Farmers who wish to restore pastures, and their relation to policy

Tea Madunic Olsson

Independent project • 30 credits
Swedish University of Agricultural Sciences, SLU
Faculty of Natural Resources and Agricultural Sciences
Department of Urban and Rural Development
Agriculture Programme - Rural Development
Uppsala 2022

Farmers who wish to restore pastures, and their relation to policy

Hur lantbrukares vilja att restaurera betesmark förhåller sig till policy

Tea Madunic Olsson

Supervisor:	Malin Beckman, Swedish University of Agricultural Sciences, SLU, Department of Urban and Rural Development
Examiner:	Cristian Alarcon Ferrari, Swedish University of Agricultural Sciences, SLU, Department of Urban and Rural Development
Assistant examiner:	Brian Kuns, Swedish University of Agricultural Sciences, SLU, Department of Urban and Rural Development

Credits:	30 credits
Level:	Second cycle, A2E
Course title:	Master thesis in Rural Development, A2E - Agriculture Programme - Rural Development
Course code:	EX0890
Programme/education:	Agriculture Programme - Rural Development
Course coordinating dept:	Department of Urban and Rural Development
Place of publication:	Uppsala
Year of publication:	2022
Copyright:	All featured images are used with permission from the copyright owner.
Online publication:	https://stud.epsilon.slu.se

Keywords: semi-natural pastures, restoration, policy, governance, land-use

Swedish University of Agricultural Sciences
Faculty of Natural Resources and Agricultural Sciences
Department of Urban and Rural Development
Division of Rural Development

Abstract

Semi-natural pastures are one of the essential types of land for biodiversity in Sweden; the land provides significant beneficial values for biodiversity and is an essential part of the primary food production system. This study aims to increase understanding of how the new policy may influence farmers who wish to restore pastures. Through interviews with farmers and advisors, combined with a policy overview, four main factors which motivate farmers to restore pastures are identified: Profitability, nature conservation, preparedness, and an open landscape. The new national policy excludes restoration support from the available subsidies in conjunction with the new CAP reform. Independent of the EU policy, Sweden will implement a new national support system to implement subsidies regarding grazing and restoration. This policy change could be an opportunity to maintain and restore more semi-natural pastures in Sweden. However, the new support system risks a heavier administration burden for the farmers. The study also identifies an underlying land-use conflict between carbon capture and biodiversity when carbon capture and biodiversity policy apply to the same land.

Keywords: semi-natural pastures, restoration, policy, governance, land-use

Populärvetenskaplig beskrivning

En naturbetesmark är en mark som präglas av bete och som inte gödslas, sås eller kultiveras. Naturbetesmarker har varit mycket mer förekommande i det svenska landskapet historiskt, men från 1940 har dessa minskat drastiskt. Naturbetesmarker har hög biologisk mångfald och är viktiga för bevarandet av den svenska floran och faunan. Eftersom biologisk mångfald är en viktig del i hållbarhet, och betesmarker är en naturlig del av lantbruket i Sverige, finns det stort intresse av att bevara och öka arealen av naturbetesmarker. EU:s gemensamma jordbrukspolitik CAP förnyas till år 2023, och den nya svenska jordbrukspolitiken kommer anpassas till detta i samband med nya CAP. En stor förändring i förslaget till den nya svenska jordbrukspolitiken är dels ökade bidragsbelopp till betande djur, men stödet för att restaurera betesmark har tagits bort. Uppsatsen ämnar undersöka hur lantbrukares vilja att restaurera betesmark förhåller sig till dessa ändringar i jordbrukspolitiken. Det empiriska materialet har samlats in genom intervjuer med lantbrukare och rådgivare samt en översikt av policy och den jordbrukspolitiska utvecklingen i Sverige. För att diskutera materialet används det teoretiska begreppet ’governance’, som syftar till att förklara styrning mellan olika aktörer. Resultatet sammanfattar att fyra olika faktorer har en avgörande roll för lantbrukares vilja att restaurera betesmark; lönsamhet, naturvårdsintresse, krisberedskap och ett öppet landskap. Dessa faktorer överlappar varandra i varierande grad. Restaureringsstödet flyttas från CAP till ett separat nationellt stödsystem som ska administreras av Naturvårdsverket. Att restaureringsstödet finns kvar i ny form ger möjlighet att bromsa minskningen av naturbetesmarker, jämfört med om stödet skulle tas bort helt. Dock medför det en risk med ökad administration hos lantbrukarna, som behöver söka stödet hos en ny instans.

Sammanfattning

Naturbetesmarkerna är bland de viktigaste markerna som finns i Sverige när det gäller biologisk mångfald. Att bevara naturbetesmarkerna är viktigt för de hundratals växterna, svampar, insekter och andra djur som utgör den stora biologiska mångfalden i marken. För att sköta naturbetesmarkerna behöver de betas av kor, hästar eller får för att inte växa igen. Dessa marker har minskat dramatiskt sedan 1945 och i hög grad växt igen eller planterats med skog. Både företag, myndigheter och intresseorganisationer betonar vikten av att öka arealen naturbetesmark i Sverige. Tidigare har det funnits restaureringsstöd för att återskapa igenvuxen naturbetesmark. I samband med nya CAP har restaureringsstödet lyfts ur stödsystemet som det ser ut idag. Den här uppsatsen undersöker lantbrukares motivation att restaurera naturbetesmark i relation till den nya jordbrukspolicyn. Genom intervjuer med lantbrukare och rådgivare samt genomgång av jordbrukspolicy framkommer vad som är viktiga drivkrafter för att lantbrukare ska restaurera naturbetesmark. Lönsamhet, naturvårdsintresse, krisberedskap och ett öppnare landskap är de fyra viktigaste faktorerna som identifieras. I relation med ny policy och jordbrukspolitik kommer restaureringsstödet lyftas ur Jordbruksverkets stödsystem i landsbygdsprogrammet och skötas via ett nytt nationellt system administrerat av Naturvårdsverket. När restaureringsstödet lyfts ut i ett separat system kan det ge möjlighet att bromsa minskningen av naturbetesmarker samt restaurera mer naturbetesmark. Dock medför det risker med ökad administration för lantbrukarna när stöden ska sökas hos olika myndigheter. Utifrån policy identifieras också en underliggande konflikt i markanvändning mellan jordbruk och skogsbruk, där båda discipliner har ett intresse av marken.

Nyckelord: naturbetesmarker, restaurering, policy, governance, markanvändning

Heath-spotted orchids-
Jungfru Marie Nycklar

In the summer of 2021, I conducted the first interview for this thesis. The informant's passion for the flower *Butterfly orchid (Platanthera bifolia)* inspired me to find the flower, which was unknown to me at the time. On the edge of a forest in a semi-natural pasture, less than a kilometer from the house where I grew up, I found the butterfly orchid. Together with the magnificent heath-spotted orchid, in Swedish, *Jungfru Marie nycklar*, a memorable name for a particular flower. My research interest lies in policy-related issues within the borderline of agriculture and forestry. After this day of finding the heath-spotted orchids, I knew semi-natural pastures was a suitable subject for my master thesis.

Figur 1. Heath-spotted orchids (Dactylorhiza maculate) on a semi-natural pasture in Bankeryd, Småland. By Tea Madunic Olsson

Table of contents

List of photos

List of tables

Abbreviations

SLU	Swedish University of Agricultural Sciences (Sveriges lantbruksuniversitet)
CAP	Common Agricultural Policy
SBA	Swedish Board of Agriculture (Jordbruksverket)
SEPA	Swedish Environment Protection Agency (Naturvårdsverket
LRF	Federation of Swedish Farmer (Lantbrukarnas Riksförbund)
NGO	Non-profit organization
CAB	Country Administrative Board (Länsstyrelsen)
SFA	Swedish Forest Agency (Skogsstyrelsen)

1. Introduction

Few things characterize the Swedish culture as much as the image of a rural idyll in the summer. Flowers of meadows and pastures are frequent in our most beloved classical songs (Gullviva, mandelblom, kattfot och blå viol)1 and even in the national anthem of Sweden (Din sol, din Himmel, dina ängder gröna)2. Semi-natural pastures are one of the essential types of land for biodiversity in Sweden. They provide significant beneficial values for biodiversity and are an essential part of the primary food production system. Grazed land also benefits pollinators necessary for all food production and life on land (SEPA, 2021). Furthermore, agricultural policy, NGOs, and the agricultural sector coherently emphasize the importance of semi-natural pastures (LRF, 2019) (SEPA, 2022). Therefore, this study assumes that the main actors in the agricultural sector desire an increased area of semi- natural pastures in Sweden.

