

CULTURAL
LANDSCAPES IN A
STATE OF
INEVITABLE
CLIMATE, CULTURAL
AND DEMOGRAPHIC
CHANGE

AN EXPLORATION OF THE ROLE OF SHEEP
IN SHAPING GENERATIVE PRACTICES IN
AN ALTERING CULTURAL LANDSCAPE.



"Rett i garnet", Line Iversen. Sunnmøre Museum, 5. januar 2022

PRE-DIPLOMA

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THESIS

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INTRODUCTION



ABSTRACT

What can history teach us about how we work with and for nature and the species we coexist, within the face of today's cultural, economic, and environmental challenges?

In a rapidly changing climate, with developing culture, politics and economy, the operating form of the sheep has changed, we have gone from living as totemists to using the sheep as a production machine designed for maximum productivity and profit. Historically, we have co-existed and been interdependent since the first settlements in Norway several thousand years ago where we together built our cultural landscapes.



RESEARCH QUESTION

Due to our needs today, does the maintenance of our cultural landscape remain an issue of conservation?

Should we preserve an alternating cultural landscape to maintain our cultural history, or can we cooperate with the sheep to establish/ generate new more virtuous landscapes?

How can we cultivate the landscapes today by using the sheep as a resource and enhance old traditions compared to todays situation?

MOTIVATION

OLTRE TERRA // WHY WOOL MATTERS

FORMAFANTASMA // NASJONAMLUSEET 2023

The Italian design duo “Formafantasma” are working to promote a new account and vision for the design field. They want to promote a deeper understanding of both natural and human-made surroundings. The topic of the exhibition “Oltra Terra” is the relationship between sheep and humans, and our interdependence. Their starting point is based on an incident that happened in 2021, where a Merino sheep got lost from its flock and its fur did not stop growing. Their exhibition is questioning how we can promote the understanding of human and animal interdependence by looking at history. The concepts are deep ecology, and the multipurpose of our resources.

Merino sheep, conspicuously large amounts of wool reflected nature’s abundance and laid the foundations for a profitable industry.

In recent years, the ecological crisis of our time has struck full force and given a bitter aftertaste to the “status quo” way of thinking and to the sensuous callousness that we have inherited from the paradigm and worldview of science



INTERDEPENDENCE



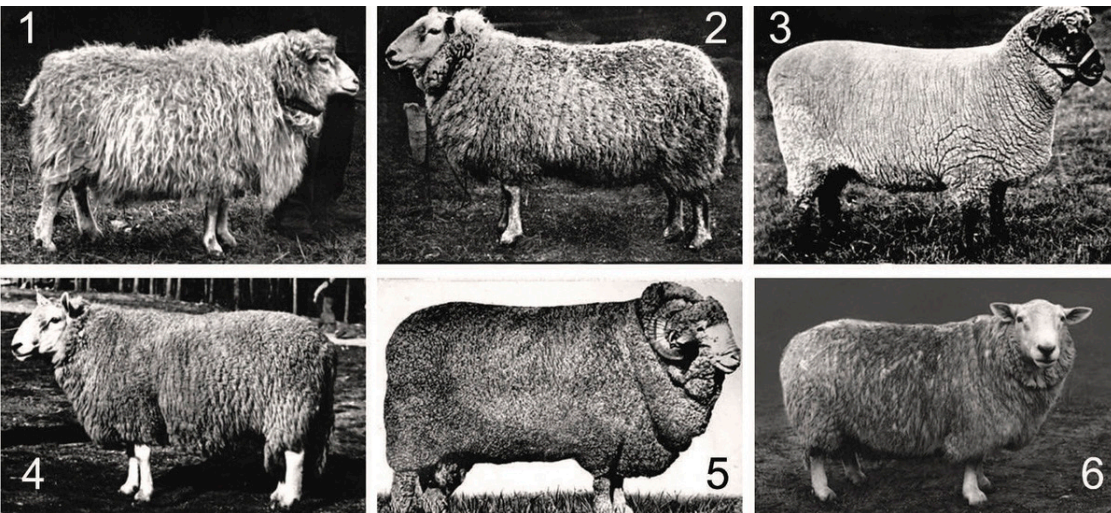
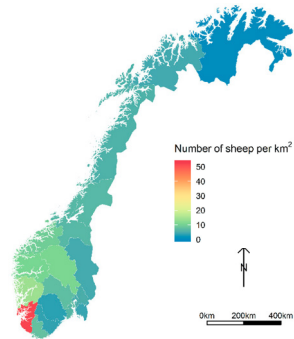
An Australian sheep, named Chris by his rescuers, is pictured before being shorn of over 40 kilograms (88.2 lbs) of wool on September 3, 2015, after being found near Australia's capital city Canberra.

Image Credit: Reuters.
(<https://gulfnnews.com/world/wool-record-a-modern-day-lost-sheep-story-1.1578081.1578081>)

This sheep can stand as a picture of our time's focus on bioprospecting. With the prodigious growth of wool, the sheep looked more like a wool production machine with a nose and ears, designed for maximum productivity and profit, than an animal.

Around 11,000 years ago, hunter-gatherers began following herds of sheep and singling out individual animals for slaughter instead of just killing them all at once. Over time, a new relationship between man and sheep arose, and the domestic sheep as we know it today developed over many hundreds of years. However, the process never went only one way, from man to animal. What happened was a complex coevolution in which sheep and humans mutually influenced each other.

SHEEP IN NORWAY



DIFFERENT TYPES OF SHEEP BREED

1) Spælsau. 2) Rygjasau. 3) Oxforddownsau. 4) Sjeviotsau. 5) Merinovær. 6) Dalavær.

