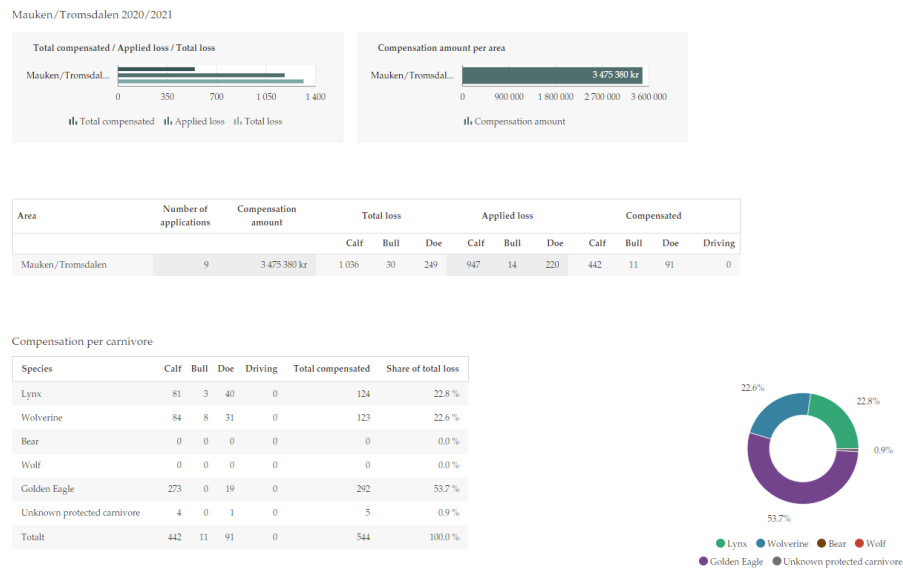


Figure 7 - The number of reindeer getting killed in Mauken/Tromsdalen district 20/21

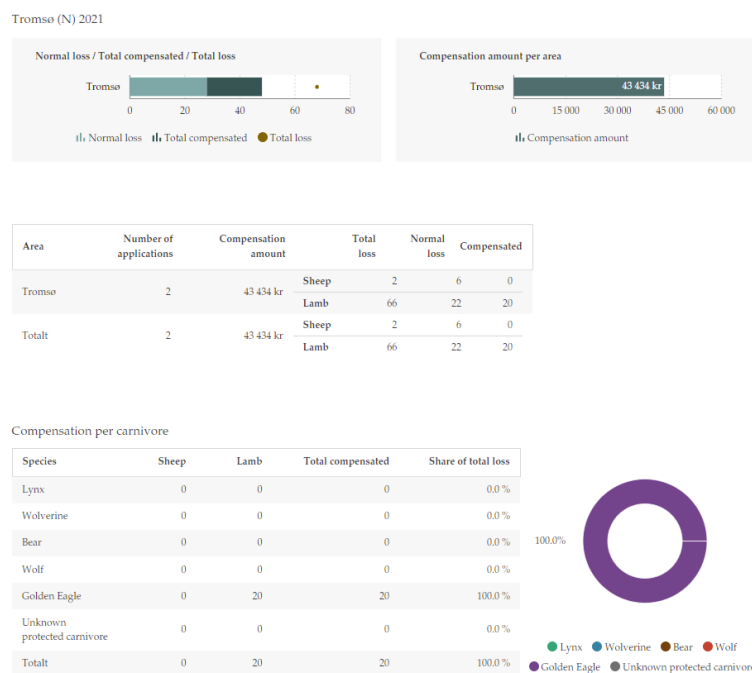


Figure 8 - The number of sheep getting killed 2021.

As seen from the charts, 66 lambs and two sheep have gotten killed in Tromsø, according to Rovbase. Rovbase is a management tool to gather and verify information on the occurrence of predators in Norway. They are also responsible for the compensation predators cause on livestock. Runar and John Arne did not apply for compensation, so their numbers are not considered in this chart. Of 66 lambs, 20 have been compensated for, presumably taken by golden eagle. The reindeer herders have been compensated for 292 reindeer taken by eagle, 124 by lynx, 123 by wolverine and 5 by other unknown predators. The official numbers represent the whole district in the season 2020/2021. In reality, these numbers are higher. In recent years, the losses of reindeer to predators in the district have been at an unacceptably high level according to the reindeer herding district themselves (Mauken/Tromsdalen Reinbeitedistrikt, 2018, p.26). Tommy and Runar also feel that way, as they lost more than 100 lambs combined during the summer. Many animals simply disappear into the stomachs of the predators. Even if they are found, the exact death cause can be difficult to determine. It is also a time-consuming process for the examiners who need to come up on the mountain to examine the cadavers. The compensation system itself is extensive, and there is only a three-week period when the compensation can be applied for. The herders are unsatisfied with the current system, as they experience it being too complicated. A few preventive initiatives against the predators can be done, and in the following part I will touch upon the measures for preventing the predators, and other adaptation strategies taken by the herders in their constant chase for a sustainable and rewarding herding lifestyle, and shared - partly symbiotic - dwelling with their animals.

