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A case study of social struggles in agrarian Uppsala, and its implications for
Swedish farming

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Abstract

This thesis set out to map the relation Swedish farmers have to their occupation and production, while also investigating what challenges farmers experience which in turn might affect social sustainability in Swedish agriculture negatively. Agriculture was approached as a case of low social sustainability based on the fact that more than one-third of Swedish farmers are over retiring age, while young people increasingly seem to move away from the sector. In a qualitative analysis process, data was gathered through in-depth interviews and field studies. Two field trips to Uppsala and its surrounding agricultural landscape were conducted. Seven farmers and one representative from a large landowner organization were interviewed.

The study was informed by Henri Lefebvre's spatial triad, used to approach, understand, and conceptualize the social construction of the agrarian space of today. This resulted in four themes, which all could be boiled down to a lack of connection between agriculture and the rest of society; *High threshold for farming*; *Distance between regulations and discussions of agriculture, and farmers*; *Leasing vs. Private owned farms*; *Rationalization and capital's creation of desirability in the landscape*. The thesis found that farmers experience surrounding society as disconnected from and unaware of the agrarian process, despite its importance for society. This meant that on the one hand, interviewed farmers stated a low affirmation from the rest of society. On the other hand, this has created a situation where people to a lower degree define our society as agrarian, which in turn means that we as individuals to a lower degree identify ourselves with the farmer occupation. Low economic incentives and high capital requirements were found to be another large reason for people moving away from agriculture.

Social sustainability in agriculture is thus in danger, at least if the way of production of today is to continue in the future. Agriculture stands before great challenges, and this thesis reveals the need for another wave of rationalization in agriculture. However, the agrarian rationalization process of the 20th century is argued to be the reason for many modern agrarian problems, and from this, the future of farming in Sweden appears rather uncertain.

Key words: agriculture, farming, social sustainability, social reproduction, production of space, landscape geography, food production, representation, Uppsala

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Front cover picture: *Skute å från ovan*, Uppsala, Skuttunge. © Samuel Bernström, 2019.

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To repaint a tractor takes a few days, but to build up all that rust and patina takes over 40 years.

- An anonymous farmer interviewed in this thesis, while showing me his parents' hundred-year-old tractor which he restored in his garage.

1. Introduction: Food for thought in a world of struggle

Our world is in tension. The last few years have been some of the, if not *the* most shattering in modern days of the western society, with the pandemic followed by Russia’s invasion of Ukraine. This has put the globalized world at rest, halted much production, and raised prices in many sectors, such as electronics and other everyday commodities. Parallel to this, the climate crisis only accelerates, with rising global temperatures and shrinking polar ices (IPCC, 2022). The economic processes of globalization do not happen as smoothly as they once did (Washbourne, 2005), and in Sweden, this is perhaps most apparent within food production. At the beginning of 2020, when the pandemic struck the whole planet and forced us to a halting stop, food prices in Sweden rose by over 3%. During the pandemic, the prices fell somewhat, but never returned to the same level as pre-pandemic (SS, 2022). At the beginning of 2022, when Europe’s two largest grain producers suddenly were at war with each other, food prices increased again (Karlsson, 2022). In April, two months after the first attack, the consumer price index¹ for food in Sweden had risen by 8,7% compared to January 2020 (see Chart 1). The region directly affected by the war; foremost of course Ukraine, but also Belarus and Russia, are large global suppliers of not only food but also products used in agricultural production such as fertilizers and propellants. The diesel prices reached levels not even imaginable only a year ago, and other input wares in farming, if they were available at all, got so expensive that the Swedish government has proposed several aid packages for farmers worth billions (Government Offices of Sweden, 2022).

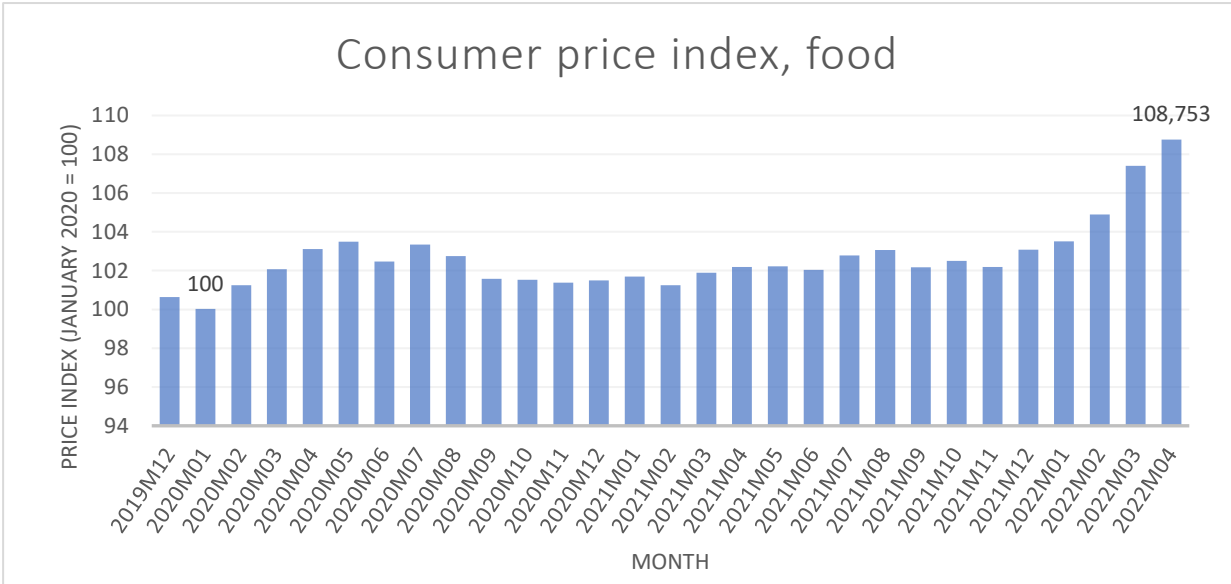


Chart 1 Consumer Price index for food in Sweden, December 2019 (2019M12) to April 2022 (2022M04).