INTRODUCTION

SHEEP BREED IN NORWAY, DIFFERENT USES

Historically, sheep farming has been a vital part of Norwegian agriculture for centuries. Today sheep in general in Norway is used for meat production, dairy production, management of cultural heritage and fiber production.

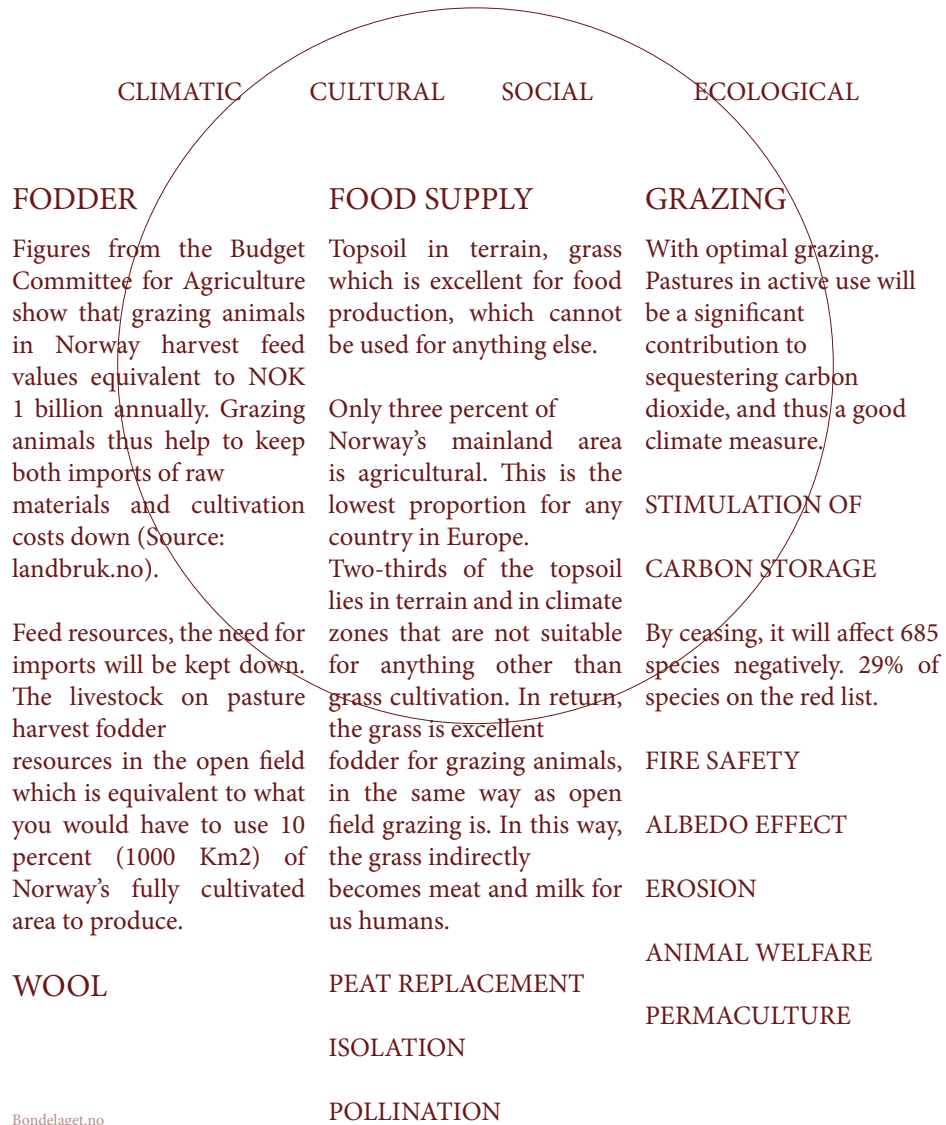
INTERDEPENDENCE

Sheep and humans have been cooperating in interaction with the landscape's natural conditions to develop cultivation methods and ways of living that are sustainable. The landscape has become important cultural habitats for species along the coast and a part of our cultural heritage.

GAMMAL NORSK SPÆLSAU

The ancient and traditional breed of sheep is the Norwegian Spælsau. This breed is considered one of the oldest sheep breeds in Europe. The Norwegian Spælsau is a hardy and adaptable breed. The breed is representing a part of Norway's agricultural heritage.

SHEEP AS A RESOURCE



White sheep, imported in the 1800 more efficient, adapted to a more modern society.

HOW HAS THE DOMESTICATION OF SHEEP SHAPED OUR CULTURAL LANDSCAPE?

HOW HAS THE DOMESTICATION OF SHEEP SHAPED OUR CULTURAL LANDSCAPE?

TRACES



STONEFENCES FROM CLEARINGSTONE

Starting to cultivate the soil, it became necessary to protect the annual growth from livestock, it had to be done outside. At first rice fences of various kinds did the trick. But as people began to clear the field of stone, they also got a durable material for fences, and to this day stone fences leave their mark on the cultural landscape in many places. From Øygarden, Hordaland.

Ragnar Frislid
Norske Kulturlandskap, Landbruksforlaget, Oslo 1989.



GARDFLOREN

Typical of the heather landscape are the “Gardflore”, i.e. The summer barns built into the stone fence between the infield and outfield. Verås, located in the heather landscape in Lindås, Hordaland, is one of the last farms that still remains from the time when the heather fields were an important part of life.



BAKKEMUREN

It happened that farmers adjusted the topography to make a steep land more useful, by laying out terraces they also made use of the clearing stone. From Austervoll in Hordaland.