Adaptation

“There are lots of predators in the area, which is one of the reasons I started to feed reindeer in the corral about five to six years ago. I needed to feed the reindeer up in the forest anyway, but I had a big loss to the predators, lynx, and wolverine. I fight against them every year, but no matter how hard I try; I cannot win over nature, it is impossible.” – Johan Isak

Ingold’s approach to understand how human and nonhuman meetings emerge, through what he has introduced as the dwelling perspective, gives us a way to see the environment as a result of constant human and nonhuman entanglements (Ingold, 2000). The environments we dwell in continually develop as humans and nonhumans are existent and live in them. Hence, it is

impossible to control, as it is constantly emerging and unfolding (Ingold, 2000; Lounela, 2013). However, even if the environment is something beyond our control, by dwelling in it, we try to make sense of it, we gain skills, and knowledge is produced (Ingold, 2000). This goes in line with what Johan Isak says, it is impossible for the herders to win over nature. Therefore, as the environment is something he cannot control, he has started to feed his reindeer in the corral during the winters, to keep them safe. As he was already feeding them extra pellets in the forest, it was easier for him to have them gathered in the corral instead. Mihkka on the other hand wants the reindeer to be out on the pastures, and they feed them there. During spring, they gather the herd a few times a day for feeding. He told me how they try to feed them in places where they had a good overview of the herd. Mihkka and Johan Isak knows about the lurking predators, and have taken two different safety precautions against them, both involves feeding extra. Pellets or other types of supplementary feeding have become necessary for mainly three reasons; land fragmentation, changing weather conditions, such as freeze thaw, and predators (Hovelsrud & Smit, 2010) Nonetheless, this is an unsustainable adaptation strategy in the long term. The extra feeding changes the behavior of the animal, the land use, the whole culture of reindeer herding and weakens the reindeers' health (Hovelsrud & Smit, 2010). It has also weakened the economy for reindeer husbandry, by increasing production prices. They could need some understanding and assistance from the authorities and the Norwegian Environmental Agency to lessen the damages and try to come up with solutions.

Another way of adapting is trying to engage other dwellers to be on alert when moving in the landscapes. On the way into Tønsvik valley the sheep farmers and reindeer herders have put up signs with their phone numbers. The signs explain that the sheep with red collars are Tommy's, the yellow ones Runar's, the green ones John Arne's and the reindeer Johan Isak's. That way recreational users know who to call in case they see an injured animal or convey other information that could be useful for the sheep farmers and reindeer herders. Answering a call from an unknown number can have its pros and cons for the herders. Often it is friendly helpful callers, but sometimes they get called by upset people who curse them for not having their animals "under control." Therefore, the herders often do not know what to expect, and Mihkka has stopped to answer calls from unknown numbers completely. In his experience, people called to say unbelievably rude things, not always even referring to the animals.

In other words, the herders are trying to inform people to use the area with care and respect for the grazing animals. They try to make people realize the seriousness of keeping their dogs on a

leash, but there are not many things the herders can do to prevent their animals from the predators. The Mauken Tromsdalen district stresses the importance for the reindeer husbandry industry and the responsible authorities to find solutions that reduce losses and ensure the maintenance of traditional reindeer husbandry (Mauken/Tromsdalen Reinbeitedistrikt, 2018). Due to the high number of predators, the reindeer herders have been forced to conduct additional work with supervision and herding, which is both time-consuming and increasing the operating costs. It has also been difficult for the herders to prove that this actually prevents losses, however they believe it is probable that the losses will be smaller due to additional supervision (Mauken/Tromsdalen Reinbeitedistrikt, 2018).

A main point that the district wants to highlight is the importance of seeing the predator issues in context of land encroachment. These two factors greatly contribute to reducing the operating conditions of reindeer husbandry. Over the last 20 years there has been a considerable number of new disturbances in the area. New cabins, tourist facilities, watercourse regulation, and new road development have all altered the grazing lands. Reindeer tend to avoid infrastructure with many kilometers. In addition to this, they are also avoiding lush valley area that are usually a habitat for predators (Mauken/Tromsdalen Reinbeitedistrikt, 2018). All these factors limit the grazing lands significantly. Loss of land will be dedicated more specific attention in the next chapter, where I will show and discuss how the growing city brings forth a pressuring importance of adaption, as this is a fast-growing phenomenon.