Normalized to January 2020 (100). Layout: Herman Bernström (2022). Data: (SS, 2022).

¹ Consumer Price Index (CPI): “the average price trend for the entire private domestic consumption based on prices consumers actually pay” (SS, 2022).

These last two major crises have put agriculture and food production in a new light. Cheap imported food may feed our population in times of peace, but in times of struggle when borders are not as open as we have become used to, our sources of nutrition will have to come from our domestic fields. With accelerating climate change, this development was expected, just not this fast. For example, on the 14th of May 2022, the world's second-largest producer of wheat, India, stopped all export of the ware because of an extreme heat wave threatening the harvest (Arai, 2022; SVT, 2022). Add to that, Sweden's population is only getting larger (SS, 2022). All this taken together paints a picture of an agricultural sector with great potential for expansion and growth. Swedish farming should be a prosperous sector, with a rather bright future calling for investments, capital, and most importantly labor power. It should be a business for the future.

However, that is not the case. Swedish farmers are getting fewer and fewer, working less and less land, and the amount of imported food is still on the rise (Jordbruksverket, 2020b; 2022b). Most strikingly, farmers are getting older. In the 1990s, one out of ten farmers were over the age of 65. At the turn of the millennium, that number had increased to one out of five, while one out of twelve were younger than 35 (Jordbruksverket, 2001). Today, one out of *three* farmers are older than 65, and only one out of 20 is younger than 35 (Jordbruksverket, 2021b). One-third of the Swedish agrarian labor force is above retiring age, while fewer and fewer are entering the sector. The agrarian sector has perhaps been characterized by an older workforce for a long time, but in Sweden, a threshold is approaching where no one works the agrarian lands anymore. Traditionally, one solution, together with technological advancements, has been foreign workers conducting much of the manual labor in many agrarian fields, but even that has been a problem in the aftermath of Russia invading Ukraine (Nordkvist, 2022). Relying on an influx of labor power from abroad may work in times of peace but does not appear to be such a sustainable solution when world stability collapses.

The last two years have proved that Swedish agriculture is not as self-sustainable as it should be to be able to handle global crises. It appears as if Swedish agriculture cannot reproduce the conditions of production without great technological advancements or resources from abroad, both in terms of input wares and labor power. Farming starts with the farmers, and without them, Swedish food production stands still. It is therefore imperative to renew our labor force in the future.

1.1. Aim and contribution of this thesis

The problem addressed in this thesis is about the decreasing amount of young people in Sweden entering the agricultural sector; why that is and what implications it might have on the national food production process. Any concept of sustainability must relate to a form of reproducibility; that which is sustainable must be able to be repeated and reproduce itself. For environmental sustainability, that means not depleting natural resources and maintaining biodiversity. For economic sustainability that means generating enough surplus to maintain production in the next production cycle while also satisfying basic material needs. For social sustainability that must mean a reproduction of the conditions of production, while also reproducing the human factor in reproduction: the labor force. Katz and Norton (2017, p. 1) define social reproduction as “the production and reproduction of a differentiated labor force and the cultural forms and practices that at once maintain these differences and make them common sense”. As it is now, Sweden is not reproducing its agrarian labor force, at least not in the same cultural forms and practices. This thesis, therefore, approaches agriculture with the presupposition that the sector is not only as environmentally unsustainable as it is often described (Jordbruksverket, 2021a), but also highly unsustainable in social terms.

1.1.1. Aim

This thesis aims to critically analyze, and discuss the role of, social sustainability in Swedish agriculture as experienced by active farmers, and in that highlight that food production as an occupation is decreasingly attractive.

1.1.2. Research questions

The research questions guiding this thesis are defined on the presupposition that Swedish agriculture is no longer socially sustainable, leading to an outflux of young people from the sector, with a simultaneous lack of influx. *Why* that is, is the core of this thesis. Two research questions have been constructed to guide the research:

- What relation do Swedish farmers have to their profession and the agrarian production process?
- What are the perceived challenges and problems in Swedish agriculture from farmers' perspectives, and how do these challenges and problems affect possibilities for social sustainability in agriculture?

In the process of answering these questions, this thesis sets out to contribute to an understanding of the situation of farmers in Sweden, and in that, highlight those problems and challenges perceived by farmers as the reasons behind the decreasing attractiveness of occupation in agriculture.

One hope is also to facilitate a discussion around sustainability in broader terms, with emphasis on social elements as neglected in societal understandings of agriculture today.

1.2. Delimitations and area of study

To think and talk about farming and agriculture is in many ways to think and talk about the countryside, because of the proximity in both absolute and social terms between the two. Agriculture *takes place* in the countryside, and often, what is depicted as the countryside is where we find agriculture. To understand the life of a farmer, a total understanding of that farmer’s context, history, and the whole landscape is required. However, to approach agriculture or ‘the countryside’ as a whole would be too extensive. Therefore, a specific case is required, from which an answer to the research questions can be aggregated. For this thesis, the agrarian landscape of Uppsala county has been chosen, as an example of a typical Swedish agrarian landscape, located in proximity to two larger cities: Uppsala and Stockholm (see Picture 1).