Ragnar Frislid
Norske Kulturlandskap, Landbruksforlaget, Oslo 1989.

THE COASTAL HEATHER LANDSCAPE

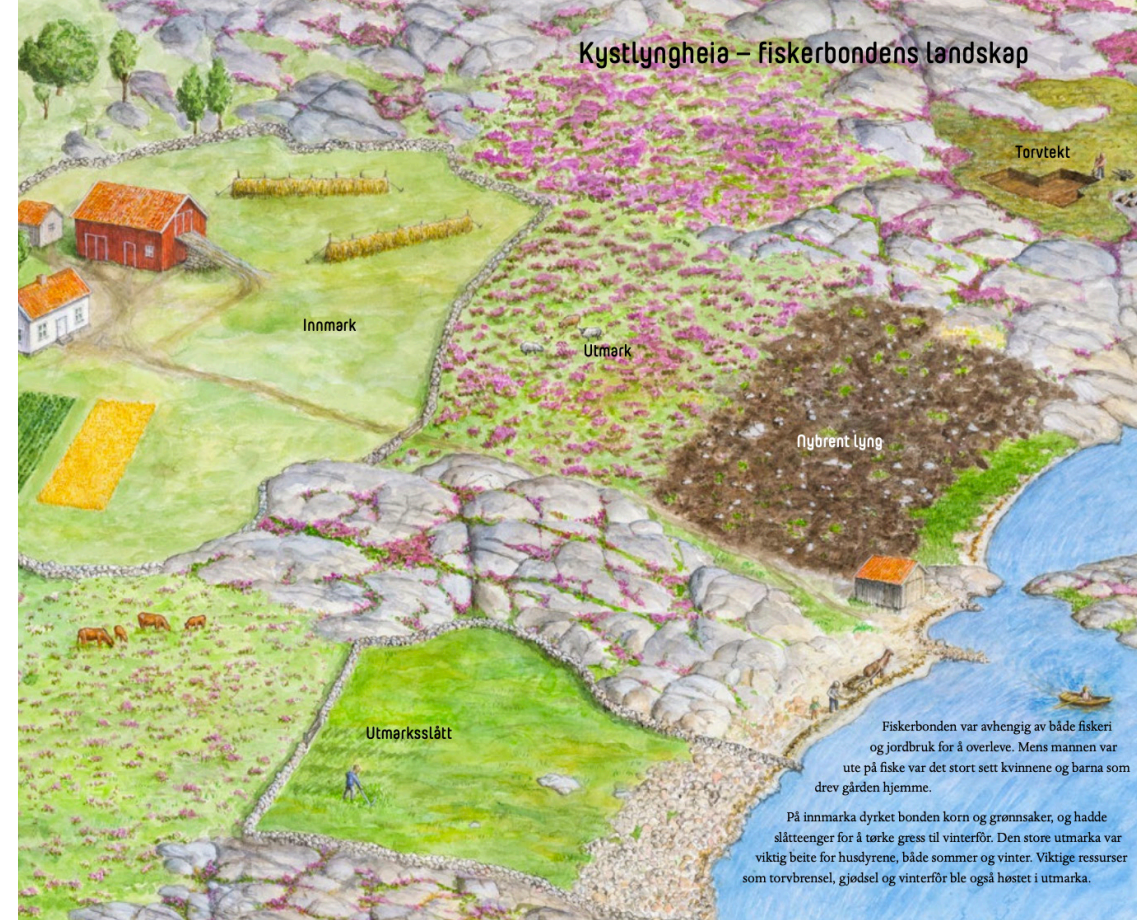
The coastal heathland in Norway is part of a European landscape along the Atlantic coast from Portugal to northern Norway. The sheep's ability to forage in these areas allowed farmers to make productive use of lands. Over centuries of sheep grazing, the vegetation on coastal heathlands was shaped by the continuous grazing pressure. Coastal heathlands became integral to the cultural and economic identity of many coastal communities in Norway. The tradition of sheep farming played a crucial role in shaping the way of life.

Fallet, Ingrid. (2019). *Fem fortellinger om landskap*. Undertittel: *Økologisk landbruk i 5000 år*. Oslo: Norske landskapsarkitekters forening.

HOW HAS THE DOMESTICATION OF SHEEP SHAPED OUR CULTURAL LANDSCAPE?



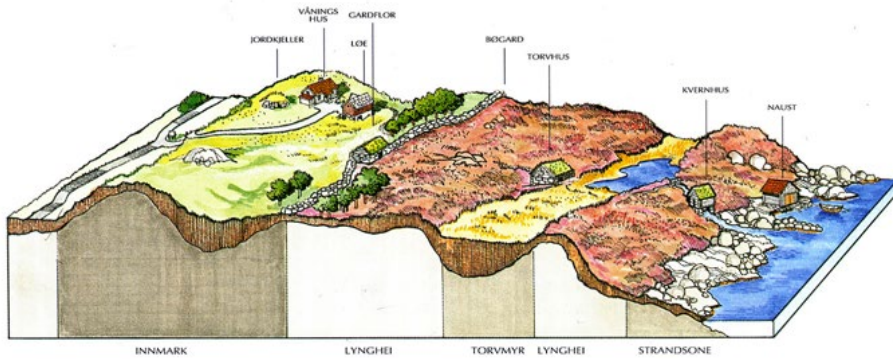
<https://www.miljodirektoratet.no/globalassets/publikasjoner/m23/m23.pdf>
Skjotselsboka, Landbruksforlaget.