In this chapter I have highlighted the issues the herders are facing in the mountains, and in meeting with the other dwellers in this landscape. I have showed how they are entangled in one and other, and how their diverse ways of dwelling might cause tension and make it difficult to co-exist. It has been discussed how the herders experience the recreational users, their dogs, and predators, as they are all part of the same landscape. I have mentioned the adaptation strategies used so that they continue their lifestyle, and keep their animals outside in grazing areas, with fewer tension and conflicts. These are spreading information and knowledge, acquiring information from recreational users, extra feeding, and increased supervision. Unfortunately, this is not enough, and the herders express a wish for the municipality to take on a bigger responsibility, especially in issues regarding predators. In the next chapter I will move over to issues a developing city causes, such as loss of land, and how the herders are adapting to these challenges.

Chapter 7: Adapting to a growing city

“Different creatures have different points of view, because, given their capabilities of action and perception, they attend to the world in different ways” (Ingold, 2000, p.51).

As seen in this study, the herders are affected by the various ways other humans’ and nonhumans’ dwell in the landscapes or attend to the world. In this chapter, I will present the challenges the herders are facing in relation to the growing city. The issues in the previous chapter and this chapter are interrelated to each other, as lots of the challenges they face on the pastures and in the mountains are related to the fact that the city is expanding. One example is how the spring starts earlier down in the valleys or by the waterfront, while there still is snow on the mountains. As the city expands, residential areas are built in these pastures that are optimal in the late spring or early summer. Animals will naturally go where the grazing conditions are the best, which causes irritation for the residents, and tensions between them and the herders.

It has not, by dividing these chapters, been my intention to make a distinction between nature and culture, a dichotomy Tim Ingold is much against. Instead, I have tried to find a system and a logical way of presenting the ethnographic material and the issues they are facing daily when humans and non-humans are dwelling in the same landscapes, and which issues are more on a structural/national level. For this analysis Reidar Grønhaug’s approach can be useful. He makes a distinction between how social life plays out in different *social fields*, such as in local, economic, or ecological contexts. A *social field* is “the aggregate outcome of interaction and repercussions of interaction between actors as they pursue specific actional issues or tasks” (Grønhaug, 1976, s. 36). According to Grønhaug, social fields are separated and distinguished by different organizations, norms, and compositions of elements. In other words, the herder’s everyday situation with the pressuring and threatening expansion of the city, can be understood as a social- or in my understanding, a power field. Within this delimited field of sociality, one can analyze the way the herders adapt and sustain their lifestyle in the light of the challenges and opportunities the social field includes. In this social field, which here is a specific landscape, is a dynamic and constantly changing space where the herders’ views and knowledge of nature, identities, and livelihoods are entangled with interests of the municipality and government, thus having to adapt, and making the perceptions of the environment a continues

process. This in turn, can be related to how different actors have different interests in an area, which is the core of political ecology.

A striking finding in this study is how similar the husbandries are when it comes to challenges and adaptations when the animals are up in the mountains. However, there is one important distinction to make which is that the preconditions for reindeer- and sheep husbandry are quite different. The sheep farmers own the barns their sheep stay in for 8 months a year, whereas the reindeer herders do not own any of the land they are using for pastures, and the reindeer are outside grazing all year round. Therefore, loss of land is affecting the reindeer herders more heavily, since they are dependent on vast areas and have various grazing lands, which they move between in different seasons.

With that said, I will in this chapter first describe in the light of political ecology the impact of loss of land for reindeer herders, which is the biggest threat reindeer husbandry face today. Land encroachment is changing the industry, weakening the economy, affecting the whole culture and the adaptation possibilities of reindeer husbandry. After that, the effects loss of land has for the sheep farmers will be discussed. As they are in a semi urban area, they experience difficulties of the never-ending residential development. Lastly, the methods for adaptation that they have for these land use changes will be discussed. There is for instance a need to drive the animals between the seasonal pastures, as infrastructure and residential housing stands in the way for the traditional paths of movement.

Loss of land - Reindeer

“The reindeer herding district finds it frustrating that the municipality does not see the total result of what the individual interventions causes” (Mauken/Tromsdalen Reinbeitedistrikt, 2018, p.34).