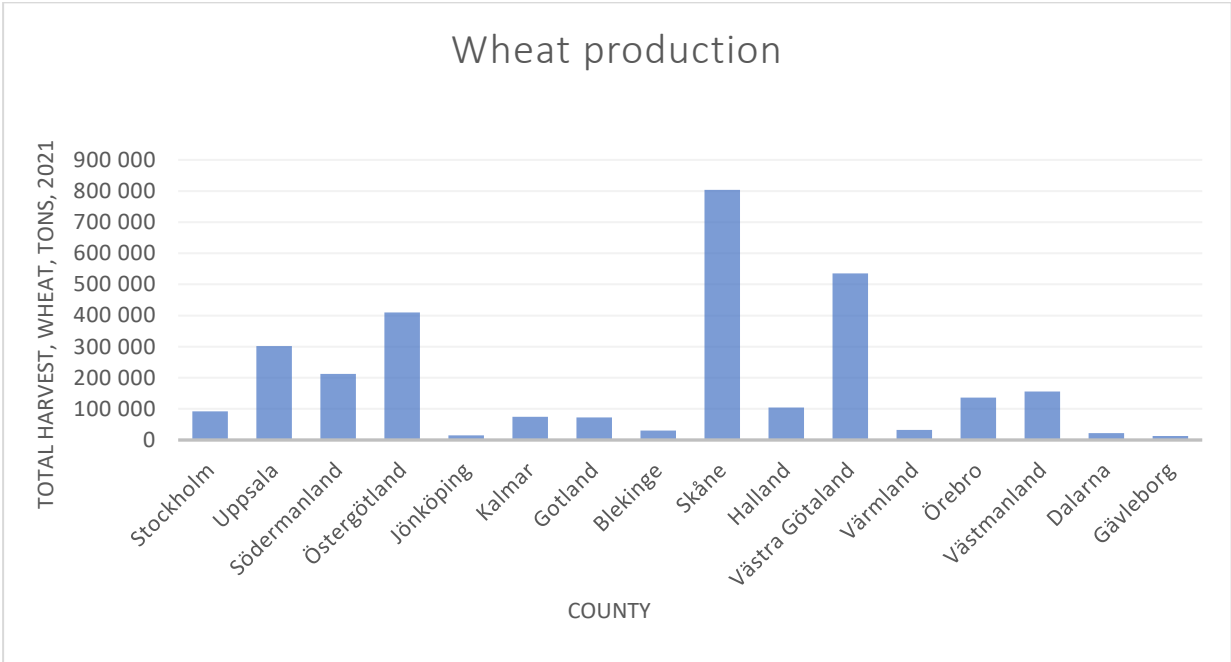


Chart 2 Total wheat harvest in tons per county in Sweden. The northern counties in Sweden are removed because of no data. Layout: Herman Bernström. Data: (Jordbruksverket, 2022a).

Uppsala has been chosen as the landscape of interest because of several reasons. In the sense of agricultural production, Uppsala is mainly focused on crop production and is the fourth greatest wheat-producing county in Sweden (see Chart 2). Secondly, Uppsala is in many ways a clear example of countryside close to urban places. Uppsala and the near capital Stockholm dictate much of the labor market together with flows of both people and capital. However, one main interest is also in the relationship between agriculture and urbanity, and Uppsala is home to one of the two

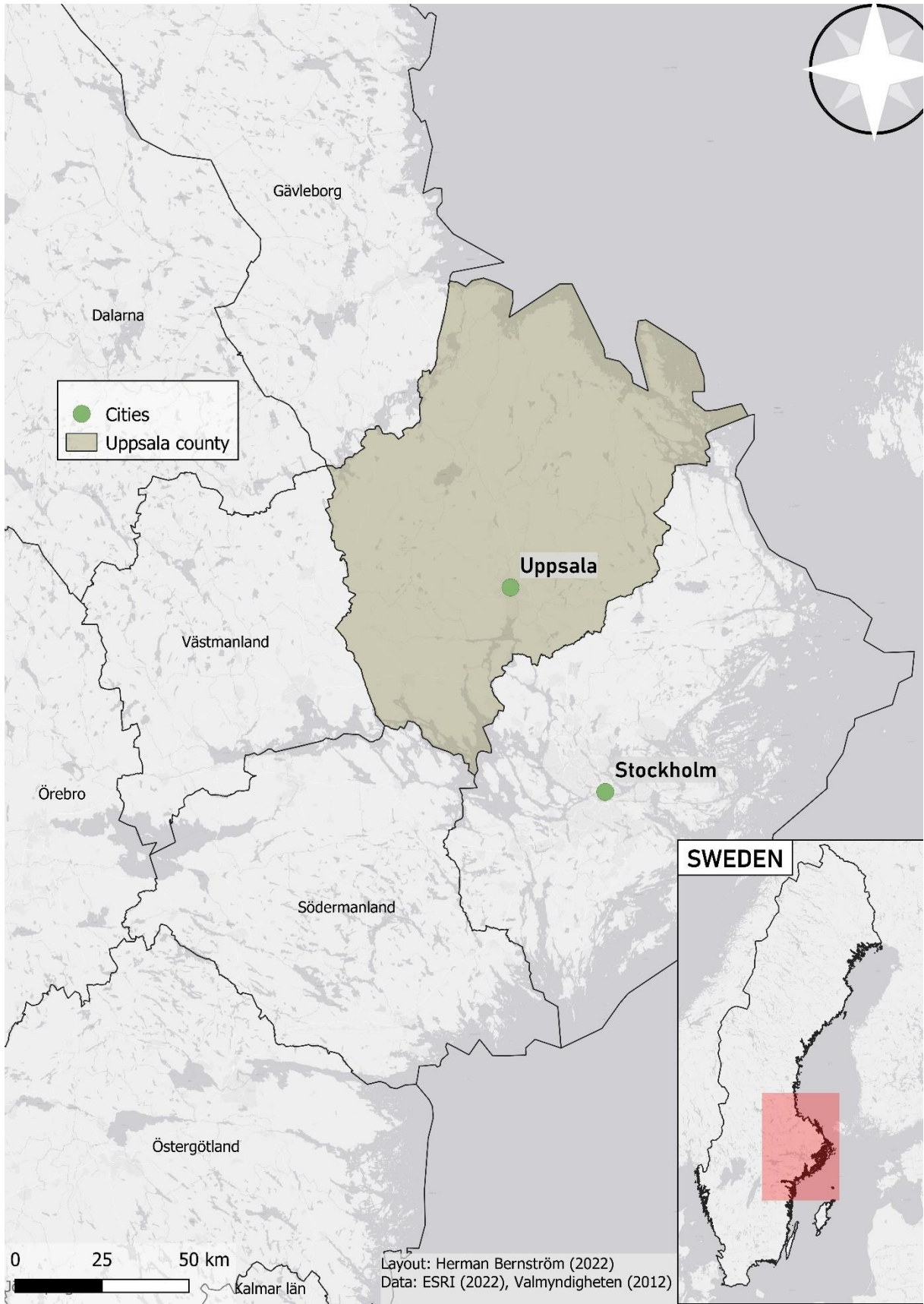
largest universities in Sweden. Interestingly, Uppsala university is Sweden's largest single owner of collective agricultural land (UAF, 2022b), and through the organization Uppsala Akademiförvaltning (UAF), the university leases out over 15 000 hectares² (ha) of agricultural land in Uppsala and its surroundings. UAF is located in Uppsala, and the money the company makes through leasing out this land goes back to the university located in the city. Because of this capital flow from the countryside to the city, farming activities in Uppsala county could be described as the most urban agriculture in the whole country, as they to a large degree are dominated by a large corporate land-owner located in the city, far away from both the agrarian landscape and production. Therefore, the landscape of Uppsala is expected to be a good example of agriculture which in many ways must relate to urban elements, while it also presents a strong and relevant farming sector.

