REINDEER HERDING AND LARGE CARNIVORES



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Socio-economic effects

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Reindeer herding and large carnivores

Reindeer herding is practised only in Finland and Sweden in the European Union. Reindeer are wild animals that are owned by private people. In Finland, there are around 200 000 reindeer and 4 600 owners. The reindeer herding area is around 36 % of Finland's total area.

SOCIO-ECONOMIC EFFECTS

During the past thirty years, the damages caused by large carnivore have been steadily present in the reindeer husbandry area. All four live here: bear, lynx, wolf and wolverine as well as golden eagle. To put the development of the past few decades into context, in 1986 reindeer herders got compensations from 344 reindeer killed by the large carnivores, and some 100 reindeer killed by the golden eagle. During the reindeer husbandry year 2013-14 the compensation was received from 4 162 reindeer that were found killed by large carnivores. However, the researchers have estimated that large carnivores kill around 25 000 to 30 000 reindeer per year. The discrepancy between these numbers is explained with the fact that not all of the carcasses are found from the large wilderness areas.

The core income of a reindeer herder comes from the meat production and is therefore strongly related to the number of slaughtered reindeer. There were 186 776 reindeer in Finland in the reindeer husbandry year 2013-14 and 71 580 were slaughtered.² In 1995, when Finland joined the EU, the situation with large carnivores was on a manageable level. The statistics on the reindeer herding year 1994-95 show that there were 208 140 reindeer and 124 799 were slaughtered.³ The difference illustrates well how the slaughter rates and therefore income of the reindeer herders have decreased drastically. Following this development, financial unpredictability and uncertainty has become the most significant strain for the reindeer herders.⁴

The most significant precondition for successful co-life of reindeer and large carnivores is that the compensations from the losses are perceived as just.⁵ In a research, 80 % of the herders said that they can accept large carnivores in the reindeer husbandry area as long as the damages are fully refunded and the numbers are kept on a manageable level.⁶ Even though the public easily perceives that reindeer herders are against, if not hostile, towards large carnivore, the research on this issue tells a different story. 59 % said that they believe that the large carnivore has the same right to live than other animals.⁷ In addition 79 % of the reindeer herders agreed that humans have a responsibility over maintaining the

¹ Sippola, A-L.; Norberg, H.; Renko, M.; Suopajärvi K.; Sutinen, T. Petovahinkojen sosioekonominen merkitys porotaloudelle Suomessa – loppuraportti. (Saarijärvi: Gummerus Kirjapaino Oy, 2005), p. 7.

² Paliskuntain yhdistys, Poromies 2/2015, statistics, p. 32-33.

³ Paliskuntain yhdistys, 'Kertomus Paliskuntain yhdistyksen toiminnasta vuodelta 1995', *Poromies*, 2 (1996), p. 16-17.

⁴ Pohjola, A.; Valkonen, J. Poronhoitajien hyvinvoinnin uhat ja avun tarpeet. (Rovaniemi, Lapin ylipistopaino, 2012), p. 55.

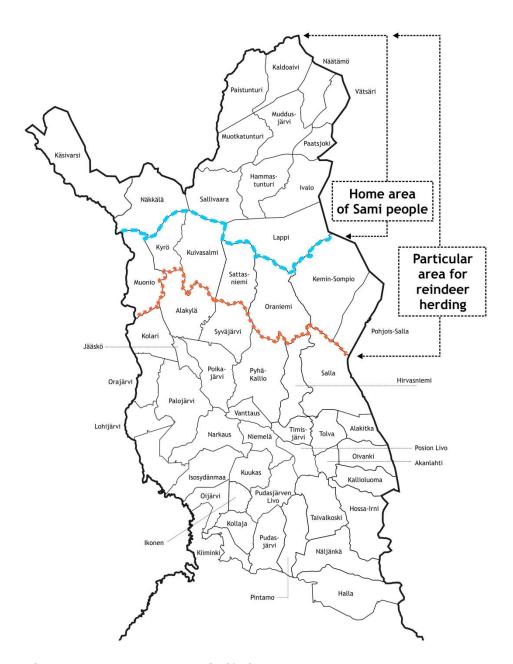
⁵ Sippola et ala., Petovahinkojen, p. 8.

⁶ Ibid., p. 34.