As 40% of the land area in Norway is allocated reindeer pastures, which means that Sámi reindeer herders are - in theory - rightful to let their reindeer on uncultivated land. Although conflicts about land use becomes inevitable with different actors having different interests. Loss of land is the single greatest threat to reindeer husbandry today (Tyler, 2021). Mihkka and his family have experienced countless times how the pastures their reindeer graze on reduces in size. Their district is probably one of the reindeer grazing districts hardest hit by encroachment

(Mauken/Tromsdalen Reinbeitedistrikt, 2018, p.31-32). The largest intervention in their grazing land is Blåtind and Mauken shooting and military training fields, which takes over an area of 200 km². This occupies about 30% of the main winter grazing areas in the district (Mauken/Tromsdalen Reinbeitedistrikt, 2018). Another large encroachment is the Myrefjell ski resort. The district was promised compensation from the ski resort to lessen the harm of the encroachment - which they never received. They were also entitled ski passes for a season and Mihkka's father asks ironically: "*But how is that beneficial for the reindeer? It is not like they enjoy skiing that much*".

The reindeer husbandry also loses land to cabin constructions, as they are often built on the best grazing areas at the foot of the mountains. Along with the cabins comes the forest roads leading to them. Municipal and state land needs, agriculture, industrial infrastructure, such as wind turbines and building of roads, are all affecting the grazing areas (Mauken/Tromsdalen Reinbeitedistrikt, 2018, p.31-32). One of the most labor-intensive parts of the district's administrative activities is therefore area protection, which is an issue as the municipality has a different perception of the environment as they do. Thus, the district struggles with the municipalities' way of dealing with land use questions. The municipality oversees issues one by one, without considering the overall consequences for the reindeer husbandry district, and without having a comprehensive plan for the future of reindeer husbandry.

The reindeer herders are expressing frustration over how their knowledge and experience are not considered when making plans. One example is the fence along the main road E8, between Balsfjord and Sørbotn through Lavangsdalen, which are there to prevent reindeer from walking out on the road. However, it has been put up in a way that does not correspond with how the reindeer move. There are some gaps in the fence to let the reindeer cross, but the gaps are not located where the reindeer would naturally cross over. Therefore, the fence makes it more dangerous since the reindeer come onto the road and run alongside the fence instead of directly crossing. This could have been prevented by taking the herders knowledge into account, and it shows us how the municipalities way of perceiving the environment does not correspond with the way the reindeer herders nor the reindeer do.

Now there are plans to rebuild the E8 road from Sørbotn to Laukslett. As for now, when the road comes to Sørbotn it continues to Tromsø on the east side of Ramfjorden. It will be rebuilt so it goes on the west side of Ramfjorden instead, right under Blåfjellet, where the Oskals have

their summer pastures. Construction for a new bridge over the fjord has already started and soon the construction of the road itself will commence. By rebuilding, it will shorten the way to Tromsø by about 1,5 kilometers (Statens Vegvesen, 2020). However, the main reason for the new road is the residential areas by the current road. There have been several accidents over the years on this stretch of the road. Therefore, the municipality wants to build the road on the other side of the fjord to make it safer for the inhabitants (Statens Vegvesen, 2020). In this report six negative impacts caused by the new 10 kilometer stretch of road are listed. The first one states: “Overall, the new stretch of road will deteriorate the landscape, however the travel experience will be improved due to simpler traffic and spectacular views” (Statens Vegvesen, 2020, p. 2). The last impact stated in the report is: “For reindeer husbandry, there will be some consequences, these are largely mitigated with establishment of ecoducts for reindeer in Lavangsdalen” (Statens Vegvesen, 2020, p.2). In the project group of the assessment of this report not a single reindeer herder from the district is included. In other words, the local reindeer herders’ views of nature and landscape are not even considered, and thus the practices of reindeer husbandry in the landscape are distant to the municipality and their reforms, who believe ecoducts for the reindeer will solve “some of the consequences”.

Since then, NORCE, an independent research institute, has been asked by Statens Vegvesen to make a more thorough impact assessment on reindeer herding. Their report, published 2021, states that the consequences will be severely negative (Kårtveit, Riseth & Johansen, 2020). The assessments for this report have been done in cooperation with representatives from the Mauken Tromsdalen reindeer herding district. To summarize, the construction of the road will disturb the reindeer, as the road will be much closer to the summer pastures. As damage reduction measures Statens Vegvesen are considering passages under the road, ecoducts or other “reindeer passes” (Kårtveit, Riseth & Johansen, 2020). This shows once again how the severe and negative consequences are known, but construction will still commence. The new road can create new sorts of challenges for the reindeer husbandry. It remains to be seen what the exact impacts and consequences will be; but considering that Mihkka and his family moved the reindeer away from Tønsvik to have a more peaceful place and better pastures for the reindeer - a road construction project right next to the grazing lands surely will not have a positive effect on the reindeer husbandry.