In short, the delimitation of this thesis is in social sustainability in Swedish agriculture, and the role of urbanization and rationalization in this production, captured in the case of Uppsala with all its actors and relationships of agriculture.

1.3. Disposition

This thesis is constructed in the following way. It begins with a discussion on social sustainability and what role the concept has played in research in general, but most importantly within agriculture. After that follows a description of Henri Lefebvre's spatial triad, which sets the theoretical foundation for this thesis. This foundation is further developed with a discussion on landscape geography and finalized with the definition of social sustainability used in this thesis. Then comes a description of the methods used; in-depth interviewing and field trips, together with an explanation of the operationalization of the theoretical framework, followed by a walkthrough of the analysis. The next section starts the empiric part, with a historical background followed by a presentation of the data gathered and the execution of the earlier mentioned analysis. Lastly comes a discussion that sets out to aggregate the findings in the specific landscape into an answer passable on a larger scale, followed by a conclusion and a proposed topic for further research.

² 100x100 metres, 10 000 m².



Picture 1 Reference map for Uppsala County in Sweden, with Uppsala and Stockholm pointed out.

2. Social agrarian sustainability in earlier research

Before any theoretical discussion on agriculture can be possible, an understanding of social sustainability in Swedish agriculture as it is discussed and debated is needed. However, this is a rather neglected theme, especially within academia that focuses mainly on environmental issues. Instead, much research conducted on social challenges in Swedish agriculture can be found in official documents from authorities and other state organs.

2.1. Governmental approaches to agriculture

In the official investigation *The vulnerability of agriculture - a follow-up* from 2020 (SOU, 2020), the authors listed several challenges for Swedish agriculture. Some of these were access to water, a need for a growing domestic vegetable market, and a still-growing necessity for technological advancement. However, the labor force is also described as one of the main challenges, and the authors argue that the agricultural profession must become more attractive in both economic and social sense for people to choose to stay in the sector. The authors admit that the agrarian rationalization process decreases the required size of the labor force, but that it is important that “people with the right attitude become farmers” (SOU, 2020, p. 51 [author’s translation]). Fewer people are admitted to agricultural schools in Sweden, and the competence needs are dire in the whole country. Generational changes are also described as a problem that creates uncertainty, on the one hand, because the younger generation might not be interested or are advised against taking over from their parents, and on the other because of how it often comes with needs for economic investments and increased efforts. However, economic aspects are described as only some of several important elements to sustain when conducting generational changes. Other values, such as traditions and the family’s history with the farm, are important to sustain in generational change.

Jordbruksverket, or the Swedish Board of Agriculture, is responsible for both measuring and facilitating sustainability in Swedish agriculture, and therefore the most extensive research on the matter can be acquired from them. However, the latest in-depth report on sustainability is ten years old and calls for an update (SS, 2012a). In that report, the social life of the farmer is divided into two parts: close relations to several societal institutions in both the city and in the countryside, and a unique relation to natural resources. Social problems can arise on both sides, and the report defines the question of social sustainability as regarding “relations between humans and how we increase our wellbeing” (SS, 2012a, p. 65 [author’s translation]). Regarding challenges in agriculture as described by interviewed farmers, they mention complicated and costly rules creating stress and uncertainty regarding the economic future because of low economic returns (see

Chart 3). The report also states that farmers can experience loneliness, not getting enough appreciation for their work, and not working under the same conditions when it comes to regulations and rules as the rest of society. Despite that, 70% of the respondents answered that they would encourage the younger generation to become farmers.



Chart 3 *Farmers' perceived net profitability, 2001-2011.* Source: (SS, 2012a).

Lantmännen, the largest agricultural cooperative in Sweden, released a report in 2019 (Lantmännen, 2019), regarding the challenges of cultivation in Sweden. The only social (or socio-economic) aspect in that report appears at the end of it when it is concluded that for sustainable farming, food must be allowed to cost enough to generate enough profit for the farmer, a responsibility the authors put on the market.

2.2. Agrarian sustainability in academia

In line with agriculture not receiving appreciation from society, most Swedish academic research focusing on agricultural social problems is at least ten years old. This might be a result of the climate change discourse dominating much of society in the last decade, which in turn should have influenced the direction of agricultural research. Andersson and Jansson (2012) describe how the globalization process together with the medialization of society creates an image of the countryside dependent on an 'urban' subject and a 'rural' object. They draw heavily from Henri Lefebvre in this discussion and conclude that the countryside is more complex than the medial image of it as being the opposite of the urban city. This could be related to agriculture as well, which is often reduced to emissions, poisons, and old men when discussed in media. I would argue that agriculture is more complex than that, and that it *must* be allowed to be more complex than what the environmental discourse allows it to be.