The grasslands (pastures and meadows) in Sweden have decreased from 60 % in 1902 to 3 % in 2011 (Cousins 2009). In Sweden, the decline of semi-natural pastures threatens the second national environmental goal of a rich agricultural landscape (Miljömålen, 2021). The grazing land has mainly been afforested or planted with forest. Since the restoration of semi-natural pastures usually means changing the land from forest to agricultural land, the subject also addresses forestry. Nonforest land, where there is a choice of either planting forest or letting it be grazing land is also considered to be an opportunity to increase carbon storage in Sweden (SEPA, 2021). The two sustainability interests, carbon capture, and biodiversity compete with the same type of land. There are significant national and international interests in this sustainability matter, and the national prioritization is unclear.

In the new CAP reform, several subsidies connected to pastures and animal production will be removed or changed, such as support to restoration of pastures (SBA, 2021). This study investigates how the new policy might affect farmers' motivation to restore semi-natural pastures. Since the topic addresses policy still in process, the thesis can only answer for the decisions made during the spring of 2022. Sweden’s strategic agenda in relation to CAP 2023-2027 is still being

[1] Sjösalavals by Evert Taube

[2] Du gamla du fria by Richard Dybeck

processed by the EU. In this study, Sweden's strategic agenda will be referred to as *new agricultural policy.*
While working on this thesis, the Swedish Environmental Protection Agency announced that they received the mission by the government to establish a national program for compensation for the restoration of meadows and pastures (SEPA, 2022). However, the design of the program and the difference between previous subsidies administrated by SBA is still unclear.

1.1. Aim and research questions

The new CAP reform will significantly influence the agricultural sector in Sweden. One of the most significant changes compared to the previous CAP period is the change regarding pastures. The subsidy related to grazing is increased, and the subsidy to restore semi-natural pastures is removed 2023-2027. The importance of semi-natural pastures is emphasized coherently by governmental institutions, agricultural businesses, and NGOs in Sweden. There is a will to restore semi-natural pastures among both landowners and policymakers. How do farmers perceive the policy changes concerning the wish to restore pastures?

Almost every farmer in Sweden is dependent on subsidies. Therefore, changes in subsidies and policy regulations are likely to play a crucial role in land-use change in Sweden (Bergmeier, 2010). This study aims to increase understanding of how the new policy may influence farmers who wish to restore pastures. To address this knowledge gap, the study will concentrate on the following research questions:

- What do farmers perceive as reasons to restore semi-natural pastures?
- How do farmers' perceptions of restoring semi-natural pastures relate to new agricultural policy?

The problem is complex and contains economic, social, and historical aspects. This thesis aims to contribute to the general understanding of farmers' motivation to restore semi-natural pastures and policy implementation to improve policy development.

2. Concepts

The following chapters will explain essential concepts to understand the topic and context of this study.

2.1 Definition semi-natural pastures

Pastures are land that is characterized by grazing. SBA (2021) defines semi-natural pastures as pastures that have not been fertilized or cultivated. The pastures need to be grazed by cows, horses, or sheep to maintain the biodiversity and not be afforested. Sometimes the grazing needs to be supplemented with other measures, such as clearing of sly. There are some variations in the definition of semi-natural pastures (ibid). The definition in this thesis will be SBAs (2021) definition *land characterized by grazing and not affected by fertilizing, tillage, or sowing of grass*. In this thesis, pastures describe all pastures and not just the land defined as semi-natural pastures.

Historically, the production of forage was a combination of pastures and meadows cut for winter forage, and after the harvest, the animals grazed the meadows. This continuous removal of nutrients has created poor land and grazing disturbance. This land has become home to many species and is considered one of the most crucial land types for biodiversity and the preservation of endangered species. Therefore, the semi-natural pastures need management with grazing to continue the necessary disturbance (Jamiesson & Hessle, 2021). The industrialization and structural change of the agricultural sector have affected the food production, the rural populace, the landscape, and the use of semi-natural pastures. Different grasslands such as meadows and hay meadows for forage began to be cultivated with crops and ceased to be grassland. The grasslands in Sweden have decreased from 60 % in 1902 to 3 % in 2011. Research has shown that high biodiversity correlates to the historical management of pastures. The different species are not only dependent on the semi-natural pastures but also on the historical context of the landscape (Cousins, 2009). These plants can survive in abandoned grassland or pastures for some time. The slow tendency to adapt to a surrounding environment makes it possible to save these endangered species. Not only by

preserving the grasslands but also by the opportunity of restoring and recreating the habitats and environments. Only a tiny part of what we call semi-natural pastures have in fact been grazed continuously for centuries (Cousins, 2009).

Today, almost 70 % of Sweden's total land area is covered by forests. In 2016, only 0.45 million hectares remained, of the 1,5 million hectares of pastureland of 1927 (LRF, 2019). Overgrowth and lack of grazing animals are the main reasons for decreasing pastures (Hessle & Kumm, 2011). In 1940, semi-natural pastures started being abandoned and developed into forest land. This trend continued throughout the decade. Traditionally managed semi-natural pastures were abandoned and developed into forest. Former semi-natural pastures have also been converted into arable land or afforestation. Afforestation is known as one of the most species-poor monocultures during the first 50 years (Eriksson et al., 2002). The area of semi-natural pastures is reduced by almost 90%. The reasons are mainly afforestation, reforestation, and the built environment (Bernes, 1994).

2.2 Restoration of semi-natural pastures

The County Administrative Board (CAB) must assess the land before any restoration can start if the farmer wants to apply for the restoration support. If the CAB assesses the land as having special values, the landowner can enter an agreement to manage the land according to the terms of compensation (SBA, 2021). The agreement extends over five years. The land must not qualify to be defined as a semi-natural pasture before the restoration. The land must not qualify for any subsidies regarding pastures before the restoration (ibid).

The restoration has the character of forest work, such as clear-cutting and clearing of sly. The work often requires forest machines and qualified staff. Smaller forest machines could be an advantage when restoring pastures. With the right equipment, landowners could restore by themselves, depending on the preconditions with machines on the farm. Clearing saws are much less expensive but require a large amount of work. The need for clearing differs widely depending on specific pastures and geographic location (ibid).

2.3 Land use

Land use is defined as the human utilization of land for different purposes. Land use in Sweden has changed significantly and transformed the landscape. The largest area of agricultural land is in the southern parts of Sweden, in general, south of the city of Uppsala (Antonsson & Jansson, 2011). The forest land has increased by approximately 800 000 hectares, and the agricultural land has decreased by

approximately 900 000 hectares, since 1900. The settled land has also undergone dramatic changes during the last decade. Conflicts of land are almost inevitable when the cities grow, and infrastructure such as roads, airports, and railroads expand. Agricultural land and forest land are usually the lands to be claimed in the expanding settlement (ibid).

2.4 Policy and politics

Policy is the concrete expression of politics within different subjects. Policy is concluded from political decisions, guidelines, and principles. Unlike politics, policy is not equal to party politics (Silander & Öhlen). This thesis will focus on policy and policy processes in relation to farmers motivation to restore semi-natural pastures.

3. Literature review

This chosen literature adds dimensions from previous research to address the topic in a scientific context. The articles are representative of the broadness of the topic and will include aspects of semi-natural pastures, animal husbandry, conflicts in land use and policy aspects. This chapter presents short conclusions of each article. The insights below will be used to discuss and contextualize the result from this study.

3.1 Sustainimal knowledge overview

The research center Sustainimal presents a knowledge overview of semi-natural pastures, which addresses obstacles and possibilities for increased grazing with cattle, sheep, and horses from a farmer's perspective (Jamiesson & Hessle, 2021). The Sustainimal report addresses the issue of decreasing semi-natural pastures from a general perspective with this knowledge overview. Managing semi-natural pastures by keeping grazing animals is influenced by many factors. Fencing, daily supervision, and the presence of predators are factors connected to the actual grazing land and geographic area. The overview also addresses more indirect factors, such as society's general attitudes to farming, farm business economy, and governmental regulations. Some of the opportunities mentioned are virtual fencing, cooperative winter housing of animals, more horse grazing, and governmental support to restore semi-natural pastures. Examples of obstacles to the general management of semi-natural pastures are a disturbance of wild animals, loose dogs, and a lack of profitability in the animal sector. Another essential general factor is the viability of livelihood possibilities, like housing and societal services, in the rural community (Jamiesson & Hessle, 2021).