Nicholas Tyler claims in his article “The Shrinking Resource Base of Pastoralism: Sámi Reindeer Husbandry in a Climate of Change” (2021) that loss of pasture is the greatest threat to reindeer herding (Tyler, 2021). He writes:

“Loss of pasture due to piecemeal development of infrastructure and to administrative encroachment that erodes herders' freedom of action on the land that remains to them, are the principal threats to reindeer husbandry in Norway today” (Tyler, 2021, p.1).

As said initially in this chapter, circa 40% of the mainland in Norway is allocated reindeer pasture. However, even if they have usufruct on these lands, other land users are still permitted to use them, so it does not allow them exclusive access to these lands. The Sámi Parliament sees the need to lawfully strengthen the protection of pastures even further (Government of Norway, 2017, p.69–70). The Reindeer Herding Act from 2007 states that:

“The landowner or other land user must not exploit the property in reindeer grazing areas in such a way that there is material harm or inconvenience to reindeer herding in accordance with this Act” (Reindeer Herding Act, 2007, §4, §63).

Tyler problematizes that the implementation of this Act is in fact inadequate. He refers to several other studies of how reindeer herders have been pressured into to concede land for infrastructure and other activities such as agriculture, airports, railways, roads, military facilities, mining, windmills, ski tracks and snowmobile trails, huts and cabins, and other residential areas (Tyler, 2021). Tyler also points out that even if new infrastructure physically might not take up much space per se, the effects can still be severe, since reindeer respond typically by avoiding unfamiliar infrastructure. Both the sound, sight, and smell of human or human infrastructure will affect the reindeer (Tyler, 2021).

In a meeting with Johan Isak, he discusses the challenges he has in Tønsvik:

“It is a challenge when the city is growing. Of course, I get affected by that. The newest residential area, Skjelnan, will be built in pastures with lots of lichen, which is a big part of a reindeer’s diet. The reindeer are now walking where they can find the easiest food, which sometimes can be in all the nice gardens people have made. Many people understand that this is the nature of the reindeer, but also many do not and get angry. Now that so many houses have been built here in recent years, the reindeer get used to both them and the cars... It is an

issue with building big industrial areas, especially in the mountains. Because some years a mountain can be great for reindeer, other years it is useless, it all depends on the weather and grazing conditions. Therefore, the reindeer need lots of land. People often want to build cabins where we have the best conditions, such as in places where the snow melts fast in the spring and the sun hits early. That is another challenge for us. If people take too much land, we cannot continue with our way of living, and we have nothing to give to our children. That means we must reduce our number of reindeer. If the development business wants to build, they will, because we do not have strong rights, not at all. But I also feel hope with tourism because you can create an industry that is renewable, instead of destroying the land and nature.”

A major problem for reindeer husbandry is that there are no integrated land management plans, in other words it does not say anywhere how much land there should be for reindeer herding, only how many reindeer there can be. As discussed, there are rules to how many reindeer each district can have, but as the grazing lands shrink the reindeer herders must reduce their reindeer, as Johan Isak says. We have now seen some of the impacts he has experienced in Tønsvik, and in the next section the experiences the sheep farmers will be highlighted. Their experiences are quite similar in terms of building new residential areas. However, the sheep farmers have not, in my understanding, experienced challenges related to industrial infrastructure the same way as the reindeer herders.

Loss of land – Sheep

There is little awareness among Tromsø's population - and the politicians - that Tromsø is a large agricultural municipality. This poses a major challenge for agriculture, as farmers close to the city constantly must fight to secure land for future operation (Førde, 2003). Urban agriculture offers the city locally produced food and green experiences. But there has been pressure from the ever-growing city, since urban growth has raised land prices, and many landowners have chosen to reform land plots for residential purposes (Førde, 2003). Over the past 40 years, the number of residencies in Tønsvik has skyrocketed (ITromsø, Ytreberg Meløe, 2020). Tommy says that in the last few decades, the numbers of houses around his barn have increased, and they are coming closer and closer. The residential areas are getting bigger, while there has been a significant decline in sheep farming. This is connected to the fact that the production subsidies for farmers have decreased. However, Tønsvik is to this day, with its two sheep farms, Tromsø's largest sheep area (ITromsø, Ytreberg Meløe, 2020).