⁷ lbid., p. 36.

populations of large carnivores.⁸ Despite the severe socio-economical constrains that large carnivores cause, reindeer herders are less hostile towards them in their reindeer herding cooperative areas than other Finns in average in their hometowns.⁹

In this report, we will be going through the key issues of the socio-economic effects of large carnivore on reindeer herding. In the end, there will be fictional, but real life resonating story of a reindeer herder. It is there to give you a chance to look into reindeer herder's everyday life as well as the full annual cycle.



Picture 2. Reindeer herding area covers 36 % of Finland's total area.

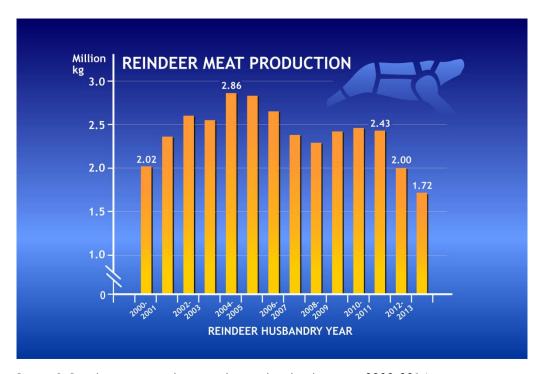
⁸ Sippola et ala., *Petovahinkojen*, p. 37.

⁹ lbid., p. 11.

EFFECTS OF THE LARGE CARNIVORE ON REINDEER HERDING AS A SOURCE OF LIVELIHOODS

Reindeer herding as a livelihood is mainly focused on meat production. Therefore the income of a reindeer herder is directly related to the amount of reindeer that are slaughtered every year. In 1994-95 meat production was 2,82 million kilos, whereas in 2013-14 it was 1,72 million kilos. As mentioned in the beginning, the slaughter rates have dropped significantly over the past few years. Most of the slaughtered reindeer are new born calves and that is why they are very important for the herders. To ensure that there is enough reproduction every year, around 80 % of the herd are breeding females. Therefore, most of the reindeer killed by the large carnivores are inevitably mature female reindeer; 78 % in 2013-14. Losing one is a loss itself, but it is also a loss of the future unborn calves. It will take up to four years to raise yet another reindeer mature enough for reproduction. When more female calves have to be left alive, there will be less to slaughter and the income of a herder decreases.

Another important issue in the productivity of reindeer herding is breeding. Successful breeding is a long term process. When herders are forced to leave also weak reindeer alive, it undermines the work they have done with breeding over the previous years. Also, it is quite likely that these specimens will not survive and even if they do, they will weaken the overall quality of the herd.¹⁰



Picture 1. Reindeer meat production in the reindeer herding area 2000-2014.

¹⁰ Pohjola; Valkonen, Poronhoitajien, p. 86.

Case example. If a reindeer herder has 100 reindeer and 15 of them are killed by large carnivores and 5 are missing, he has lost 20 % of his herd. If he gets 60 new born calves, he has to leave 20 of them alive to cover the losses and to make sure that he will not lose the support he gets from a herd over 80 reindeer¹¹. The quality of the herd also drops, as he has to leave weak ones alive.

Due to the losses he will get less than two-thirds of income in that year.

Reindeer herders perceive the current situation unjust

The research that Pohjola and Valkonen conducted amongst a few most severely affected reindeer herding cooperatives, found out that the large carnivores are perceived as one of the most significant problems that the cooperatives had. The interviewees also agreed that the current situation with the large carnivores will affect to the future of reindeer herding. They saw the current situation as "unreasonable" and "unbearable" for the profession. They also thought that it should be quickly resolved. The herders know that the large carnivores have always existed in the area and earlier they have been able to co-live with them. However, the situation has changed as the numbers of large carnivores have grown.

In the bigger picture, reindeer herders feel that the rest of the society values more of the protection of the large carnivore than their profession. In their minds, this issue comes to a question whether their situation is against the constitution of Finland where it is said:

"Everyone has the right, as provided by an Act, to earn his or her livelihood by the employment, occupation or commercial activity of his or her choice. The public authorities shall take responsibility for the protection of the labour force."

In addition, the constitution says "The property of everyone is protected." However, at the moment reindeer herding as a profession and herders as owners of the reindeer are the ones paying for the current want to protect large carnivores. They feel that the politicians do not understand their profession and therefore are not willing or able to find a solution to the problem. Hence, the current situation is perceived unjust. 15

Searching carcasses and changing practices of reindeer herding increase the expenses

According to a research, the total expenses that the large carnivores cause were bigger than the paid compensations. From the cooperatives where the research was conducted, the greatest annual expenses were in Käsivarsi (over 120 000 euros) and smallest in Pyhä-Kallio (2 500 euros). The differences are closely related to the amount of the large carnivores in the cooperative areas, but also to the ways of

¹¹ In Finland, if a reindeer herder owns at least 80 reindeer, he can get 25 euros support from each reindeer. This support is lost in case the total amount of reindeer drops under 80.