3.2 Governing nature by numbers — EU subsidy regulations do not capture the unique values of woody pastures

This research investigated plant diversity concerning tree density in woody pastures (Jakobsson & Lindborg, 2015). The EU subsidies have a significant impact on shaping the agricultural landscape through recommendations as a tool. In the case of woody pasture management, 50 trees per hectare is the upper limit to qualify for grazing support. The direct effect of subsidy systems on pasture biodiversity is not thoroughly studied. However, a result in this study is that tree density has no significant effect on species composition. However, when the farmers tend to cut trees to qualify for subsidies, there is a risk of homogenization. Therefore, it would be appropriate to scrutinize tree limit regulations in CAP to preserve biodiversity. Habitat variations, rather than the number of trees, should be the incentive to qualify for financial support (Jakobsson & Lindborg, 2015).

3.3 Facing the future for grassland restoration — what about the farmers?

In this scientific article, Walden & Lindborg (2018) highlight the importance of socio-economic factors in grassland restoration. Low profitability is a general reason for grassland abandonment all over Europe. Survey and interview data were combined with in-depth interviews to understand the landowner's perspective regarding these questions. The study concludes that 40 % of the landowners are unsure if their grassland will continue to be managed in the future, despite most landowners perceiving their restoration experience as successful. Financial support and better advice from authorities are desired to continue the management of the grasslands. Increased demand for products from the grasslands is also identified as a possibility for increased management of grasslands (ibid).

3.4 Economic Comparison between Pasture-Based Beef Production and Afforestation of Abandoned Land in Swedish Forest Districts

Spruce planting is considered the obvious option to replace abandoned agricultural land. Small, scattered fields and pastures in forest-dominated areas are at risk of abandonment due to not being compatible with modern, cost-efficient mechanized agriculture. These areas have become unprofitable to graze due to the unfavorable location to improve efficiency in the production. From a landscape point of view, it is questionable to plant spruce on these lands. This study compares the profitability of agriculture with organic beef cattle in comparison to spruce planting. The calculations suggest that organic beef production could be more profitable with present environmental support. However, the conclusion is invalid in the south of Sweden, with the most fertile land. The option between agricultural land and afforestation depends on tree breeding, livestock-related support, and environmental payments (Kumm & Hessle, 2020).

3.5 The Swedish forestry model: More of everything?

“The Swedish forestry model” has been used to capture the essence of the Swedish way of managing forests sustainably and is a key to forest politics. The model evolved in 1993, and the meaning is based on a significant policy shift where regulations were relaxed, and environmental goals were established in parallel with high production goals. The model has been characterized by the devise “freedom with responsibility,” and forest owners gained the freedom to manage the forests according to their own will. However, the model has been criticized for not meeting the environmental goals to the same extent as production goals. The study concludes that the current Swedish forestry model promotes “more of everything” as the policy formulations has broadened. One consequence of broad out policy formulations is less capacity for implementation and tradeoffs due to the goals being broader and more unspecific (Lindahl et al, 2017).

4. Theoretical and methodological framework

Semi-structured interviews will be used to answer the research questions, together with a study of policy documents. The outcome of the interviews is contextualized by a policy overview using governance as the theoretical concept, to understand better how new policy might influence farmers' wish to restore pastures. The concepts enable a better understanding of the relationship between farmers and authorities but from different aspects. The policy overview will work as a background to understand the context of the topic and facilitate the discussion of the empirical material.

4.1 Research design

The research problem focuses on farmers' motivation to restore pastures, in relation to policy. Multiple forms of data will be used to gather empirical material suitable to answer the research question. A suitable research design for this cause is a qualitative research approach with a constructivist worldview (Creswell, 2013). The method includes semi-structured interviews with farmers and agricultural advisors, and a study of relevant policy documents.

4.2 Interviews

Semi-structured interviews serve as an in-depth source of information on farmers' attitudes on restoring semi-natural pastures. The advantages of this strategy are that the respondent can provide additional important information, such as historical information. The semi-structured interviews are suitable for those aspects; the information which is not asked for but could still be important data. A disadvantage is the risk of possible misinterpretation and bias (Cresswell, 2013). The interviews have been conducted by telephone mainly and partly in person. The primary purpose of the interviews was to find out what farmers perceived as the main reasons to restore pastures. The interviews are conducted in Swedish and later

transcribed and translated to English. Therefore, the quotes in the study are not exact, but the quotes' meaning is unaltered.

Since the policy process is still ongoing during the writing of this thesis, I asked more general questions regarding the agricultural policy and how it might affect their motivation to restore pastures. The fact that SEPA was assigned to host the new national support system was known by one advisor; it was publicly announced in April this year. This fact has probably not affected the empirical material to a large extent since the interviews revolved around how policy in a more general way affected them and their motivation to restore pastures. However, it is essential to be aware that my role as an interviewer and my knowledge of the new policy might have affected the interviews and unintentionally led the conversation in a specific direction. The disadvantage of qualitative interviews is the risk of a small sample of informants. Therefore, their opinions are not necessarily representative of all farmers who restore pastures. The inclusion of agricultural advisors is an attempt to increase the possibility of generalizing since the advisors can explain the opinions of a larger number of farmers.

4.2.1 Sample interviews

The search for suitable informants started in the region Småland. I grew up in this region and have also worked at a dairy farm in Småland. I started asking my former colleagues if they knew anyone who had restored pastures. Therefore, most of the informants operate in Småland, which is known to be a region with poor arable land with historically high dairy production. SBA (2017) identifies Småland as a region with high potential to increase the areal of semi-natural pastures. I was acquainted with one of the informants, the rest have been contacted without any connection to me personally. For every interview conducted, I asked around for other farmers which might be interested to participate in this study, and thus found my informants through the “snowball-effect”. The informants have been contacted by SMS or email, which could be considered a passive way of contacting. More than half of the people I contacted did not respond to the invitation to participate.

Table 1. List of informants

Abbreviation	*Age*	*Gender*	*Occupation*
BT	*Senior*	*Female*	*Advisor*
LF	*Junior*	*Female*	*Advisor*
MG	*Senior*	*Male*	*Farmer*
SJ	*Junior*	*Male*	*Advisor*
FB	*Junior*	*Male*	*Advisor*
VK	*Junior*	*Male*	*Farmer/ Advisor*
CF	*Senior*	*Female*	*Farmer*

4.3 Policy documents

A few specific documents have been chosen for this study. The first is the Swedish strategic agenda for the CAP period 2022-2027 (Regeringskansliet 2021). The second is a memorandum from the Swedish government on 26 January 2022 about the common agricultural policy 2023–2027 (Regeringskansliet 2021). The memoranda are documentation from a round-table-talk with relevant stakeholders from the agricultural industry. The third document is a PM from SBA which analyses the possible consequences of the new CAP reform in relation to pastures (SBA, 2021). The PM is summarizing analyses of possible outcomes of the new CAP.

These documents provide different perspectives. The strategic agenda is the core document of how Sweden will adapt to the new CAP 2023-2027. The memoranda provide perspectives of several large stakeholders' opinions on the strategic agenda and the Swedish government's answers to their questions. The memoranda provide a better understanding of both the industry's view on the new policy and some arguments from the government on why these changes have been made. The PM provides a governmental point of view of possible consequences of the new policy.

All policy documents will not be examined in its entirety, but relevant parts related to pastures will be examined.

4.3.1 Validity

The qualitative approach aims to understand the meaning and the reality from the individuals' perspective. The reality for the individual is constructed by themselves (Bryman, 2018). The goal is to interpret. One needs to be aware of this and consider it problematic (ibid). The empiric material from the conducted interviews would probably differ if interviewing only farmers and not advisors. The geographic area is also likely to influence the outcome; the informants live in the south of Sweden, where areas are available to restore. There is no significant pressure from wild animals (large carnivores) threatening grazing animals. The advantage of the sample of interviews I have chosen is that the combination of farmers and advisors gives a more general view of the opinions on restoring pastures.

It is also important to be aware that the memoranda might not contain all the relevant aspects which occurred in the room, some of the answers are also written afterwards. But since the meeting was not public, there was no possibility to attend the meeting in person.

4.3.2 Analysis of empirical material

The outcome of the interviews is presented in chapters with different themes. The themes appeared through the empirical data while I identified which themes were most prevalent in the processed material. Material from all interviews is gathered in these themes and presented in different chapters. The material will to some extent be discussed with the help of literature presented in the literature review. Following the empirical results, a discussion with a theoretical framework will be presented in a separate chapter. The discussion is based on the empirical material, discussed in relation to policy and politics with the theoretical framework of governance.