The sheep farmers have been in conflicts with the neighbors living close to the farms. Some neighbors have made formal complaints to the municipality about the sheep farms, and some have even taken the debate to the public media⁸. In an article published in one of the local newspapers, ITromsø, one irritated neighbor complains about the “sound of the bell in the garden, and that it is crawling of sheep who get their head stuck in the fences so that they have to go and help them to get loose” (ITromsø, Ytreberg Meløe, 2020). This neighbor was especially worried and embarrassed about all the trash that the sheep farming produces, and how that makes the neighborhood look ugly. The neighbor was also expressing a concern about how the new farm might pollute the drinking water in Tønsvik. “They have done their part in creating irritation in the neighborhood,” the neighbors say (ITromsø, Ytreberg Meløe, 2020). John Arne expresses his irritation of why they have moved to Tromsø’s largest sheep area in the first place. Their new barn is located 300 meters from the nearest houses, on an area that real estate developers had set their eyes on. “We are not opposed to sheep farming in general, but we think it is strange that a sheep farm is placed in the middle of a residential area, which has been intended for housing for a number of years,” says Egil Pettersen, a real estate developer (ITromsø, Ytreberg Meløe, 2020). Tommy takes John Arne’s side and reminds everyone of when he was complaining that new houses were getting built 40 meters from his barn, everyone thought it was okay. Now that John Arne has built 300 meters from the nearest house, it is suddenly a problem. “The villagers complain about everything” he says (ITromsø, Ytreberg Meløe, 2020). Neighbours, Norwegian Food Safety Authority, Tønsvik Waterworks, and Myrtun real estate development all sent in formal complaints to the county governor in protest of the new barn. However, their complaints did not go through.

As previously mentioned, John Arne and Runar relocated from Movik further away to Tønsvik since they did not have the capacity to expand their farms there, due to all the surrounding residential housing, that has been built after their family farm was established. They needed a bigger farm, since they needed to increase their number of sheep to make it worth - since the price of meat is so low. In turn more sheep require more hay, which require more land. The difficult economic circumstances in sheep husbandry have led to many sheep farmers quitting

⁸ <https://www.itromso.no/nyheter/i/Qx6LeA/naboer-i-klinsj-med-sauebonde-jeg-har-skjemtes-nar-jeg-kjorer-forbi>

farming. To endure Runar needs a lot of land and has previously used many land plots that the former farmers had in the area. Now much land previously used for agriculture gets sold to real estate developers instead. It means that Runar needs to travel long ways to make haybales. Runar sometimes drives to land plots that are 60 kilometers away. Not only are the residential areas coming closer to the farms, but the people moving in do not understand what sheep husbandry is. Then they complain when it is noisy, smelly, or if they have sheep in their gardens. These are some of the challenges the sheep farmers experience in connection to a growing city.

Adaptation

“You must like this job very much in order for it to be worth continuing” – John Arne

As mentioned before, the reindeer herders do not own any land, they only have the right to use it. However, Johan Isak has now bought a plot of land in Vågnes, further north from Tønsvik, where he will situate the future Tromsø Arctic Reindeer. This way, he cannot be forced to relocate in the future. He is still allowed to use the pasture in Tønsvik for a few more years before the expansion of the harbor will commence fully. Mihkka explains how the municipality had promised a permanent cabin in Vågnes by this new reindeer corral, as a compensation for having to relocate. In the meantime, they got to borrow the mobile gumpi. However, due to some changes within the municipality, the plans for building a permanent cabin are on hold until further notice. Therefore, they are not giving back the borrowed gumpi until they get what was promised. This way, they secure that they have something to live in, in case the municipality breaks its promise.

In the article “We adapt... but is it good or bad?” the rhetorical question was raised by one of the Sámi reindeer herders who points out how there is a constant need for the reindeer herders to adjust to various issues affecting them, beyond their control. Adaptation therefore becomes the only alternative of action (Gallardo et. Al., 2017, p.682). In my comprehension, the same situation occurs to Mihkka’s family. They too work in areas that are easily accessible and interests' various actors, so there is a constant need for adaptation. So far, military training areas, an industrial harbor, road constructions, ski centers, recreational users, and building of residential areas have complicated, disturbed, and limited the access to grazing land. They have

tried to adapt in several ways, as it is often the only course of action. According to Mihkka, they were always the ones having to “give in” and move. They have constantly been pushed further north on the mainland. Now they have moved to other mountains, and Johan Isak has bought a plot of land. The pastures are still quite big, but at some point, if the city continues to expand the way it does, there will not be any more land to move further north to. As the city is growing, and the winters are becoming more difficult due to climate change, the reindeer's access to pastures are limited. Some herders in the district keep their herds in corrals during the winter, all feed them extra pellets, and many herders drive the reindeer between seasonal pastures.