¹² Pohjola; Valkonen, Poronhoitajien, p. 83.

¹³ Finlex, The Constitution of Finland, www.finlex.fi/en/laki/kaannokset/1999/en19990731.pdf, p. 4.

¹⁴ Finlex, p. 4.

¹⁵ Pohjola; Valkonen, *Poronhoitajien*, p. 84-5.

herding. ¹⁶ The biggest costs large carnivores are causing are the ones related to searching carcasses. More specifically, the working hours put on searching and growing usage of petrol to snow mobiles and cars. To find carcasses faster and lessen those expenses, some herders have started to buy GPS and death collars. The GPS collar gives exact coordinates, but is rarely used due to its expensive price. The death collars are cheaper and therefore more common. However, it does not give exact coordinates and the signals reflect for example from hills and valleys. Using a death collar helps, but the searches need to be started immediately after the first signal, because the battery runs out quicker when the collar is sending signal and responding to the receiver.

Case example. A death collar started to send a signal on Boxing Day. In the first search round three men drove with a van for 40 kilometres and around 10 kilometres with snow mobile. The daylight was short so they had about four hours to find the carcass. In the forest, there was around a meter of wet and soft snow. Walking around and searching was difficult. They did not find the carcass. The search was renewed twice. Next there were two people and last time one person. So overall it took 120 km of driving with a van and some 30 km with snow mobile. Travels took over three hours and actual search work from all the persons together around 24 hours of work.

Regarding herding, reindeer are not fed to the pasture areas for example in Käsivarsi, but herding in general is more active there during the winter time due to the large carnivores. Herders spend more time with the reindeer to keep predators away and to see if there have been damages in the herd. ¹⁷ In other cooperatives, herders have decided to take reindeer to a fence over winter time and home feed them to be able to control them better. This increases expenses through feeding and maintenance such as building fences, using tractors and other machinery. ¹⁸

The compensations paid from killed and found reindeer do not solve the problem, although they are important when the situation with large carnivores is particularly bad. Rising costs and declining income are an untenable combination that crumbles the economical bases of practising reindeer herding. When options with breeding are drying out too, there are not many positive things left to focus on. With these problems come others such as social and mental. These will be presented next.

¹⁶ Sippola et ala., Petovahinkojen, p. 138.

¹⁷ Ibid., p. 138.

¹⁸ Pohjola; Valkonen, Poronhoitajien, p. 88.

SOCIAL AND MENTAL EFFECTS OF LARGE CARNIVORES

For reindeer herders it is particularly important to feel self-sufficient financially, but also in relation to their work. 19 Nature, freedom and independence are meaningful things for herders. 20 Herding should provide for the household, but for the moment it is not doing so. 21 Hence, the most significant strain for the reindeer herders is the financial unpredictability and uncertainty. People feel that they are unable to influence on their own work and its results. Adding to this, the workload is increasing and there are problems in the division of work. 22 Pohjola and Valkonen found in their research that reindeer herders experience mental pressure that shows as general and mental tiredness. It has increased "frustrations, touchiness and even indifference". 23

Herders have been grown into the idea earning their money with the work they do. One of the demotivating things in the current situation is that this is no longer the case. Part of the income comes from compensations. Research found that they are not wanted, but have to be taken to keep the finances together.²⁴ The compensations are only paid, when the killed reindeer are found. It does not cover the costs of the search process, labour or other expenses, and the deductible on it is 170 euros. In recent years there has been uncertainty on whether the compensations will be paid fully or only partly. Also, compensations are often paid year or two later. This kind of uncertainty and prolonged situation increases the financial pressure.²⁵ The overall situation also underlines the fact that reindeer herding is no longer the economic base for providing for their families.