4.4 Governance

Governance is a concept to describe the interactive steering of society. Governance is not about government or control; it is rather characterized by the intercommunion of different levels in addressing societal problems. The complexity of governance is represented in the participation of several actors and the different interest these actors represent (Hedlund & Montin, 2009). Governance is not a new phenomenon but rather a perspective of societal steering. The contradiction between governance and government perspectives is that governance involves building networks and bridges between business, the civil society, and the public

sector and, therefore a changed role for the governmental institutions. In governance, the role of the government is to ensure that political decisions are implemented, but not necessarily by the institution itself. A criticism against governance is that it is advocating an unclear path towards the goal and that it is a measure to adjust to a lower budget for the public sector. There are divided opinions on the effectiveness of governance (Hedlund & Montin, 2009).

Considering the topic of this thesis, governance is a suitable theoretic concept to discuss the governing aspects of farmers' attitudes towards policy. The farmers are applying for different subsidies, and hence approaches the authority. The governmental institution is administrating the subsidies, but also implementing the Swedish governments interest in steering the farmers decisions with the subsidies. The government has (until now) provided information and possibilities to restore semi-natural pastures, but the choice lies with the farmers. The government might have goals or other measures to increase the area of pastures, but the outcome will be determined by the actors, the farmers. The European Union is an expression for governance as a model or steering. Research within governance considers the EU a unique mixture of steering and collaboration, a system of *governance without government* (Silander & Öhlen, 2016).

A relevant aspect of governance is the multi-levelness, which is also an important aspect of the EU. The actors who work as officials and administrate the EU legislation are also decision-makers nationally. Nationally requested political decisions gather in a common European framework where most decisions are implemented on a national level. The interplay between these levels characterizes both multi-level governance and the processes within the EU (ibid).

5. Agricultural policy and politics over time

To understand the decline of semi-natural pastures in Sweden, one needs to look back at historical and political events that influenced the current policy and the farmers of Sweden today. Restoring pastures addresses both agricultural land and forest land in various historical aspects. Therefore, it is necessary to have a basic understanding of these two types of land to understand the background, which will presented in the following chapters.

5.1 Agrarian historical overview

After the second world war, the agricultural sector changed from a leading sector in society to acting alongside the other upcoming industries (Morell, 2003). The industrial revolution made the agricultural sector more effective and provided more food produced by fewer workers. As a result, the agricultural population decreases due to an increasing industrial population. By the second half of the 20th century, it is more common to abandon farms. The structural change in Swedish agriculture is characterized by fewer and larger farming units with a more extensive production, where people from the country moved to work in the flourishing industries (Morell, 2003).

The farming units decreased from 282 000 in 1951 to 155 000 in 1970. Arable land was not cultivated and managed to the same extent, and the land was concentrated in larger agricultural units. Uprising industry salaries attracted the farmworkers away from the agricultural sector and into the industry. The mechanization and use of chemicals in agriculture were both a reason and result from the decreasing workforce in the agricultural sector (Morell, 2011). In the 1940s, a new agricultural policy was developed with an investigation that concluded with goals of efficiency, low costs, and high food production (ibid).

The pace to rationalize the agriculture in Sweden was significantly higher in the 1960s. The agricultural policy and politics where a part of a larger structural development into the construction of the Swedish welfare state. By the 1960s, the Swedish food production was considered too high and new policy was implemented to decrease the agricultural production (Flygare & Isacsson, 2003). The welfare

state's improved social network lowered the incentives to keep the farms as an insurance in case of unemployment. The next generation was more inclined to leave the rural areas, whereas the closure of the farms often occurred in the change between generations (Morell, 2009).

In the 1970s, a temporary counterreaction to urbanization occurred. The trend of moving from rural areas to urban areas stopped temporarily, and some relocations to rural areas also occurred. The period also involved an uprising interest and movement for environmental issues, where both the agricultural sector and forest sector were questioned (Antonsson & Jansson, 2011). In 1989, a new food policy was decided with a broad political agreement. To some extent, the farmers who successfully rationalized were compensated for their increase in costs. However, since the demand did not rise at the same level as the food production, it resulted in overproduction, and Swedish food prices were 60 percent higher than in Europe (Flygare & Isacsson, 2003). With the new policies, market prices replace the negotiated prices; the food market is managed under the same conditions as other industries. SBA was born as a new governmental institution to enhance the agricultural industry´s adaptation process to the liberalized market. However, this process only began before the Swedish people entered the European Union in 1994 (ibid).

5.2 Entering the European Union and The Common Agricultural Policy

By November 1994, the Swedish people voted yes to a European Union membership. Since then, the governmental administration has adapted to the EU praxis and directive. Swedish governmental officers are a part of European networks and work to coordinate where the European and Swedish politics and governance are combined. Even if the Swedish administration could be perceived as solid and independent, the functions of the institutions have changed significantly. Sweden is obliged to transpose the EU legislation, but it also provides a great opportunity to build networks, advocate, and influence. The relationship could be interpreted as an interplay between these advantages and obligations (Norén Bretzer, 2017).

Almost 40 % of the costs of the EU budget distributes through the CAP. Unlike other political areas, agricultural politics is meant to create equal terms of competition in the agricultural market. A functioning food supply is considered a peace- and security project. Therefore, ensuring the food supply within Europe is also a way to secure peace. The EU and member states share authority over the agricultural sector. The legislation is shared in different subject areas, such as

animal welfare and environmental protection. Sweden's domestic legislation is stricter in these subject areas (Eriksson, 2016).

The budget of CAP consists of two pillars. Pillar 1 is fully financed by EU funding, whereas pillar 2 is co-funded by the EU and the specific nation. Pillar 1 funds farm support, which include a certain amount of subsidy per hectare. Pillar 2 funds other types of support, such as environmental support, compensation support, and business support within the rural development program. The Swedish government has delegated the responsibility and administration to the SBA. However, the implementation is decentralized to each CAB (Eriksson, 2016).

The common agricultural policy reforms every seventh year. CAP will be transformed and renewed by the year 2023. In the new CAP, the farm support in pillar 1 is decreased by 25%. The motivation behind the reduction is that more budget is distributed to environmental support. The farm support does not require any specific measure; it is based on the area of the agricultural land, unlike the environmental support, which requires measures before it is available to apply (LRF, 2021). Every EU country is developing its strategic agenda (SBA, 2021). The Swedish Government has formulated a strategic agenda which the European Commission will examine in 2022. Due to changes in the new CAP, the following subsidies, relevant to managing pastures, are no longer available according to the new suggested Swedish strategic agenda:

- One-time clearing of pastures
- Cultivation of forages
- Restoration of pastures
- Burning and leaf removal (grazing management)

The SBA (2021) has announced that the Swedish strategic agenda will not include these subsidies. Instead, some subsidies will be lifted out and managed by a national support system, such as restoration support. However, the loss of support regarding the cultivation of forages will affect the farmers with decreased farm support. The desired effect is that farmers will devolve the production to more grazing and less production of forage (2021). At the beginning of this thesis, it was still unclear which governmental institutions would administrate this type of support. In April 2022, SEPA will be responsible for a national system regarding semi-natural pastures and meadows. How exactly this will work practically and how it will differ from the previous CAP system is not specified yet.

6. Results from interviews

The following chapters present the outcome of the conducted interviews to answer what farmers perceive as reasons to restore semi-natural pastures. The material will be related to relevant policy in the next chapter.

6.1 Profitability and animal husbandry

Financial aspects are mentioned as one importance factor to manage and restore pastures. The incentives to manage animal husbandry are almost non-existent without any profitability. Without the will and possibility to be an animal farmer, the incentive to restore semi-natural pastures is almost non-existent. The following quote highlights the importance of the financial aspects of restoring semi-natural pastures.

> The financial aspects are the most significant driving force in restoring grazing land. Once the forest is logged, I will not be able to log it again. If I then spend a few years working on the grass, and maybe even special values after a while, I think I have a greater profitability on that land than productive forest land with an annual return. I would also like the landscape to be open around the courtyard. Where there is forest, there should be forest, of course, but around field edges it is much nicer with pasture. Then the fields will also be better. But there are probably as many aspects as there are farmers who are restoring, I think. (VK)

The informant argues in this quote that he can create better profitability with semi-natural pastures rather than with commercial forestry. The informant also comments the fact which areas are more suitable to restore into pasture, in this case, areas around fields. The comment on “where there is forest, there should be forest” refer to the area where there has been forest since the last 120 years, not pastures. The idea he is describing is a yearly income with the subsides from semi-natural pastures as an alternative to the income from forestry. The subsidy is a considerable share of the income of the pastures (Kumm & Hessle, 2020). In forestry, the management is long term and consists of mainly expenditure until clear cutting and final logging. It includes several risks where the forest could be damaged, by storm, forest fires or insects. The option to transform the land to semi-natural pastures could be experienced as a smaller but safer source of income. However, it involves

the workload for managing the animals as well. Besides emphasizing the financial aspects as a driving force, this quote also concretizes how the choice between semi-natural pastures and forestry act as a crossroad for the farmer. Forestry represents a long-term investment, if being replanted. Semi-natural pastures are considered a smaller but more regular income with less risk. Other informants also describe scenarios where managing pastures could be a way to lower costs and improve the cost-benefit ratio by providing more regular income from the subsidies and at the same time creating better profitability for animal husbandry. Forestry have been considered more profitable than agriculture in general. The questioning of this paradigm is also investigated by Hessle & Kumm (2011) in recent research. Their article supports the suggested paradigm shift where forestry as the most profitable land-use option is questioned. The farmer also mentions the aesthetic of the semi-natural pasture as a contribution factor as well. This will be more thoroughly discussed in chapter 6.3.