MOSAIC

The connection between sheep farming and coastal heathland lies in the utilization of these marginal lands for grazing. Coastal heathlands are characterized by a mixture of grasses, low shrubs, and heather, which are well-suited for sheep grazing. This type of vegetation is often found on less fertile soils near the coast, where the climate and terrain are not as conducive to traditional crop farming.

<https://www.grind.no/nordhordland/lindas/lurekalven>
<https://www.miljodirektoratet.no/globalassets/publikasjoner/m23/m23.pdf>
(Hvaler kommune. Kultur - og naturguide gjennom gjennom vakker kystlynghei. www.hvaler.kommune.no.)



SHEEPFOLDS WALES

There are over 3500 sheepfolds in north-west Wales and many of them are concentrated on or around the Carneddau. The large, multi-cell, sheepfolds are unique to this area and many date back to the eighteenth century, when sheep farming on the uplands really started. Many are still used today. Flower shaped sheepfolds, like this one in Cwm Dulyn, have only been formally recorded in four areas of the world, Wales, Iceland, Switzerland and Croatia.

OPERATION METHODS

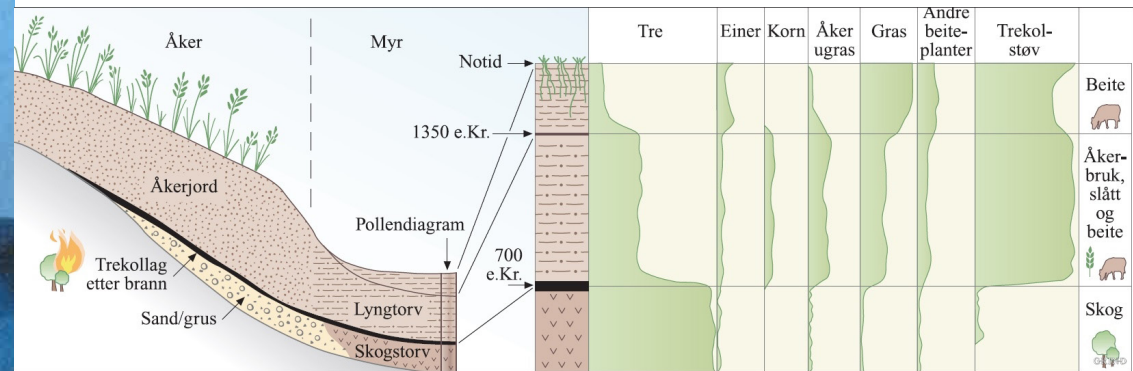


WHOLE YEAR GRAZING

https://www.researchgate.net/figure/Figur-7-Kystlynghei-fra-Holme-pa-Bomlo-med-stort-innslag-av-purpurlyng-og-beitende_fig2_315714051

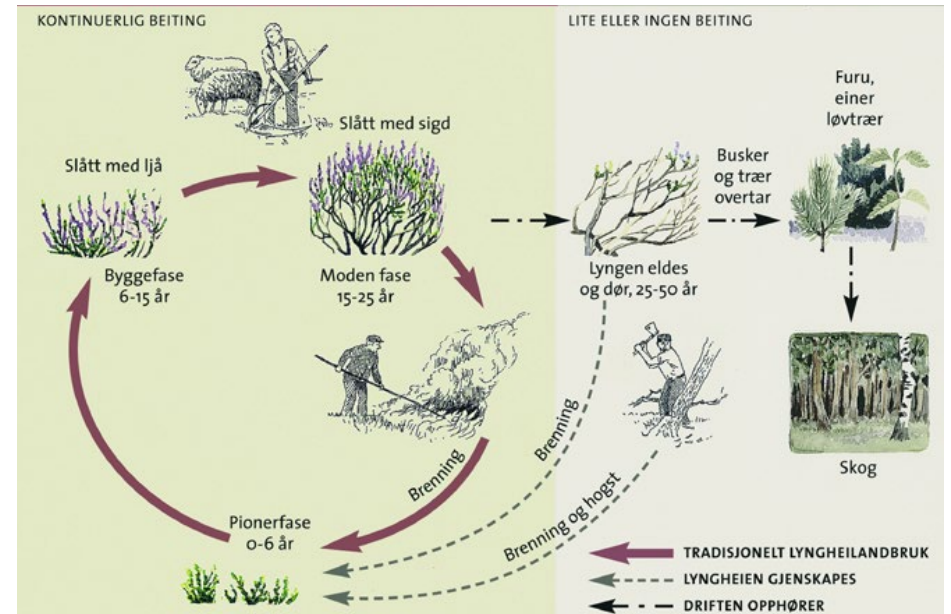


OPERATION METHODS



VEGETATION CYCLUS

Section (left) and pollen diagram (right) showing how the mire layer provides information about vegetation changes on Lurekalven. Resource section showing the coherence of heather as an ecosystem.



BURNING OF HEATHER

Fallet, Ingrid. (2019). *Fem fortellinger om landskap*. Undertittel: *Økologisk landbruk i 5000 år*. Oslo: Norske landskapsarkitekters forening.

(Lyngheiseret)
(Mons Kvamme / Eva Bjørseth)
(modified after Arne H. Ingvaldsen 1976.)