The overall workload has increased due to the large carnivores. Herders spend more time on searching the cascades, herding more intensively and preventing the damages of the large carnivores. One of the main problems this has caused is that the difference between work and leisure time is blurring on the expense of the family time. Reindeer need to be herded more carefully when any of the predators are around. As one of the interviewees in Pohjola and Valkonen's research said:

"One has to be on hold and ready to leave almost at all times. One can say, that when hearing suggestions that there seems to be a predator in the area, one has to go and look. There is no one else to go after the damages of the large carnivores than the reindeer herders themselves."²⁶

Leisure and family time becomes increasingly difficult to plan as one needs to be on alert all the time. Personal schedules are adjusted to the schedules of the large carnivores. This increases tensions within the families. It also causes constant feelings of guilt of not being able to spend time with one's family. This is what particularly fulltime reindeer herders are experiencing.²⁷

"It causes harm in the sense that all the times, when you are supposed to be with the family or do other work, instead you are running after the predators and try to prevent any damages."²⁸

¹⁹ Pohjola; Valkonen, Poronhoitajien, p. 97.

²⁰ Ibid, p. 96.

²¹ Ibid, p. 97.

²² Ibid, p. 55.

²³ Ibid, p. 89.

²⁴ Ibid, p. 97.

²⁵ Ibid, p. 87.

²⁶ Ibid, p. 90.

²⁷ Ibid, p. 89-90.

²⁸ Ibid, p. 91.

Negative effects on community and relations within

Sometimes hardship brings people together. Sometimes it starts to shake the bases of a community and slowly develop distrust between people. Both of these have been seen in the reindeer herding cooperatives affected by large carnivores, but the latter has been stronger. It is particularly harmful because reindeer herding is a very communal profession. The most important work, earmarking of new born calves and autumn round ups, need the members of the whole community.

The damages of the large carnivores cause tensions and lessen cooperation between the herders. This leads to increasing stress and mental tiredness. People feel troubled when they lose reindeer, but other herders in the same cooperative do not. It causes "bad blood" amongst herders.²⁹

"The effects (of the situation with large carnivores) has been negative. It has been so negative, that it has inflamed the whole reindeer herding cooperative." ³⁰

Internal arguments divide people into groups. When the relations between herders get worse it is more difficult to work together.³¹ These conflicts influence to the internal atmosphere for a long time.³² There are also divisions between part and full time herders. Both are needed, but under the increasing workload, full time herders feel like they are doing most of the work and the others benefit from it. Hence, the situation feels unequal.³³

Motivation to work is decreasing

Over the past decades, reindeer herding area has been under regular pressure to adjust to environmental changes and land usage projects such as forestry, mining industry and infrastructure. Herders have managed to do it, but the increasing demands and constrains that other actors in the area are setting, is making it all the more difficult.

The greatest motivation for a reindeer herder is the reindeer herding work itself. It is the work they want to do and feel that they can do best. It also motivates herders to continue despite the difficulties. Close connection to the nature as well as independence and freedom are important factors too. Reindeer herding is work, but also a way of life. Hence, giving it up would mean giving up work, way of life, generations long traditions, but also of the social and cultural surroundings they are part of. Leaving herding is not really an option.³⁴

However, the situation with large carnivores has affected to the reindeer herding and continue to do so. Traditional herding work is changing and new unwanted tasks have appeared such as searching cascades and large carnivores. They are perceived as frustrating and useless work. They take time and resources – all on the expense of actual herding. Herders think that they could be better spent in other tasks. Some of them also feel that they are not herding anymore, but feeding large carnivores.³⁵

²⁹ Pohjola; Valkonen, Poronhoitajien, p. 93.

³⁰ Ibid., p. 93.

³¹ Ibid., p. 93.

³² Ibid., p. 41.

³³ Ibid., p. 94

³⁴ Ibid., p. 95-6.

³⁵ lbid., p. 96-7.

FUTURE

Traditionally, reindeer herding profession has been running in the families. People have grown into it from early childhood as they have participated to herding and other work along with their parents. Reindeer herding cooperative is a community where everyone has a role and all members are needed. Previously reindeer herding has been a prominent profession for people living in the Northern peripheral areas. Back then, it was possible to do long term planning and development. Today, this is not possible anymore in the cooperatives that are affected by large carnivores. In these areas, herding has changed to a stagnant profession where searching large carnivores and preventing their damages have taken considerable part of the herders workload – and added to it. People view future and their personal role in it from a short term perspective. Herders do not think that youngsters want to work in this field anymore. They are not actively encouraging them to do so either. The interviewees in Pohjola and Valkonen's research from the Southern parts of the reindeer herding area perceive the future of their cooperatives weak.³⁶

Reindeer herders see the question of large carnivores as something that will resolve the future of the reindeer herding. Particularly in areas, where the conflict continues and makes the situation worse for local herders.³⁷ Being a very independent profession, reindeer herders experience themselves strongly self-sufficient. The core of their income is expected to come from selling good quality meat, which is a result of the efforts put on breeding. However, being a long term process, the cooperatives in the Southern parts do not think that breeding possible anymore.³⁸ Compensations from the government will not help to stop this development, but only ease the financial burden that large carnivores are causing.