The opinions among the informants differ regarding whether the future of semi-natural pastures is supposed to become more rational to survive or if the semi-natural pastures belong to the small-scale farming. However, previously mentioned reasoning about the financial aspects and profitability emphasizes restoring semi-natural pastures to improve the grazing management on the farm. Arguments supported by the research of Hessle & Kumm (2011). However, this is not the starting point for each informant. The farmer MG criticizes the modern animal husbandry for being too industrial and far from what the animal husbandry used to be in Sweden. He argues that semi-natural pastures are historical land management, which is hard to adapt to modern Swedish animal husbandry with much larger units. For efficiency, arable land produces forage for the animals, and the animals spend less time grazing. Therefore, maintaining semi-natural pastures is a return to historical land management, which is more beneficial for biodiversity. Cousins's research scientifically supports MGs claims and emphasizes the importance of managing small-scale farming and grazing smaller parts of the land, which is vital to restore and maintain to decrease the loss of critical biodiversity (2009).

6.2 Preparedness

Almost all informants bring up one aspect of preparedness in case of crisis, when restoring semi-natural pastures. One even calls it the main reason to restore. Not to expand the number of grazing animals but to have extra fields if needed in a crisis. All informants mention the drought of 2018 as a crisis where they started to want to increase their area of pastures. The farmer VK describes the preparation aspect and a financial aspect of preparation. Pastures provides security so that they can continue with the business when costs increase or in case of extreme weather.

> The cost of feed and fuel has increased very significantly. The bulls eat a lot of grass and grain to be able to grow. I could imagine feeding more heifers, being able to have almost only roughage and pastures to keep the cost down as much as possible. To breed as cheaply as possible. Adapting the type of animal to be able to graze as much as possible, I think can be the future when the price of inputs rises so much. […] The cows graze until December if the weather allows. I believe in that as well. There are many who set them up already in October there when the temperature starts to drop, and the grazing is over. If you can keep them out for almost two more months, I think it does a lot on the calculation as well. You don't drive as many machines with all the feed either. (VK)

This interview with VK was conducted before Russia's invasion of Ukraine. Now the costs of feed and fuel have increased even more significantly, and the arguments are probably more valid for farmers in Sweden. The survival of the farmers livelihood is more actualized now in the matter of food security in Sweden. The connections between preparedness and semi-natural pastures comes from a historical management of semi-natural pastures when forage for the animals was always catered for at each farm. Abandoned methods such as hay meadows where common in times when everything eatable for the animals were taken care of, to be used in times of crisis.

Preparedness is something that all informants emphasize as a reason for the increased interest in restoring pastures and expanding their area of pastures. The farmers still remember how the drought of 2018 deteriorated the conditions for the animals. Furthermore, the present crisis regarding the Russian invasion of Ukraine with rising prices would not have changed the importance of preparedness as an essential driving force to restore pastures. Even so, being prepared is not translated into restoring more semi-natural pastures, but it is an important part of being more prepared. In case of serious drought or other extreme weather, the need of forage could be more significant in some cases if the pastures dry out completely. The meaning of preparedness in this context is the possibility to keep extra land for grazing, which might not be as rich as cultivated grazing areas. Poorer land as semi-natural pastures often have larger elements of trees and vegetation, which is beneficial in times of drought and could work as sufficient food for the animals in times of emergency and lack of forage.

6.3 The tension between nature conservation and forestry

Governmental institutions coherently emphasize the importance of semi-natural pastures. But, at the same time, there is an underlying conflict regarding the land-use change. The conflict is a matter of prioritizing carbon capture or biodiversity. While governmental institutions support semi-natural pastures, the same institutions also emphasize climate measures, such as forestry, on low-productive

farmland, such as semi-natural pastures. SEPA is suggested to be the host of new environmental subsidies lifted from CAP. At the same time the authority has identified replacing low-productive farmland with forestry as the most cost-efficient measure for increased carbon storage (SEPA, 2022). This underlying conflict is most visible in policy and policy implementation, rather than in what the farmers say. Only one informant brought up the issue of divergence between different governmental institutions regarding semi-natural pastures:

> A friend of mine is restoring a tenancy. There, the Swedish Forest Agency wanted the hazel and alder that were on the land to be preserved, while the County Administrative Board wanted the hazel bushes and alder to be disciplined quite severely if it was to be possible to apply for a grant. They had no cooperation or consensus on what was best. That could be a problem for the individual farmer when the authorities do not cooperate. (VK)

Land-use aspects are mentioned by the farmers in several contexts, such as biodiversity, carbon capture, economics, and a will to have an open landscape around the living environment. This quote is also highlighting the lack of collaboration between governmental institutions and how that acts as an obstacle for the farmer. These experiences could influence the attitude to the fact that the restoration support is to be managed by SEPA, a governmental institution which has not been administrating these kinds of subsidies before. There is a fear that more of this inconsistency between governmental institutions will occur when another institution is added to list of stakeholders together with the SFA and SBA. The informants were unaware that SEPA would administrate the new national support system for subsides when conducting these interviews. The incoherence between SFA and SBA regarding pasture management was brought up independently of these facts. When restoring pastures, some valuable trees are often spared in the pasture. To enhance biodiversity and keep some shadow in the pasture. Therefore, the SFA also has an interest in the management of the pastures.

> There is a vast difference in liveliness in a semi-natural pasture and, for example, a thirty-year-old forest. If you are a financial adviser, like me, and want to calculate remuneration, it is a lovely forest, but as for me as a private person, if I want to have a nice walk, I will not go there. (SJ)

One of the main goals of the interviews was to find out why one chose to restore semi-natural pastures. Apart from the animal husbandry and the profitability of this business, different interests for nature conservation were mentioned. Some declare a specific interest for rare species of plants and birds. Others mention these species as valuable examples of the land type, without declaring a personal interest in nature conservation. One informant describes semi-natural pastures as a possibility to make the land more beautiful and richer in different species.

> I have concluded that at least 60 nesting bird species are on our small farm. In the forest we have at home that has not been felled yet, plants grow such as white anemones in the spring, and sometimes we find butterfly-orchid in the middle of the forest. Like white anemones and butterfly-orchid, everything that existed 100 years ago is still there—just waiting to live out again. Moreover, it could, if you pick down some trees and let in some light. (SJ)

This quote adds a softer dimension to semi-natural pastures, apart from being a part of a profitable and sustainable possibility in animal husbandry. The way the informant talks about the different flowers and birds on his land gives the impression that his interest in nature conservation provides the land with value. The informant describes a scenario where the informant communicates to me that the importance of biodiversity is obvious. The conversation clarifies that this person's experience, the value of semi-natural pastures is independent of the restoration support or other financial aspects. The vital difference is that the informant expresses the independent value of restoring semi-natural pastures without financial support. He is optimistic about the economic opportunity and hopes it will incentivize many more to restore pastures.

Some of the farmer informants clearly express an interest in nature conservation. The advisor BT also emphasizes that the interest in nature conservation is crucial for managing pastures and increasing the area of semi-natural pastures.

> Both financial aspects and that you are simply interested in nature conservation. You are proud of your lands with unique biological values. The CAB has done an excellent job describing why the land is so fine. Because if you look at the financial aspects, none of these lands are profitable enough to bear the costs. It is far too little return concerning how much fencing you need, and the supervision of the animals is complex. It is not for financial reasons that you manage your natural pastures. No one should believe that. (BT)

Even if informants often talk about financial aspects, this quote indicates that without the interest of nature conservation and other softer aspects, the farmers will still not consider it worth the while to keep managing the pastures for just the profitability. This informant indicates that the CAB plays an important role to educate farmers on why the lands are beautiful and valuable and how to recognize these biological values. It stand as an example of good governance when the interplay between the CAB and the farmers results in the desired effects. According to BT, the farmers appreciate and value the high biodiversity and wish to manage the pastures and restore as an effect of this knowledge. The accurate measure has been implemented, but not by the governmental institution itself.