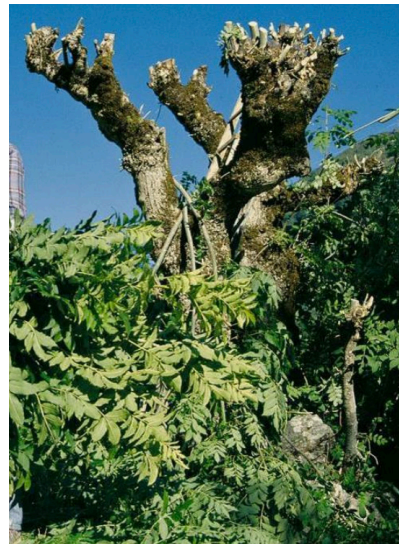
POLLARDING

Pollarding trees for one of two reasons: for fodder to feed livestock or for wood.

Fodder pollards produced “pollard hay” for livestock feed; they were pruned at intervals of two to six years so their leafy material would be most abundant.



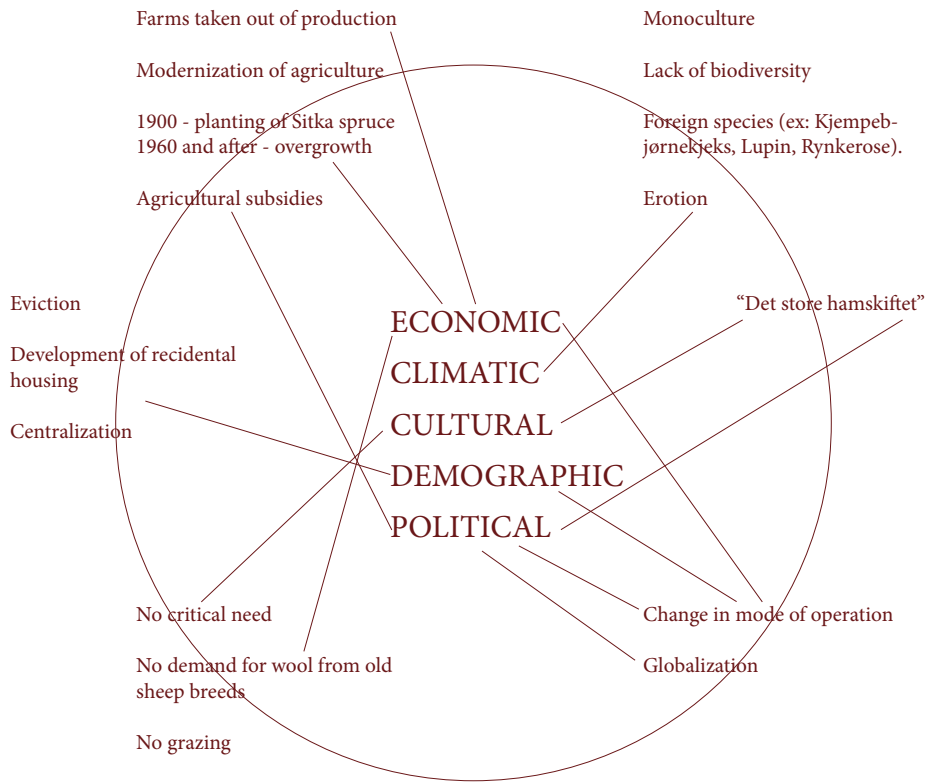
WHAT IS THREATENING THE CULTURAL LANDSCAPE?



<https://www.nrk.no/innlandet/bonder-samler-lauv-for-a-ha-nok-for-til-dyra-1.14137492>
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https://www.statsforvalteren.no/siteassets/fm-rogaland/dokument-fmro/landbruk/skje-ma-og-malar/2019-haustingskog_veiledningshefte_nibio_rapport_2018_4_150_revidert.pdf
Nikolai Astrup - Marsmorgen
<https://en.wikipedia.org/wiki/Pollarding>



DRIVERS OF CHANGE



SUBSIDY FOR WOOL FROM OLD SHEEP BREEDS

In 2016, the Norwegian Directorate of Agriculture removed the subsidy for wool of the lowest quality. This largely applies to the wool of the oldest sheep breeds. Cutting, shipping and sacks for wool cost money. Sending the “worthless” wool in to the wool reception is a loss-making project for the farmers.

As a result, a lot of wool is buried in the forest or burned on the shore. How much is wasted each year, no one knows. Every year, Norwegian sheep and lambs produce approximately 4 million kilograms of wool. Between 20 and 25 percent of the wool is used in Norway. The rest is sent abroad where it is used in carpets and other textiles. Wool is sorted into 16 quality categories, depending on, among other things, wool type, color and thickness. Farmers receive subsidies for eleven of these quality categories. They do not receive a grant for the five lowest categories. The oldest sheep breeds have coarser wool that ends up in the lowest categories and is therefore “worthless”.

Ull fra norske sauer blir gravd ned i jorda eller brent i fjæra

Kun en fjerdedel av ulla som produseres i Norge, brukes her. Nå jobbes det med å finne nye måter å utnytte norsk ull på.