For reindeer herders this situation is difficult. They feel as if they are bystanders watching what will happen to their centuries old profession and traditions in the future. They perceive that their work, income, property and way of life is jeopardised, because of the large carnivores. The solutions need to be done on the political level, which herders feel they cannot really influence.³⁹

To find a sustainable solution to the conflict between reindeer herders and large carnivores, ecological, economic and social issues need to be taken into consideration. They are closely intertwined and all the actions conducted in any of the sections will affect the other two. A risk assessment shows that the highest risks in the current politics on large carnivores are clearly social. Around half of them were assessed to be likely and severe. The balance between these three is crucial, because the ecological targets related to levels of large carnivore populations will not be met if the social tolerance is exceeded. Conflicts occur when large carnivores clash with local sources of livelihoods and infrastructure, other game specimens, but also cultural and other traditions in the area. Hence, local perspective in addition to the three factors mentioned above, are vital elements when resolving the conflict between the reindeer herders and large carnivores.

³⁶ Pohjola; Valkonen, Poronhoitajien, p. 54-.5

³⁷ Ibid., p. 83

³⁸ Ibid., p. 23-4.

³⁹ Ibid., p. 100-1.

⁴⁰ Pohja-Mykrä M.; Kurki, S. Kansallisen suurpetopolitiikan kehittämisarviointi. (Helsingin yliopisto, 2013), p. 7.

⁴¹ Pohja-Mykrä; Kurki, Kansallisen, p. 7.

⁴² Ibid., p. 7-8.

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Pictures from Reindeer Herders' Association.

EVERYDAY LIFE OF A REINDEER HERDER

Explaining reindeer herding is a difficult task. Nothing really compares to it. The Arctic nature and hundreds of years of history are strongly wrapped into the culture and traditions of reindeer herding. This vibrant source of livelihoods is an important part of the Northern life. To understand the socio-economic effects of large carnivore one has to have an at least general understanding of this unique profession. The best way to take you into our world is to share a story of a reindeer herder. Our practices vary a bit in different parts of the reindeer herding cooperative area in Finland. Yet, all reindeer herders can find themselves from this story.

The reindeer herder is called Ailu. He is a 30 year-old man who grew up in a reindeer herding family. Reindeer and the local herding cooperative have been part of his life for as long as he can remember. Ailu started comprehensive school with other children at the age of seven. Later, teachers tried to push him to continue to high school and later to university. They thought he had the potential for a good career somewhere else. Ailu's family said it was his own choice. Growing up with such a close interaction with nature and animals had been very meaningful for him. Leaving it would have meant leaving something that he had grown into. So his choice was to become a professional reindeer herder.

Ailu's family has long traditions in reindeer herding. Reindeer herding has been a vital element of Northern culture at least since 16th century. It has been able to adapt to the changing world and still keeps alive the traditions, culture, and a language. It also keeps the rural arctic areas populated. In reindeer herding life goes on in a smooth peaceful manner, conforming to the yearly rhythm of reindeer. The reindeer herding year begins in May. Reindeer move to fells or swamps where snow is melting off and give birth to new calves. Summer comes with the midnight sun. When the sun rises to the northern sky in the middle of May, the next sunset will be seen in July.

This is the time of growing. Ailu's reindeer amongst others are collected to round ups for earmarking of the new born calves. The whole family participates in this work and children learn the traditional knowhow. That is how Ailu learned to recognise his family's reindeer earmarks as well as his own amongst hundreds of animals. He also learned to catch a reindeer with a suopunki (sort of a lasso). After calve marking, until the autumn and winter round ups, his reindeer pasture freely in the forest and move towards winter pasture areas. During the autumn round ups, reindeer are collected from the fells and forests. It is teamwork and demands really skilful collaboration amongst Ailu and his fellow reindeer herders. Collaboration is one of the cornerstones in reindeer herding.

In November sun sets behind the horizon and the arctic night begins. The difference in between day and night disappears. The most common temperatures in winter months are from -20 to -30 degrees of Celsius. Almost every winter there are a few -40 days, and even -55 degrees have been experienced quite recently. The outdoor working conditions are extremely harsh. The sun rises again above the horizon in the end of January and slowly, day by day, the sun rises just a bit higher and higher. In February on can see daylight for couple hours.