In 1997, Marie Stenseke described Swedish agriculture as being in both an economic and environmental crisis. However, Stenseke (1997) argues that the solutions to these problems in turn have led to a social sustainability crisis. All political programs and solutions regarding sustainability require anchoring in society, and that might not always be the case. Stenseke (1997, p. 13) writes that:

It is those who work in the landscape that can ultimately bring about a reorganization of land use. In the environmental debate, as in so many others, we are many who have opinions about what should and should not be done without being in the context concerned, and without having the ability to take practical action. The crucial question is how all those who put the shovel in the ground and connect the harrow to the tractor react and act based on the 'new' environmental thinking. [Author's translation]

Following the same line of thought as Andersson and Jansson (2012), Stenseke here describes an agricultural sector controlled from the outside. Stenseke has since redeveloped this stance, attributing it more to a rural-urban blurring than outside control (Dymitrow & Stenseke, 2016). Agrarian change must come from the inside, and it must start with the farmer. The dichotomy of urban-rural is outdated, or as Dymitrow and Stenseke (2016, p. 9) write, it creates “an artificial barrier within a complex, more subtle reality” hiding certain elements of relationships in the landscape. We cannot understand problems in food production as rural problems, despite the strong connection between agriculture and the countryside. Instead, we must understand these problems as societal problems, and the solutions must be constructed as such as well.

Concerning the gap of competence existing in Swedish agriculture, Wiréhn (2018) reveals a great need for more knowledge regarding climate change amongst farmers in Nordic countries. Sweden and the rest of the Nordic countries might benefit from climate change somewhat with higher temperatures, longer summers, and shorter winters. However, Wiréhn shows that the labor force is not ready for this and needs to adapt and educate itself to avoid opportunities such as warmer climate being transformed into problems such as summer droughts.

One common strain in agricultural research is the relationship to the European Union (EU), and how EU regulations affect farming. However, even here most texts focus on environmental aspects. For example, Öhlund et al. (2015) analyze what room EU's Common Agricultural Policy (CAP) (EU, 2022) leaves for local institutional arrangements in its transnational structuring of European farming. They conclude that CAP does not create enough chances for small-scale farmers and that CAP in this fails to prevent large-scale actors from entering the sector.

All in all, most new research on challenges within sustainability in Swedish agriculture focuses on environmental aspects, while it is generally recognized that the agricultural labor force in Sweden stands before great challenges. The reason behind this seems to be because of limited interest in *social* agrarian struggles, despite the official investigation from 2020 admitting that the generational change is a (future) problem. It has been difficult to find other writings depicting the aging agricultural labor force as a problem, and therefore, the aim of this thesis appears even more important and acute. I will approach the problem on the same foundation as Stenseke, that sustainable agriculture begins and ends with the farmer, and therefore the farmer can never be understood as part of the problem, but instead a part of the solution. Landscapes are created through action, and those capable of that action are becoming fewer and older.

3. Conceptualization and theoretical framework

Society is more than a number of individuals. It is a number of individuals among whom certain definite and more or less stable relations exist. The form of society is determined by the character and form of these relations. The social sciences comprise all those branches of knowledge which have as their aim the study and understanding of these relations and their changes in the course of time.

- Paul M. Sweezy (1942, p. 3)

Social relations make up the cornerstone of all societies. It is in the social relationships between individuals we find the foundation for everyday life, production, and reproduction, just as the quote from Sweezy above describes. The relationships going into any production of commodities or products dictate the concrete outcome of that process, but also the structure of that process itself. If we for example divide between owners of means of production and users of these means, that create a class relation in the production process consisting of capitalists and laborers (Harvey, 2018 [1982]). Understanding social relations is to understand society, and in turn, being able to change it.

In the following part, I will start with a conceptualization of sustainability. Section 3.2 introduces the theoretical framework for this thesis with a description of the production of (social) space and (social) landscapes, formed by the writings of the French philosopher and geographer Henri Lefebvre, drawing from a Marxist school of thought. Lastly comes a definition of sustainability understood as the possibility for reproduction.

3.1. Conceptualization of sustainability

3.1.1. Different plans for sustainability

Sustainability has been on the agenda for global politics for some time now. The climate discourse has called for change for a long time, and the solution has come in the form of complex plans for ‘sustainable development’, as the United Nations (UN) calls it (UN, 2022b). UN’s 17 goals for sustainable development within the 2030 Agenda for Sustainable Development (see Picture 2) dictate much of the sustainability work around the globe today, and they aim for a holistic perspective on sustainability, catching all three dimensions of sustainability described above. In Sweden, these goals have been adopted as national policies, with certain authorities being responsible for certain goals. The ecological dimension of the 17 goals has even been reworked to a national ‘environmental objects system’ (Sveriges Miljömål, 2020), containing 16 environmental goals used to achieve the goals set up in Agenda 2030. The Swedish Environmental Protection Agency (Naturvårdsverket, 2022) states that “It is not possible to achieve lasting sustainability

SUSTAINABLE DEVELOPMENT GOALS



Picture 2 UN Sustainable Development Goals. Source: (UN, 2022a).

without taking into account the three elements that sustainability consists of: economic sustainability, social sustainability, and environmental sustainability. No goal can be achieved at the expense of another - and success is required in all areas for the goals to be achieved” [author’s translation]. The UN makes the same three folded division of sustainability, divided into “three dimensions of sustainable development: the economic, social and environmental” (UN, 2022c).