Tuva Hilton
Journalist

Publisert 24. mai 2021 kl. 09:41

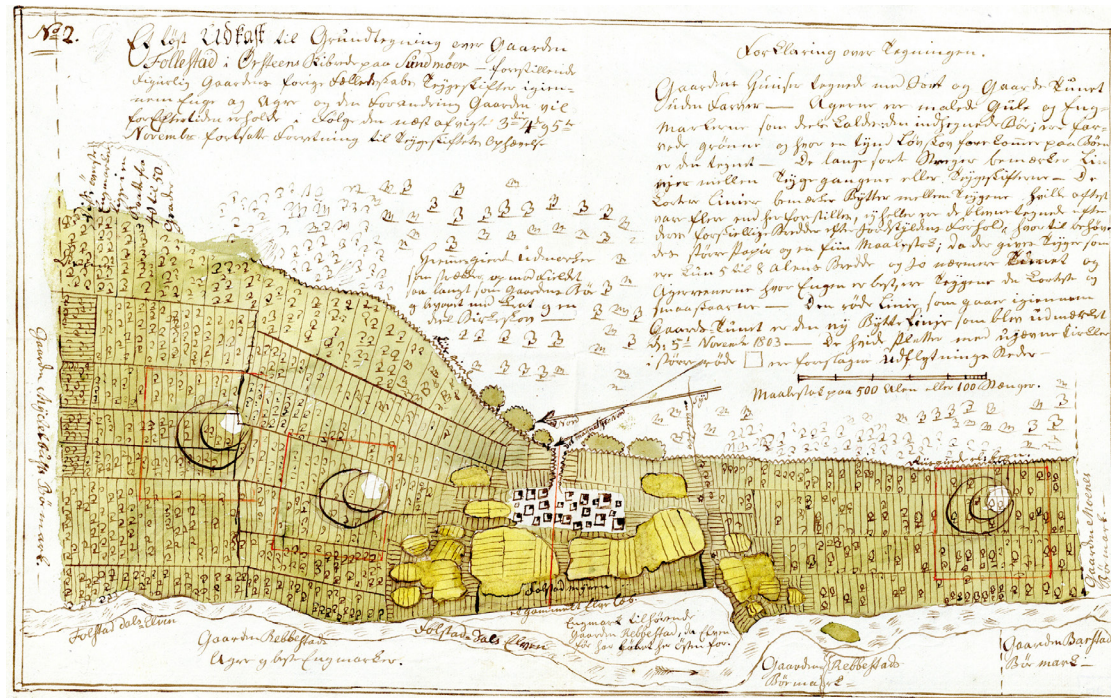
Artikkelen er mer enn to år gammel.

“WOOL FROM NORWEGIAN SHEEP IS BURIED IN THE GROUND OR BURNED ON THE SHORE”

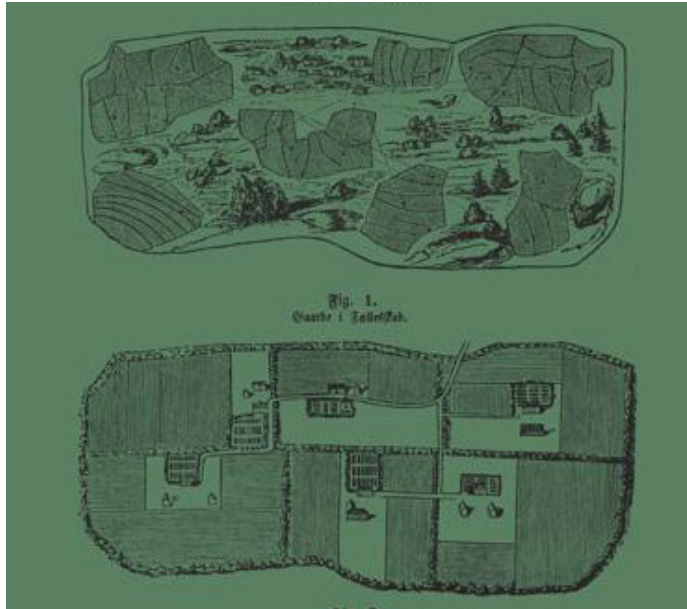
“DET STORE HAMSKIFTET”

A period in Norwegian history in the 19th century where society was drastically changed. Among other things, society moved from being based on self-sufficiency household for cash household. Throughout the second half of the 19th century, Norwegian agriculture became increasingly market-oriented.

Map showing the yard and teig structure on the farm Follestad in Ørsta on Sunnmøre in 1803, drawn by Sheriff Aarflot in Volda.



WHAT IS THREATENING THE CULTURAL LANDSCAPE?



CHANGE OF MODE OF OPERATION

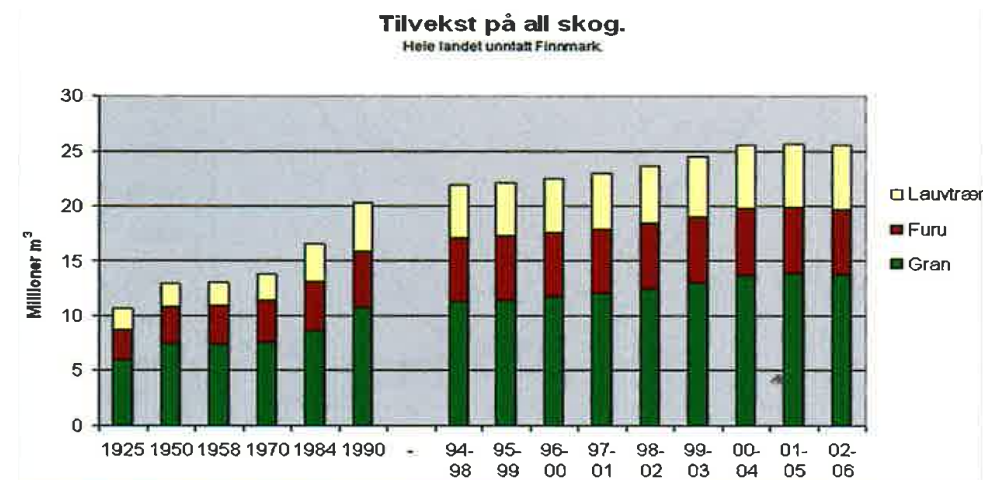
Until the middle of the 19th century, the farming industry in parts of Norway was characterized by the fact that farming was an extensive dough mixture. At the same time, it was the case that people often lived in large communal gardens, which resembled villages. The exchange laws of the 19th century aimed to dissolve this farm division, in favor of consolidated inland areas and individualized yards for each farming family.