Until the 1980's herders were able to hunt predators freely and Ailu's father had a possibility to contribute to the surveillance of his reindeer. In 1982, Finnish state forbade the hunting of wolverine. In addition, spring time hunting of bear ended 1993. As all hunting of large carnivores is strictly restricted, Ailu's situation is very different to his father's. He can apply for a special permission in written and justify it with by large amounts of found damages.

In Ailu's cooperative, there are lynxes, wolverines, bears, occasional trespassing wolves and golden eagles. These all are strictly protected and together they make significant damages in Ailu's reindeer herd. Ailu's

reindeer are pasturing freely. Every day, Ailu goes to his herd to take some hay for them. He tries to control his herd for not going to wrong areas or spreading too widely apart from each other. In winter, he drives around his herd every day, often even twice a day, trying to keep the predators away and see if there is something wrong. One round can be something between 50-100 kilometres. Ailu is worried, because he sees footprints of predators every day. As the snow thickens, he finds more and more reindeer killed. They cannot run away from the predators, because of the snow conditions.

One night, a wolverine kills six of Ailu's reindeer. Next morning, Ailu notices that far more animals are missing, but he cannot find them. Being selective, large carnivores usually eat only the best parts of the animal they kill, for example a tongue, pieces of roast or embryos. Wolverine is specialized in collecting living food storages: it attacks a reindeer and bites to paralyse or blind it. The reindeer may stay alive, but it cannot move, but suffers in this condition for a few days.

Every week, Ailu brings the heads of found carcasses to Osmo, the head of his herding cooperative. Osmo checks the earmarks confirming that the reindeer is really Ailu's and then he reports the findings to the authorities. The found carcasses will be compensated to Ailu approximately a year later, if there is enough money in the state fund. Every year, state authorities and politicians decide if Ailu's found reindeer damages will be compensated or not. In 2012, the sum of found damages caused by large carnivore was 7,3 million euros. However, in state's budget, the money reserved to compensations was about 4 million. Whether the compensations will be paid fully, depends on both European and national politics. Hence, Ailu and his family are living in a constant economic insecurity. Quitting reindeer herding and starting a new profession is not really a choice. Reindeer herding is present in all parts of Ailu's life. He could leave it, but it also means leaving your home, identity, friends, traditions and culture. Just about everything you have.

So Ailu does not really have a choice. He continues driving around his herd and larger areas in his cooperative. He sees footprints of predators, and tries to find all carcasses, because for him it is the only way to get any compensation for the losses. Driving is expensive and hard work. The costs of searching the carcasses, trying to prevent the damages, applying permissions to track and hunt the predators, is already, per se, higher than the compensations paid for found damages. During spring, a wolf pack arrived to Ailu's cooperative and made damages. After a heavy process of applying permissions and many reindeer carcasses found killed, Ailu and his colleagues got a permission to eliminate two wolves. The hunt took eight days and the other wolf crossed the Russian border ending the hunt there. During the hunt, Ailu and four other men drove over 1000 km with snowmobiles and found 10 more reindeer carcasses killed by them. The costs of removing one wolf was 18 000 euros. The compensations of 10 found carcasses is 10 000 euros. There is a strong possibility that in a few weeks, the same wolf or some other wolves come back, and the whole process starts all over again. When the snow melts away in these large arctic areas, Ailu has no means to track or hunt the wolves, until the land gets a new snow cover again, in next winter.

Last year, 100 of Ailu's reindeer disappeared, but he was only able to find 20 carcasses. This means that Ailu lost one third of his herd during one year. In summertime, carcasses disappear quickly and are rarely found at all. Finding pieces is not enough to prove that the reindeer was killed by a predator. If Ailu cannot prove it, he does not get any compensation. In earlier years, Ailu has sold 170 reindeer each year. Now he is only able to sell 80. He gets compensation for 20 animals, but the money cannot be reproduced to reindeer. Ailu's reindeer herd is already in a process of a collapse. Ailu is sad, scared, and angry. Ailu's cousin Johan lives in Sweden, and is also a young reindeer herder. Ailu and Johan are discussing often about this situation, and Ailu is worried about him. Johan lives in a similar situation as Ailu, and is very tired. Ailu has decided to struggle until the end. He is not willing to give up. He cannot take the idea of being the last chapter in the story of his family. Not without a fight.