Jordbruksverket is as mentioned in Chapter 2 responsible for monitoring and facilitating some of the goals from both Agenda 2030 and Sveriges Miljömål which relate to agriculture (Jordbruksverket, 2021a). The focus is on ecological and environmental aspects, such as ‘a rich agricultural landscape’, ‘a limited climate change effect’, and ‘a poison-free environment’. Jordbruksverket is also responsible to report to the Swedish government on the progress of four Agenda 2030 goals, namely Zero Hunger, Gender Equality, Responsible Consumption and Production, and Life on Land (Jordbruksverket, 2021a). Jordbruksverket has divided sustainability into the same three-dimensional structure as described above, with economic, environmental, and social sustainability lined up in succession. They write that:

It is not enough to just focus on one or two dimensions, the development must be sustainable based on all three. For example, we work to ensure that food production in the country

- is competitive and long-term profitable,
- contribute to meeting Sweden's environmental goals, national and international climate goals, as well as the global sustainability goals,
- *give people and communities the conditions to develop*, both in rural areas and in urban areas.
(Jordbruksverket, 2021, own emphasis [author's translation])

According to Jordbruksverket, sustainability *requires* the development of people and their communities, parallel to acts against climate change. One problem in agriculture today should therefore be that there in the foreseeable future will be no community to develop, at least not as we know it today.

3.1.2. Critique towards social sustainability as a concept

Despite all the attention aimed toward sustainability, some critiques have been raised regarding the social aspects of the discourse. When writing about resource sustainability, Kandachar (2014, p. 101) writes that “Social sustainability is the neglected component of sustainability”, and argues that the focus instead has been on not environmental, but economic aspects of production to create wealth for some parts of the world. Kandachar here points out that although ecological sustainability is often the front figure in sustainability writing, economic sustainability is often the focus of actions. Eizenberg and Jabareen (2017, p. 2) point out that the ‘social’ element of sustainability was added relatively late in the environmental discussion, and that “the central narrative initially concerned saving endangered species and unique ecosystems and, thus, advanced a harsh critique of the treatment of nature by humans”. They further argue that social sustainability must be understood as interrelated to other elements of sustainability, mainly because social sustainability is a matter of *risk*, as in threats from climate change, economic uncertainty, fear of safety, and more.

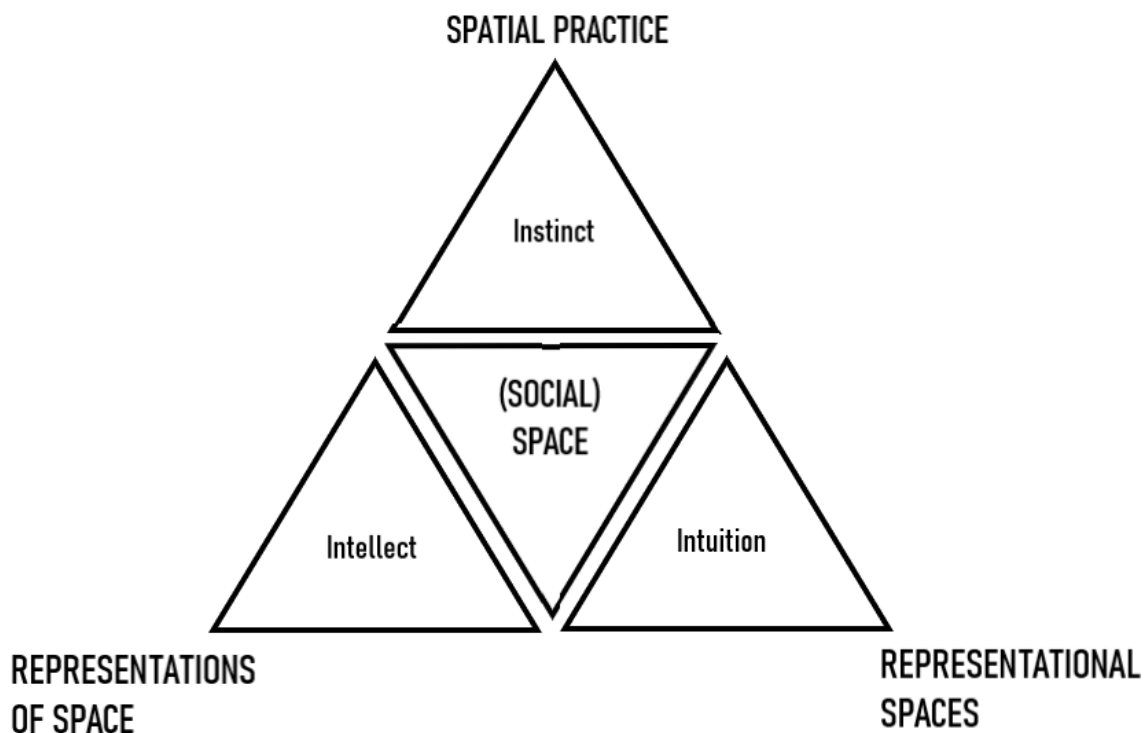
On the same note, Gnansounou and Pandey (2017) describe how social sustainability is that aspect of sustainability, which is the most difficult to both define and measure, because of its qualitative elements. Individual well-being is not the same for everyone, and the differences become even greater on a collective scale. They also connect social sustainability to risk and safety, but add *acceptability*, as in activities having a general social acceptance in society. This means that activities and production must be *considered* as ‘good’ by society in broad terms, to be considered socially sustainable. With the earlier research in mind, it seems as if the concept of social sustainability deserves both more attention and development.

3.2. Agrarian production and the production of agrarian landscapes

This thesis theoretically relates the theme of agriculture and social sustainability to Henri Lefebvre's (1991 [1974]) conceptualization of the production of social space. Lefebvre's spatial triad (see Picture 3) serves partly as a foundation for understanding social spaces and the processes going into the production of them but also forms the epistemological understanding for analysis in this thesis. As Schmid (2008, p. 28) writes, "space 'in itself' can never serve as an epistemological starting position. Space does not exist 'in itself'; it is produced", produced by human activity. Agriculture is a good example, with its fields and villages resulting from the cultivation of the earth for the sake of food production, while it also reveals relationships of ownership and capital flows for those who know where to look. Therefore, the *production* of space is what must be of interest, rather than space itself.