Driving the sheep to the summer pastures has also become a way for the sheep farmers to adapt to the residential areas. It takes several weeks in the early summer months and is quite a bothersome task. This way, they will not go into people's gardens and cause trouble. If the residential areas were not located so close to the farms, the sheep farmers could open the gates and let the sheep walk by themselves. Even if the sheep are driven into the valley, they often find their way back or wander off to other interesting areas by the waterfront. When I was trying to ask the farmers about these issues as we drove into the valley for the sixth time one day, they often downplayed the issues. In my understanding, they were avoiding tensions and conflicts as much as possible. For example, when the farmers got called by someone who had seen sheep by the road, in people's garden, or wandering about, they often dropped everything at hand to get the sheep out of sight. Runar was tired of people complaining, as they did not seem to be pleased with whatever they choose to do; keeping the sheep only in and by the farm all year is animal abuse, but then people would find all kinds of reasons to complain once the animal are out for pastures. Runar told me about neighbors that got irritated that his two goats stuck their heads through a fence and ate the green overgrown grass that were on a neighbors' side. The owners of the garden complained about that, as well as the smell of manure being harsh, in a very protesting manner. They started to walk outside with clothespins on their noses. Runar took the goats back inside the barn and as a small counter-protest to their somewhat childish behavior, he started to manure the land a bit less, but more often.

Ivar Bjørklund argues that the adaptation relies on the correspondence between animals, pasture, and labor. The Sámi herders must try to reach the symbiotic intersection between these three factors. One of the main dimensions of this seemingly tough (shifting) challenge is the constant endeavor for flexibility (Bjørklund, 2004). We have seen in this study how the

situation for the herders and farmers on these variables are similar, as they in many ways try to adapt to the challenges around them. Although the adaptation strategies differ, the main argument is that flexibility is required from them. They must withdraw, adapt anew, and keep their rhetorical remarks for themselves.

For the herders, flexibility means there is a need to adapt to various *social fields* (Grønhaug, 1976). In this approach, the economic field which sheep and reindeer husbandry are part of is not profitable enough to make a living. Grønhaug talks about *proper dynamics* – the farmers and herders adapt to opportunity and constraints within the husbandries, which are placed within local, ecological, cultural, and economical fields (Grønhaug, 1976). The logic of this economic field is that development in a strict economic sense is gaining terrain, over the various other adaptations in the landscape. This reduces abilities to make animal husbandry an economically sustainable business. Therefore, another way of adapting to the economic field is by having a second job. They all must have other jobs on the side of animal husbandry as it is not economically profitable alone. However, a major paradox is that they in their additional jobs might be seen as contributing to loss of land, which in turn affects their husbandries, their jobs as farmers and herders. Runar is working with the extension of the industrial harbor, the harbor that forcefully relocates Johan Isak. Mihkka works as a carpenter at Evenes military airport, which has been criticized for contaminating the ground in natural reserves. The airport is surrounded by five different nature reserves, where lots of vegetation now has been removed, and an area of five hundred square meters has been altered without permission (NRK, Lysvold, 2021).

They all work in jobs that require operating heavy machinery. This requires technical skills and a precise knowledge basis; much which is gained through the work within animal husbandries. Through their upbringing they have gotten the competence for practical handicraft work – which has qualified them for these kinds of jobs. Therefore, as farmers and herders they become embedded in the activities of the state. Consequently, working other full-time jobs is what gives them the opportunity to continue with animal husbandry – jobs they care about very much. For these jobs they need (and want) good machinery, such as snow mobiles, motorbikes, tractors, and ATVs. As this is expensive equipment, they need a proper income. However, being able to take time off work in the calving or lambing period shows how they through flexibility try to balance within different social fields, and flexibility becomes a way for adaptation.

As seen in this chapter, the preconditions for being a farmer and/or herder are challenging, both on a national and local level. Some of the most urgent and pressuring challenges have been sketched out above. I have experienced first-hand (through my fieldwork) the extent of adaptive measures and sacrifices the herders and farmers will go to, in order to keep living both with and off their animals in joint symbiosis with them, as they know and like it. Though their compassion and love for their way of life and their herds of animals are admirable, I cannot find myself able to overlook the burdensome and weary effect the constant adaptability to what the growing city has on their lives. Some of these time-consuming tasks are driving the sheep in the valley in small trucks or gather reindeer for feeding many times a day. Keeping reindeer in corrals during the whole winter is becoming more common in reindeer husbandry, which is changing the traditional way of reindeer herding, making the reindeer more domesticated.