(https://snl.no/Det_store_hamskiftet)
Langnes, Mads: Utskiftningsrett og gardskipnad, Novus forlag.

GROWTH IN ALL FORESTS THROUGHOUT THE COUNTRY

There has been a great increase in Norwegian forest volume, primarily as a result of afforestation and subsequent growth. The growth itself has also increased, but has leveled off at just over 25 million m³. This is an annual increase, the volume of Norwegian forests continues to increase.

(Exept Finnmark)



Rennesøy, Vestlandets historie, Natur og Næring, Vigmostad Bjørke, Knut Helle, 2007.
https://www.duo.uio.no/bitstream/handle/10852/87507/1/HIS4095L_Zimmermann.pdf
<https://www.miljodirektoratet.no/globalassets/publikasjoner/m23/m23.pdf>
Dag O Hessen, Landskap i endring.
Gårdsdrift, politiske forandringer som endrer landskapet.

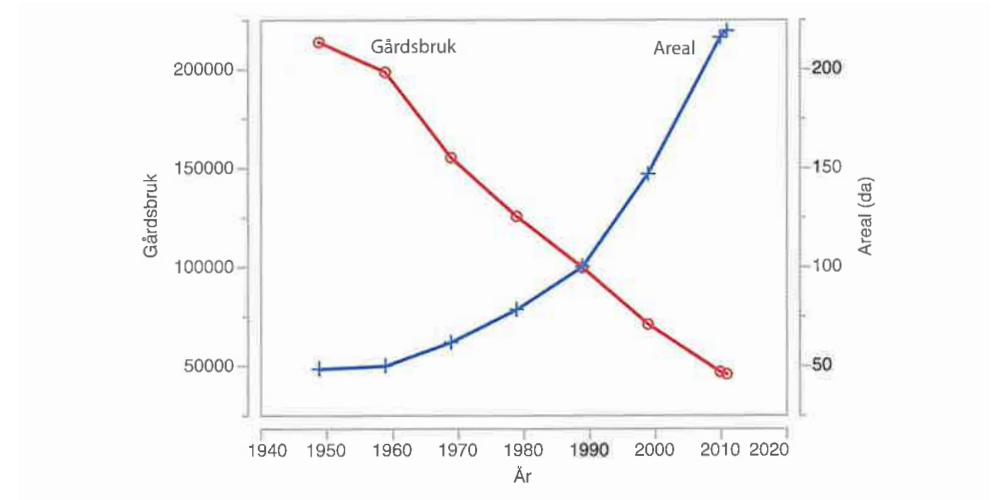
SITKA SPRUCE

The Sitka spruce tree species originally from the west coast of North America. With its rapid growth and endurance in a rough coastal climate, a natural choice during the post-World War II afforestation era.

The afforestation case was supposed to help with the reconstruction of Norway and ensure economic growth in forestry. Along the coast of Norway, from Vest-Agder to Troms, there was previously little active forestry. This was wanted to change, and a great effort was therefore made to plant forests along the coast in the 1950s, 60s, 70s and 80s. In order to manage to plant forests in the outermost coastal areas, people became dependent on sitka spruce and during the thirty years planted approx. 500,000 acres of sitka spruce forest.