Nature conservation is a contributing factor to the incentives farmers experience to restore semi-natural pastures. One advisor addresses the phenomenon as a result of work from CAB. Two of the informants emphasize that even if the inspectors from the county administrative board did not find any special values to justify the land for the restoration subsidy, many landowners have still witnessed flowers and birds (typical for lands with special values) return to the restored land.

One of the informants problematizes the assessment of what is classified as land with special values by the CAB. There is a frustration when land not classified with special values still exhibits similar biodiversity after restoration compared to the land which qualifies with special values.

> No, but there was a massive change on this land. The CAB inspected the land initially and found nothing of value. Nevertheless, there have been a lot of orchids, where I received restoration support. That is where it really started. Furthermore, there have been many of them, heath-spotted orchids (Dactylorhiza maculata) and butterfly-orchid (Platanthera bifolia), among other things. There are many woodpeckers as well. So yes, it has a pretty great natural value, after all, to open up land like this. (MG)

This quote indicates a disappointment in the assessment by the CAB, which classifies if the land contains special values. To clarify, the one part of the farmers land was classified with special values, and another was not. The informant chooses to restore both land areas, but one without the economic incentive. After the restoration, the land exhibited plants which usually serve as indicators of high biodiversity when inventorying the land. The quote indicates that the informant feels that the CAB assessed the land wrong since both land areas developed in an equivalent way. Regardless, the informant wanted to restore. The quote's last sentence indicates that he values biodiversity even if the CAB did not classify the land with special values. This case is not representative of all assessments of the CAB. However, the quote highlights the fragility between the trust of the farmer and the assessment of the CAB.

6.4 Consequences of policy and implementation

The following quote is from SBAs PM, which calculates the effects of the new CAP policy on farmers' businesses. The purpose of the PM is to visualize risks with the suggested new agricultural policy, to enhance transparency in the new Swedish agricultural policy process.

> The area of grazing land and its biodiversity may be most affected by the design of the EU Common Agricultural Policy, CAP, for the coming budget period. So it appears from calculations with the data model SASM. The availability of grazing animals and the profitability of grazing pastures compared to grazing in fields have a significant impact. (SBA Dnr: 4.1.17-02889/2021).

As the quote illustrates, one of the main conclusions of the PM is that the new CAP will affect the area of pastures and, therefore, the biodiversity in Sweden. However, the PM also concludes that there is an opportunity to avoid this possible development if Sweden chooses to implement a national support system to restore

and manage pastures (SBA, 2021). Recently, SEPA announced that they would be the host for the national support system of pastures. Unfortunately, no details are not communicated yet, except that the authority will be responsible for developing and administrating the national support system (2022).

The informants emphasize the restoration subsidy as a crucial factor for increasing the area of semi-natural pastures; most of the farmers in this study have in addition to supported restorations been restoring small bits of land without the support. However, since most of the informants have restored, or know farmers which restore without the support as well, a variation of factors is important. The area they have restored without the subsidy is usually beneficial for several reasons, so either they do not apply for the subsidy, or the area does not qualify for the subsidy. The reasons to restore without the support is identified as small areas, easy to restore without more significant inputs from forest machines, and strategic for the farm's operations. Accordingly, the benefits overcome the investment cost.

> So far, I have stuck to projects where I can restore pastures by myself. Using chainsaw and clearing saw. Around the farm center, I have taken down some productive forest land for which I did not apply for restoration support, but I hope that grass will be able to come up there as well. Some lands I have applied for support should be inspected after five years, but I think they had already been approved after three years in most places. It shows that there has been grass there that has just been waiting to be able to grow, get some light, and be grazed. Nevertheless, it's a bit of a job, as I said. (VK)

This quote exemplifies the grayscale between restoring with or without the restoration support. The farmer MG also explained that he considered the most appropriate land use for the specific area when he decided to log the forest. That was when they had to decide if he would replant the forest and continue the current land use or transform it into a pasture.

One identified obstacle with the current legislation and policy is the prohibition to support feed the animals in the semi-natural pastures. Support feeding was the most common answer to the question if they identified any obstacles in policy to restore pastures. The argument from the SBA to not allow support feeding is that the manure would create the risk of the land becoming too fertilized, and then stops being the poor land which is the definition of semi-natural pastures. However, the possibility to support feed the animals facilitates the animals to graze for a more extended period and when the conditions are bad, such as during dry periods in the summer. The following quote describes one opinion about support feeding.

> One obstacle I can think of is support feeding. I want to be able to do it. Not on a large scale, but maybe you could give the animals very little support feed in late autumn. Well, I do it anyway, a little, not much, but a little. It is not really according to the regulations. I would not demand that you could exhibit a large silage bale in any basket because there will be quite a large concentration of manure around the bale. That may not be so good, but that can be done in another way. You may distribute a few smaller gifts of silage in a larger area. That is what I am asking for, that should be allowed. (MG)

This quote demonstrates that the farmer is aware that support feeding is not allowed and the reasons why support feeding is not allowed. Still the farmer questions the total ban and asks for reliefs in the current system. The issue with support feeding is connected to the arguments about profitability. Support feeding would increase the chances to keep the animals grazing when the pastures are too poor to sufficiently feed the animals. The matter is therefore both connected to profitability and being able the continue grazing the areas which are not easily accessible and large.

> When I release the animals in early spring when there is not much to eat, I usually support feed these areas. I move the feed fence or bale continuously. Then I steer so they do not step on so much, and then grass seeds enter the ground. There is a big difference in how much grass comes up when I have driven around the feed hedges. I think that is a pretty smart thing to do. (VK)

This quote shows a different, more relaxed attitude towards support feeding. Either the informant is not aware that support feeding is not allowed, or he is simply unconcerned by the fact. It could be a more honest statement than the previous quote; it is hard to know. But this informant describes the same scenario as the last speaker expressed, so the wish is similar. Still, the difference is that the second one is already performing the suggested change in policy.

Another aspect that several informants point out that young farmers are more likely to restore pastures. The advisors emphasize this claim, meeting many farmers and talking about their plans and possible development opportunities.

> I notice a tendency for young, driven farmers to be more willing and eager to restore pasture than older farmers. It relates to a greater driving force to develop and expand the business. (FB)

The quote addresses the fact that this aspect might not be unique for restoring pastures, but a general observation regarding the development of the agricultural sector. It is also interesting since the agrarian sector has difficulties renewing the generations on the farms in Sweden. The statement is interesting as reconnaissance for the future regarding the significant investments in younger farmers in the new CAP. Another interesting aspect regarding age and generation of the farmers is brought up by the informant SJ who in several examples refers to his father and how their opinions differ in the management of the family farm. He describes a mindset of farmers in his father's generation which he thinks is produced by previous agricultural policy and how the authorities' treated farmers and farming land.

> And then there is my father, for example. He is challenging to persuade when it comes to making new pastures. He grew up when it was not worth anything to be a farmer. I think it might be something, not ignorance, but he does not believe it will become any of it. (SJ)

> On our farm, we have not afforested any pastures. However, we have a neighboring farm that did that, and it was then in the 60s when you basically got support to quit as a farmer and to afforest the land. The consequence of that policy is that it may stay in the mind of some farmers. That feeling that what we do is not worth anything. It may also characterize them in general, that they feel that what we do is not worth anything, and it may represent the mood in the industry in general. In the 60s and 70s, the state thought it was not worth having farmers in principle, or we have many farmers; they have to quit, get bigger, and get fewer. (SJ)

These quotes describe a softer dimension of a reason not to restore semi-natural pastures. The previous quote only described the fact that younger farmers are more likely to restore pastures, but these add another layer of how previous policy have influenced the mindset older farmers. This described feeling refers to the historical agricultural policy in Sweden, where agricultural land was encouraged to be planted with forest or non-food crops, to meet the decreased demand for food.

7. Discussion of interviews in relation to policy

The following chapters relate farmers' perceptions of policy to new agricultural policy. The discussion consists of the chosen documents, the new agricultural policy, memoranda of discussion between the Swedish government and agricultural sector, and SBAs PM, which analyses the possible consequences of the new CAP reform concerning pastures. In addition, the PM summarizes analyses of possible outcomes of the new CAP.