In conclusion, decreasing pastures, land encroachment, and increasing cost, are challenges for reindeer and sheep husbandry. These issues have been seen in the light of political ecology. The herders witness how more powerful actors, such as the municipality or real estate developers build new housing or roads near, or on the grazing lands, causing the land to become unavailable for them. The pastures are gradually shrinking as the city continues to develop. Even if the negative consequences this causes for the husbandries are known, the construction will regardless commence. This shows how the herders do not have any other alternative than being flexible and try to adapt, which they do in various ways. However, economic constraints also limit them. The reindeer herders have limitations to the number of reindeer they are allowed to have, and the price of sheep meat is so low that the sheep farmers must have more sheep to make it economically profitable. This makes them choose to have two jobs. The underlying reasons are different, but the results are the same. They therefore become actors in the “machinery” of the Norwegian state that contributes to build down nature.

Chapter 8: Conclusion

This study has highlighted the challenges reindeer herders and sheep farmers have in the landscapes in the outskirts of Tromsø, and how they adapt to these challenges. We have seen that the landscapes on Tromsdalen peninsula and Sørbotn are used by many actors with different interests and different agencies. They dwell, experience, and use the land in various ways, which sometimes creates tensions. Some of the challenges they are facing are an increased number of predators, recreational users, and their unleashed dogs. New residential buildings, industrial infrastructure, cabins, and roads have affected the pastures, by causing them to shrink and become unavailable for grazing animals. Through the reindeer herders' and sheep farmers' adaptation strategies, such as extra feeding and driving the animals between pastures, they have tried to avoid or minimize tensions. The herders also attempt to increase awareness among other dwellers, so that they too can be of help and inform the herders about injured animals or predators in the grazing lands.

However, being up against more powerful actors such as the municipality or real estate developers, adaptation often results in the herders having to be flexible, give in, and accept that the pastures are shrinking. By using a framework of political ecology, this thesis highlights how uneven outcomes in conflicts of land use are a result of these fields of power. By understanding how the herders and their animals are dwelling in the landscapes, it is clear that some roots for tensions are embedded in the fact that they require vast grazing lands; something a developing city limits. Through participatory filming I have provided a film with material communicating the sensorial experience of the various aspects of being an animal herder in a city near environment. My film, *Among Herders*, is a contribution to show how they dwell in the landscape as sensorial beings and the rewarding and the weary aspects of animal husbandry. Simultaneously, it creates awareness of the complexity of the animal husbandry lifestyle.

The relationship the herders have with their animals and the landscape is a key factor for understanding the value of being a herder and to continue this work. As there is little to gain economically, the herders take on other full-time jobs so that they can continue with animal husbandry. Seen as an economic field this landscape has complex proper dynamics which connects the husbandries to the city and the state in complex ways. The state provides minimal support for these industries economically, both in subsidies and in predator compensation. This

is problematic as many predators hunt the grazing animals - but are government protected - which means the herders cannot do anything about them. Yet there is an immense need for the herders to provide different documentations, which is difficult since many animals simply disappears. Through regulations, such as how many reindeer are allowed on pastures, the state determines the success of the reindeer herders. By not taking research reports into better consideration, such as the consequence report for the new E8 road, the outcomes are often unfavorable for the animal husbandries as industrial infrastructure and real estate development are being prioritized. It seems the positioning of the farms and residential areas are happening on the prerequisites of the municipality, as we have seen in Tønsvik. Tommy had to accept housing getting built 30 meters from his barn, but when John Arne and Runar built their barn 300 meters away from the nearest houses it caused anger about why they were building so close to a residential area. It is both physically and mentally demanding for the herders to constantly having to legitimate their own and their animal's presence in the landscapes.

This study shows the importance of understanding the preconditions for reindeer herding and sheep farming, to understand the seriousness of the challenges that they are facing. There is a need to protect the grazing lands so that the reindeer herders and sheep farmers can continue with their way of living, food can be locally produced in northern Norway, and so that they have a fighting chance to adapt to future challenges, such as climate change. As climate change will create the need for green infrastructure, it is most likely that wind turbines, solar cell parks and hydro power will increase both nationally and globally. These types of infrastructure will require lots of space and will most likely be placed in landscapes that also are optimal grazing lands. Future research could therefore look into places where this is already happening or most likely will happen. Another beneficial study could research what municipalities and the government do to understand the husbandries - to create meaningful and fruitful conversations about what the future will hold for both sheep farmers and reindeer herders.

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