3.2.1. (Agrarian) space is an (agrarian) product

Space, for Lefebvre, is not a vacuum in which humans move and act. Instead, space is filled up by the processes of producing and their internal relationships. One can think of agrarian spaces as becoming agrarian only because of agrarian activity; before farming, there are no fields. This is an obvious dialectical relationship, where space is both dominated by, consists of, and dominates,



Picture 3 Lefebvre's three-dimensional model of space. Layout: Herman Bernström (2022), with inspiration from Lefebvre (1991).

the processes going into its production. Social space, as it has been understood within certain strands of human geography since Lefebvre's revolutionary work, is a product resulting from the relations, processes, and materials going into activities carried out by humans to produce things together. For agriculture, this is more than just about crops growing in the dirt. It is about the social, economic, and biological dimensions of the agrarian production of agrarian space (Henderson, 2003). These labor processes, and most importantly the relations between the actors within them, can be captured in the questions "Who produces?', 'What?', 'How?', 'Why and for whom?'" (Lefebvre, 1991 [1974], p. 69). Through these questions, Lefebvre concretizes the production process of any commodity and sets out to reveal the relations behind production, products, and labor.

To understand social space and the forces creating it, we must understand the concept of 'production', especially in relation to commodity production. Following a Marxist school of thought, a commodity is something "customarily intended for exchange rather than for direct use" (Sweezy, 1942, p. 17). A commodity is thus something produced to be exchanged, either against a price or rent. However, it can be difficult to differentiate between simple commodity production and what Lefebvre calls a 'work', a thing that has "something irreplaceable and unique about it" (Lefebvre, 1991 [1974], p. 70). This easily becomes a matter of nature versus culture, or rather nature versus capitalist production. The dichotomy of nature/culture has a long history in social science, but in this thesis, nature is understood as 'sociable' to culture, in the sense that if "culture changes so too does nature, and as natures change so too do cultures" (Hinchliffe, 2005, p. 197). Again, the agrarian field is very much use-value from nature, but it is changed, prepared, and 'socialized' through (agri)cultural activities, and if that agrarian process changes, then so does that field. If nature changes, as it might do because of climate change, that forces agriculture to change too. This is of specific importance in agriculture, where the climate to a higher degree than in many other industries offers use-value to the production process. Agriculture *takes place* in the landscape, as much as it transforms it after its needs.

The agricultural field is thus perhaps the greatest example of social space and *landscapes* as produced (Mitchell, 2005; 2017). The 'landscape' idea is a way of seeing in the sense of what is being viewed, with "the obvious point of departure [...] the human use of the earth, the relationships between society and the land" (Cosgrove, 1998, p. 2). Approaching space seen as a landscape is to take in all these elements, both the physical items of reality as well as the meanings, traditions, and values aimed towards a specific place, to reveal a 'social totality' (Mitchell, 2008). It is this 'social totality' that this thesis sets out to investigate in the agrarian landscape of Uppsala, with all

its characteristics, its history and tradition, and most importantly its actors and social relations of production and ownership. This landscape is filled with use-value in the form of nutrition, water, and the soil itself, all necessary for crops to grow. But all these use-values are only available to us thanks to generational amounts of labor. Therefore, the analysis of this thesis necessarily begins with a historical background and contextualization of agrarian production in Sweden, and specifically, the landscape of Uppsala (section 4.1), because “History does matter” (Mitchell, 2008, p. 41).

With our understanding of production and nature set, it is possible to create an epistemological and ontological understanding of space as Lefebvre sees it, to be able to construct an analysis around it. The following discussion on Lefebvre’s spatial triad is hence a walkthrough of this thesis’s foundational understanding of reality, and how we can come to understand it. To fully discuss Lefebvre’s spatial model is a project too large for this thesis, but a quick discussion is required before we move any further (for further reading, see Lefebvre, 1991; Goonewardena, et al., 2008).

First, it is important to remember that Lefebvre’s point of view on space is highly dependent on *activity*. Through human activity, space is created and given meaning. Only the human mind and body *act* in space and time. Human activity is carried out with an imagined purpose, and “[a]t the end of every labour-process, we get a result that already existed in the imagination of the labourer at its commencement” (Marx, 2013 [1867], p. 121). This activity and its purpose are what create the system of spaces Lefebvre sees before him. This results in a three-dimensional model of space and spatial production (see Picture 3), a model I will now describe and contextualize in the setting of agriculture and the problem formulation of this thesis:

Spatial practice

Spatial practice is the material dimension of human activity, that which is “revealed through the deciphering of [...] space” (Lefebvre, 1991 [1974], p. 38). This is the space of *instinct* or the perceived space. This space is not directly planned or logically discussed but rather is the outcome of actual practice. In a capitalist society, the spatial practice of e.g., landowners as separated from land-users, or the class division of capitalists and workers, creates a network of exchange relations that forms, reforms, and dominates space. Spatial practice is both the production and appropriation of space, as in agriculture where the practice of seasonal farming led to the transformation of nature into agrarian fields. Here, Lefebvre highlights the relationship between capitalism and space. If a commodity is something produced with the intention of exchange (as farmers who to a higher degree produce food intending to go to the market with it rather than to feed their own

family with it), that will affect the specific space in certain ways. For example, most farmers today do not produce a single grain of food directly for their own family and must like everyone else go to the store to supply their family with food. This system of markets and stores is an example of a spatial practice of exchange creating networks of movement and flows of capital.

Representations of space

Representations of space are the conceptualization of space, the image, and the definition of it. This is space as it is conceived, planned, and decided upon. Lefebvre described this as the dominant space in any society because this is where the plans and technicalities of space are constructed, to which human activity then must relate. For example, agrarian fields are only conceived as agrarian to the human mind. A bird does not see an agrarian field in its totality but instead sees e.g., specific spots in that field suitable for breeding. Representations of space thus decide what is believed to be possible in a specific space, because it defines what that space is (and what it is not). It is what defines space as agrarian, and in turn what defines agrarian space as sustainable or unsustainable. This is the space of science, discourse, and official plans, and therefore an understanding of both historical and contemporary plans for space, such as e.g., sustainability plans within agriculture, are required to be able to decipher space.