7.1 CAP and new Swedish policy

Even if the focus of this study includes CAP and EU policy, the benefit of semi-natural pastures for biodiversity relates to a national context since the new agricultural policy is national. The historical land use is specific to the Swedish landscape. The new Swedish agricultural policy developed from the new CAP benefits farmers with a high degree of grazing integrated with their animal husbandry. Nevertheless, the national policy is dependent on the remaining EU countries' policies. Eriksson (2016) discusses the potential dead-end regarding domestic food production in the EU. One primary purpose of CAP is to create a free and fair market for internal agricultural products, which makes it difficult for Swedish products when the Swedish legislation is stricter than the general European, often considering animal welfare and environmental aspects. Eriksson's dead-end argument concerns that it is impossible to create compensations within the CAP program to compensate for the higher costs with the higher regulations on animal welfare (ibid). This results in either lowering Swedish regulations to easier compete with the European regulation to harmonize the regulations or not being sufficiently compensated for the specific measures taken. No option is a win situation for domestic food production. The situation is similar to the increased value of animal husbandry with more significant grazing elements of semi-natural pastures, not having the possibility of being compensated for the extra costs of grazing animals if it does not work from a competition point of view (Eriksson, 2016). However, removing the restoration support from the CAP system does not result in more funding. The budget from Pillar 2 is distributed to the national

support system, not allocated to an independent budget (LRF, 2021). Therefore, the national support system does not imply a higher level of subsidies in the agricultural sector; the funding is allocated in a different system.

Self-sufficiency is essential in current politics as a goal of the national food strategy (Regeringskansliet, 2016). Nevertheless, Sweden has a high percentage of food imports today. It is hard to calculate the exact import need since it also includes fuel, commercial fertilizers, and protein for forage (Eriksson, 2016). Since 2015, self-sufficiency in food has been more actualized and discussed in public media. Food production is also a part of the Swedish total defense strategy. The current security and political situation in the world with the Russian invasion of Ukraine has significantly raised these questions further. However, the governance aspects of the policy are not coherent. Even if the CAP and the national agricultural politics can harmonize on various levels when implementing CAP. There is a limited possibility of encouraging a more robust domestic food production using CAP regarding the free market regulations.

7.2 New Swedish policy and semi-natural pastures

The new Swedish policy aims to benefit sustainability by increasing grazing support and removing the support for cultivating forage. The agricultural sector criticizes this because the sum of the subsidies is lower than in the previous CAP period for most farmers (LRF, 2021). Even if the grazing support increases, the decrease in other subsidies, such as farm support, results in a lower total level of subsidies for most farmers in Sweden (SBA, 2021). The incentives are higher to transform animal husbandry in Sweden into more grazing and less forage production from a governing perspective. However, there is a risk that a total lower sum of subsidies undermines the cause. There is a risk that the farmers perceive the conditions with a lower total sum of subsidies as too severe to continue as a farmer, with the rising costs. The farmers emphasize the aspect of profitability as a condition, which anticipates becoming weaker with the new agricultural policy (SBA, 2021).

The calculation examples from SBA speculate and analyses the outcome of the new CAP in four different scenarios (SBA, 2021). The scenarios indicate that most of the farmers will need to convert their production to more grazing and less production of forage to not forfeit with the new agricultural policy. This is discussed by the informants regarding profitability and lowering the costs of forage and fuel. However, adding the element of a lower sum of subsides is also risking decreasing the profitability. The policy could not be any clearer from a governance perspective that it is desirable to change the animal husbandry to implicate more grazing. Therefore, restoration of semi-natural pastures would be a natural part of the

steering in this direction since it would require more grazing land. Why the restoration is lifted out of the CAP-system is unclear now. The negotiation between the EU and Sweden is not concluded yet, it is hard to draw exact conclusions from this material. The restoration support outside the CAP system is slight but still possible to minimize risk of decreasing semi-natural pastures in Sweden. The risk lies within the actors on the lowest level, the farmers, in governance. The administrative burden will increase due to an added support system added to the usual support system administrated by the SBA. If the farmers perceive the added support system as easily managed and fair, the probability of a successful implementation is higher.

7.3 Semi-natural pastures and land use in Sweden

An apprehension with moving the restoration support to SEPA concerns how the collaboration between governmental authorities may work, as addressed in similar contexts by the informants. If farmers apply for subsidies with both SBA and SEPA, there is a risk for more administration for the farmers, and the approach demands collaboration between the authorities. Coherence in policy is necessary to facilitate good governance and policy implementation. The dichotomy between agriculture and forestry is visible throughout the whole study. One example is that SEPA also encourages landowners to plant forests on abandoned agricultural land in the context of carbon capture (SEPA, 2022). This indicates a policy gap between these two sectors. The fact that SEPA will be an expert authority for both subjects, carbon capture in forests and biodiversity in pastures, increases the chances of a more coherent and effective policy with fewer gaps between the borderlines of these subjects. From a governance perspective, the number of actors is fewer, but the different interests are still the same within the same governmental authority.

Regarding land-use conflicts between carbon capture with forestry and biodiversity with agriculture, indications from farmers suggest this is exclusively a policy issue, not a conflict in farmers' practice. The discussions among the farmers, which often own both forest land and agricultural land, only address policy-related issues regarding the exercise of authority and mixed signals from different policies. The informants perceive a lack of prioritization from governmental institutions of what is most important, biodiversity or carbon capture. The policymakers should be aware of the underlying land-use conflict between carbon capture and biodiversity when carbon capture and biodiversity policy apply to the same land.

The issue is like what Lindahl et al. describe regarding the forestry model in Sweden, "more of everything," trying to achieve several goals with the same land without a clear prioritization (2017).

8. Conclusion

The starting point of this thesis was to investigate how new policy might affect farmers' motivation to restore pastures. Since the restoration support is renewed in conjunction with the new CAP period, the relation between farmers' motivation to restore is investigated together with a policy perspective on governmental aspects. Farmers who wish to restore pastures will continue to restore pastures without the restoration support, but not to the same extent as with the restoration support. Farmers emphasize the subsidy as a solid incentive to increase the area of semi-natural pastures in Sweden. Reasons to restore without the restoration support would be a desire to have a more open landscape around the farm center or other vital environments. This thesis suggests that four main objectives motivate farmers to restore pastures, with various overlapping between the objectives. These are:

1. Increase profitability of animal husbandry by decreasing costs of forage and increasing grazing,
2. Interests in nature conservation and biodiversity,
3. Preparedness with increased area of pastures in case of drought or another crisis,
4. Interest in recreating a more open landscape, both for pure esthetic and historical reasons.

The first objective is intentionally at the top of the list because animal husbandry is the precondition to managing semi-natural pastures.

SBA (2021) identifies a risk that the area of semi-natural pastures would decrease with the new Swedish agricultural policy, given the total lower sum of subsidies for most farmers. The restoration support is excluded from the CAP system and might reduce the risk of decreasing the area of pastures. In addition, the measure comes with the risk that the administration of a new authority handling the subsidies will make the regulatory burden on the farmers heavier. With the current information, it is hard to predict if the new agricultural policy and the new national support system will benefit and increase the area of semi-natural pastures in Sweden. Considering SBAs (ibid) analysis, the national support system is unlikely to compensate for most farmers' lower sum of subsidies. However, it is a chance to prevent the risk of declining semi-natural pastures in Sweden. Since SEPA is also

responsible for climate-related issues in Sweden, there is a possibility that the institution could minimize the risk of conflict between forestry and agriculture regarding land use. The authority would likely take more responsibility in policymaking since the policy regarding biodiversity and carbon capture often apply to the same land.

The research in this thesis has a general approach to grazing and the animals which graze. Further research on specific animal types, such as horses, would benefit a deeper understanding of more possibilities to maintain and restore semi-natural pastures. Since current research and literature focus on cattle, dairy cows, and sheep, it indicates a knowledge gap in agricultural sectors where the management around pastures could be prioritized differently. The need for pastures for horses should also be considered in the design of the supports to ensure the potential of increasing semi-natural pastures in Sweden.

References

Antonson, H. & Jansson, U. (2011). *Jordbruk och skogsbruk i Sverige sedan år 1900. Studier i de areella näringarnas geografi och historia.* Stockholm: Kungl. Skogs- och lantbruksakademien.

Beland Lindahl, K., Sténs, A., Sandström, C., Johansson, J., Lidskog, R. et al. (2017*). The Swedish forestry model: more of everything?* Forest Policy and Economics, 77: 44-55 https://doi.org/10.1016/j.forpol.2015.10.012

Bergmeier, E. Petermann, J. Schröder, E. (2010). *Geobotanical survey of wood- pasture habitats in Europe: diversity, threats and conservation.* Biodivers. Conserv., 19, pp. 2995-3014, 10.1007/s10531-010-9872-3

Bernes, C. (1994). *Biological diversity in Sweden.* Swedish Enviromental Protection Agency, Monitor 14, Solna, SE.