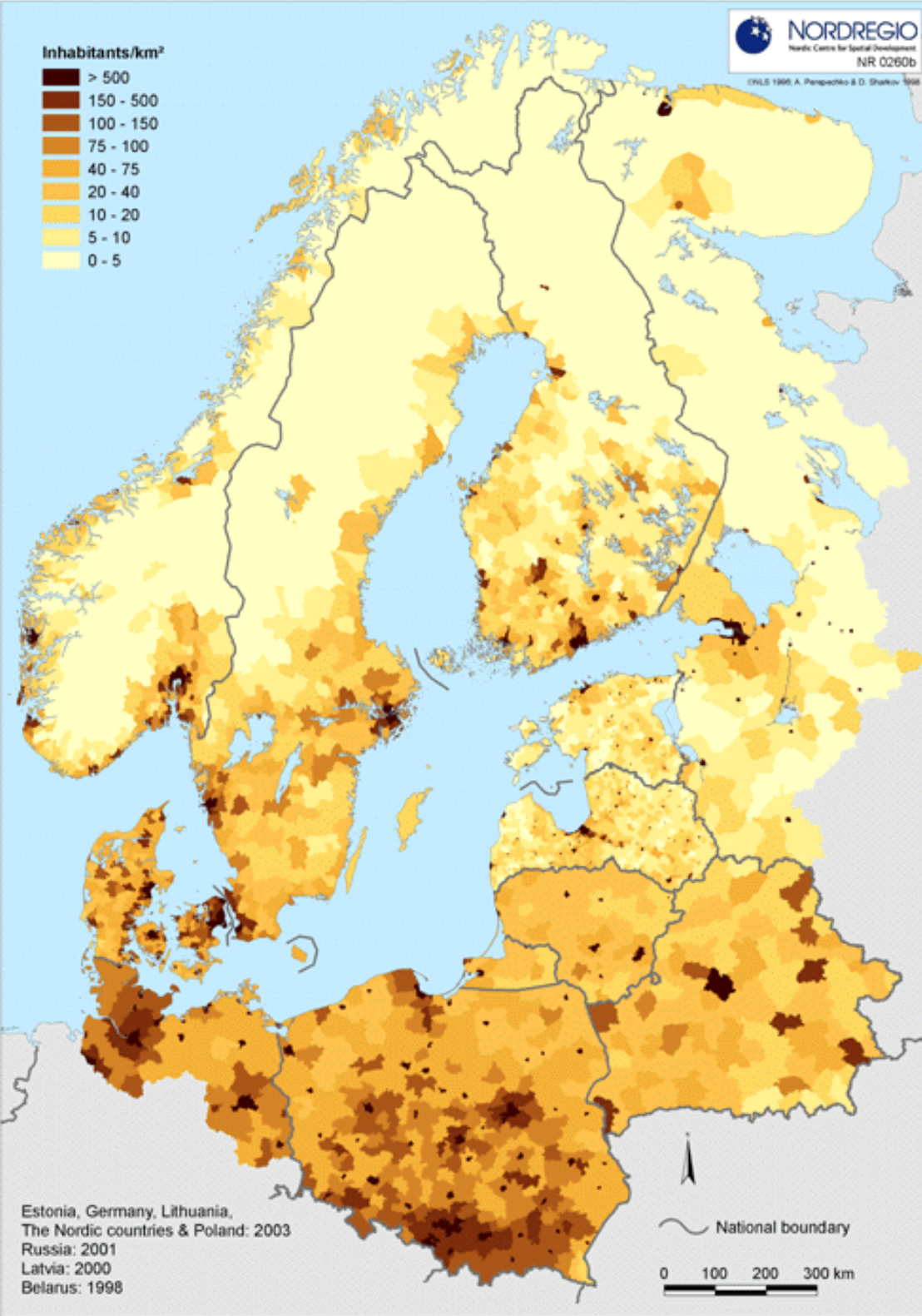


1900 - planting Sitkagran, Buskfuru
1960 - Overgrowth



CENTRALIZATION

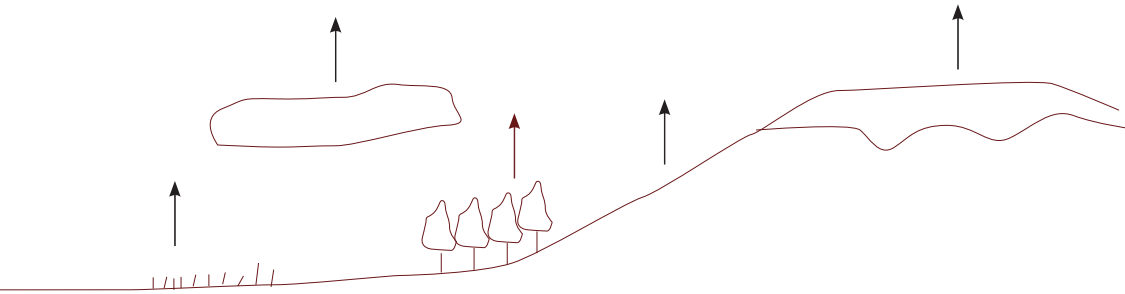
The development and streamlining of agriculture is perhaps what most of all affects the landscape, in any case the cultural landscape. While the number of farms is decreasing rapidly, the average area per farm is increasing accordingly, primarily because it is the small farms that are closing down. The same applies to the number of cows per farm - small farms with grazing animals are disappearing, while large indoor herds are increasing.



HEATHER LANDSCAPE, LYGRA



OVERGROWTH IN HEATHER LANDSCAPE, LYGRA



Grass	Thick clouds	Trees	Bare dry earth	Fresh snow
20-25%	70-80%	5-10%	15-25%	80-85%

THE ALBEDO EFFECT

When the albedo of an area is changed, it can affect the climate, and this is called the albedo effect. Different types of landscape and the shape of the landscape produce different albedo effects. A paved and densely built-up urban environment will retain more of the heat from the Sun than the original bright deciduous forest that grew in the area in the past and which reflected more of the heat out than into space. A dense and dark planted spruce forest will have a lower albedo than an open and bright cultural landscape. Thus, changes in how the area is used will cause changes in the albedo of the area.

RESEARCH QUESTION

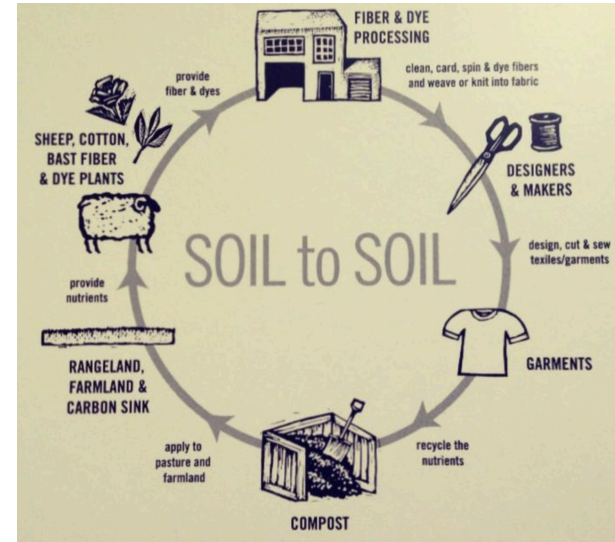
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How can we cultivate the landscapes today by using the sheep as a resource and enhance old traditions compared to todays situation?



Peterssen, Eilif, Fåreklipping. Sele, 1892
 (https://digitaltmuseum.no/021046233349/fareklipping-sele-oljemaleri)



“FIBERSHED”



<https://www.familyhandyman.com/article/sheep-wool-insulation/>
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