Bryman, A. & Nilsson, B. (2018). *Samhällsvetenskapliga metoder*. Third edition. Stockholm: Liber.

Cousins S, Auffret A, Lindgren J, Tränk L. (2015). *Regional-scale land-cover change during the 20th century and its consequences for biodiversity.* Ambio. 2015;44(1):17–27.

Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches (5th edition, international student edition)*. London: SAGE.

Envall, I., Bengtsson, J., Jakobsson, S. et al. (2021). *What is the effect of giving the grazers access to additional nutrient sources on biodiversity in semi-natural pastures? A systematic review protocol.* Environ Evid 10, 16. https://doi.org/10.1186/s13750-021-00230-2

Eriksson, C. (2016). *Jordbrukspolitik* I: Silander, D & Öhlén, M. *Svensk politik och EU.* Tyskland: Bod

Flygare, I. & Isacson, M. (2003). *Jordbruket i välfärdssamhället: 1945-2000, band 5 i Det svenska jordbrukets historia.*

Flygare, I. (2011). *Svenska småbruk.* I: Antonsson & Jansson. *Jordbruk och skogsbruk i Sverige sedan år 1900. Studier i de areella näringarnas geografi och historia.* Stockholm: Kungl. Skogs och lantbruksakademien.

Hessle, A, & Kumm, K-I. (2011). *Use of beef steers for profitable management of biologically valuable semi-natural pastures in Sweden,* Journal for Nature Conservation,Volume 19, Issue 3, 2011. https://doi.org/10.1016/j.jnc.2010.10.002.

Hedlund, S. & Montin, G. red. (2009). *Governance på Svenska.* Malmö: Santerus

Inglis, David. (2012). *An Invitation to Social Theory*. Cambridge: Polity Press

Jakobsson, J. & Lindborg, R. (2015). *Governing nature by numbers — EU subsidy regulations do not capture the unique values of woody pastures.* https://www.sciencedirect.com/science/article/abs/pii/S000632071500230X [2022-06-02]

Kumm, K-I. (2003). *Sustainable management of Swedish seminatural pastures with high species diversity*. Journal for Nature Conservation,Volume 11, Issue 2.

Kumm, K-I. & Hessle, A. (2020). *Economic Comparison between Pasture-Based Beef Production and Afforestation of Abandoned Land in Swedish Forest Districts* https://doi.org/10.3390/land9020042

LRF. (2019). *Sveriges biologiska mångfald förutsätter gräsmarker och betande djur.* https://www.lrf.se/politikochpaverkan/det-grona-naringslivet-och-klimatet/debattartikel-sverige-enda-eu-land-som-lagstiftat-om-bete/ [2021-10-20]

LRF, (2021). *Nya CAP- regeringen har lyssnat men kraven ökar och budgeten minskar.* https://www.lrf.se/mitt-lrf/nyheter/riks/2021/12/nya-cap--regeringen-har-lyssnat-men-kraven-okar-och-budgeten-minskar/ [2022-06-03]

Morell, M. (2003). *Jordbruket i välfärdssamhället*: 1945-2000, band 5 *i Det svenska jordbrukets historia.*

Pykälä, J. (2003). *Effects of restoration with cattle grazing on plant species composition and richness of semi-natural grasslands*. Biodiversity and Conservation 12, 2211–2226. https://doi.org/10.1023/A:1024558617080

Regeringskansliet. (2021). *Uppdrag att överlämna förslag till Sveriges strategiska plan för den gemensamma jordbrukspolitiken 2023-2027 till den europeiska kommissionen.* https://www.regeringen.se/4af4aa/contentassets/d5087edd9e184138be1cb46153c0d91c/uppdrag-att-overlamna-forslag-till-sveriges-strategiska-plan-for-den-gemensamma-jordbrukspolitiken-20232027-till-europeiska-kommissionen.pdf [2022-06-02]

Regeringskansliet. (2016). *A National Food Strategy for Sweden – more jobs and sustainable growth throughout the country.* 2016/17:104

SBA. (2020). *Restaurering- och engångsröjning av naturbetesmarker.* UPP2020:02 https://webbutiken.jordbruksverket.se/sv/artiklar/ [2022-06-03]

SBA. (2021). *CAP-reformen hotar betesmarkerna- men ger också möjligheter.* Jordbruksverkets Dnr: 4.1.17-02889/2021 https://jordbruksverket.se/download/18.1a74af1a177a8cbc6f8758d3/1613639965644/Cap-reformen-och-betesmarkerna-modellberakningar.pdf [2022-06-03]

SBA. (2017). *20 % av Sveriges betesmark finns i Småland*. https://jordbruketisiffror.wordpress.com/2017/07/05/20-av-sveriges-betesmark-finns-i-smaland/ [2022-06-02]

SBA. (2022). *Stöd till jordbruket och landsbygden 2023–2027.* https://jordbruksverket.se/stod/stod-till-jordbruket-och-landsbygden-2023-2027 [2022-06-03]

SEPA. (2022). *Nytt system med nationella ersättningar* https://www.naturvardsverket.se/om-oss/aktuellt/nyheter-och-pressmeddelanden/nytt-system-med-nationella-ersattningar---naturvardsverket-tar-over-och-utvecklar-vissa-jordbrukarstod/ [2022-05-17]

SEPA. (2021). *Jordbrukspolitik.* https://www.naturvardsverket.se/amnesomraden/mark-och-vattenanvandning/odlingslandskapet/jordbrukspolitik [2022-06-02]

SEPA (2022). *Så kan staten uppmuntra markägare till att binda ännu mer koldioxid.* https://www.naturvardsverket.se/om-oss/aktuellt/nyheter-och-pressmeddelanden/sa-har-kan-staten-uppmuntra-markagare-till-att-binda-annu-mer-koldioxid/ [2022-06-03]

SEPA. 2021. *Nationellt stöd till ängs- och betesmarker med natur- och kulturärden.* https://www.naturvardsverket.se/om-oss/regeringsuppdrag/slutredovisade-regeringsuppdrag/nationellt-stod-till-angs--och-betesmarker-med-natur--och-kulturvarden/ [2022-06-03]

Silander, D & Öhlén, M. (2016*). Svensk politik och EU.* Hur svensk politik har förändrats av medlemskapet i EU. Europeisering, governance and policyprocesser. Tyskland: Bod

Svenska Miljömålen. (2021). *Ett rikt odlingslandskap.* https://www.sverigesmiljomal.se/miljomalen/ett-rikt-odlingslandskap/ [2021-11-01]

Teorell, J., Svensson, T. (2007). *Att fråga och att svara. Samhällsvetenskaplig metod* Malmö: Liber AB

Appendix 1

Interviewguide

Tema 1.

Vad är er relation till fastigheten?

- Hur ser verksamheten ut idag?
- Hur tror ni verksamheten ser ut om 10 år?

Tema 2: Naturbetesmarker

- Vad är er inställning till naturbetesmarker?
- Skulle ni vilja ha mer mark som är naturbete?
- Känner ni till att det finns restaureringsstöd för naturbetesmarker?
- Vad tror ni är drivkrafterna till att restaurera naturbetesmarker?
- Vad upplever ni som hinder till att restaurera naturbetesmarker?

Tema 3: Restaureringsstöd

- Gör ni SAM-ansökan själva?
- På vilket sätt tror ni att myndigheternas riktlinjer påverkar skötseln av naturbetesmarker?
- På vilket sätt tror ni att utformningen av restaureringsstödet påverkar skötseln av naturbetesmarker?
- Är det något annat som ni tror påverkar markägares intresse av att öka sin areal av naturbetesmarker?
- Hur skulle ny policy påverka er inställning till att restaurera naturbetesmark?

Publishing and archiving

Approved students' theses at SLU are published electronically. As a student, you have the copyright to your own work and need to approve the electronic publishing. If you check the box for **YES**, the full text (pdf file) and metadata will be visible and searchable online. If you check the box for **NO**, only the metadata and the abstract will be visible and searchable online. Nevertheless, when the document is uploaded it will still be archived as a digital file. If you are more than one author, the checked box will be applied to all authors. Read about SLU's publishing agreement here:

- https://www.slu.se/en/subweb/library/publish-and-analyse/register-and-publish/agreement-for-publishing/.

☒ YES, I/we hereby give permission to publish the present thesis in accordance with the SLU agreement regarding the transfer of the right to publish a work.

☐ NO, I/we do not give permission to publish the present work. The work will still be archived and its metadata and abstract will be visible and searchable.