Representational space

Representational space, the “dominated – and hence passively experienced – space” (Lefebvre, 1991 [1974], p. 39), is space as it is lived and ‘used’. This is the space of *intuition*, thus the space of feelings and emotions. This is the space of landscapes, not individual artifacts but rather a unity of things, one whole which for example can be symbolized as ‘home’ for some but a plain agrarian field for others. This space is of interest in this thesis, because of how it relates to our emotions toward space, and how the intuition towards agriculture of the older generation differs from the intuition of the younger generation. This difference, together with economic reasons, is what is expected to have led to a new approach to agriculture in which young people move away from agriculture. It also relates to how the countryside for some people is a place for agrarian production, while it for others might be imaged as peace and tranquility. Such differing representations of space might result in struggles between different groups of people.

When approaching Lefebvre’s triad model of space, it is important to remember that these three kinds of spaces do not exist separated from each other. They exist and happen at the same time, together. It is a three-dimensional dialectical process, where all three parts relate to each other, constituting ‘space’. In the context of agriculture, both the history of the place, the official plans

and regulations of agriculture, the ways of operation in farming, and most importantly, the lived experiences of people inhabiting the space, are required to be able to decipher it. Therefore, I chose to approach a whole landscape of agriculture in this thesis, with its history, context, actors, and inhabitants, which all make up the totality of the agrarian process in that space.

Following what Lefebvre (2003 [1970], p. 15) called “the complete subordination of the agrarian to urban”, the agricultural landscape of today is more relational to and dependent on urban cities than ever before. Agriculture today is no longer only a rural activity happening in the countryside, because “No landscape is local” (Mitchell, 2008, p. 38). Instead, it is foremost dominated by urbanity, apparent in the flows of capital to and from the agricultural sector, but also in how farmers must relate to urban places through the acquiring of machines and other input resources. In the case of this thesis, UAF plays the role of the urban representative, revealing how modern agriculture may *take place* in the countryside, but that it more and more is dictated by the urban city. Therefore, Lefebvre’s prediction of agriculture as increasingly urbanized is not only of interest to answer this thesis’s question; it is also what forms the foundational understanding of the forces and powers behind the (re)production of modern agrarian landscapes.

3.2.2. Reproduction of sustainable landscapes

From the problematization of this thesis as to why young people are leaving the agrarian sector, the focus on the reproduction of landscapes must relate to some sort of *difference*. Something is happening with the reproduction of agrarian landscapes of Sweden, something different from earlier cycles that differentiates young people from earlier generations of farmers. This highlights the questions of reproduction, earlier defined as this thesis’s definition of sustainability. From Katz and Norton (2017, p. 1), we have already defined social reproduction as “the production and reproduction of a differentiated labor force and the cultural forms and practices that at once maintain these differences and *make them common sense*” [own emphasis]. They further explain that “[s]ocial reproduction encompasses the daily and long-term reproduction of the means of production, the labor power to make them work, and the social relations that hold them in place” (Katz & Norton, p. 1). This definition is heavily focused on the actual production process, and the social relations going into that process. Here, social reproduction is about the labor power and the means of production, or “generational reproduction” as Bernstein (2010, p. 19) calls it, the production of the next generation of producers. It is about the ‘who?’ and ‘how?’ in production. However, there is also a ‘why?’ going into the process, a question related to the representation of agrarian space, with an increasingly complex answer.

In the foreword to their anthology on the matter, Katz, Mitchell, and Marston (2004, pp. 1-2) use an expanded definition of social reproduction, understood as a question “about how we live”:

One of the main problematics energizing generations of Marxists is the relationship between how we live at work and how we live outside of it. This preoccupation is based on the assumption that social formations arise from the dominant mode of production and necessarily reflect and reproduce that mode in order to continue it through time.

Social reproduction is thus about not only reproducing the actual labor force as in the humans working but also about reproducing the ways of life outside of work for these people in a way that makes them make sense. However, agriculture is a peculiar kind of production. We do not have to go back many generations in time to end up in an agricultural landscape where farming was the way of life for most people and not just a job for a few. As the historical background in Chapter 5 describes, the 20th century meant a transformation of the idea of the farmer from a way of a life to a career and a job. Agriculture became industrialized (Morell, 2001). This necessarily transformed the way of life of the farmer, partly because the actual production process changed thanks to technological development, but also because ‘how we live at work’ suddenly became separated from ‘how we live outside of it’.

As one of its many dimensions, landscapes are a way to know one’s home and to create an identity and a feeling of home. But, as Mitchell (2005, p. 53) writes, “the question, of course, is always *which* people landscapes invite and which people can find no place in them”. *Whom* agrarian landscapes are inviting seems to be changing, and this change deserves and requires critical analysis. More and more people seem to struggle in finding a place for themselves in agriculture, and this is here understood as threatening the reproduction of agrarian production as we know it today.

4. Methodology

The environmental struggle in broad terms is a question not easy to approach, much because of how multifaceted it is. David Harvey (1996, p. 117) describes it quite well when he explains his confusion about how “the ‘environmental issue’ necessarily means such different things to different people” because, depending on experience and profession, they put different things into it. However true that might be, as described in Chapter 2, social sustainability lacks the same clarity as economic or environmental sustainability and is impossible to measure in hard numbers. Therefore, the methodology in this thesis is based on qualitative in-depth interviews and field trips to the specific landscape in question. Qualitative methods call for more of an interpretive approach to data in the form of words and text, and it is important to understand what that interpretation is influenced by (Bryman, 2012, p. 380).

This chapter will begin with a description of how I have operationalized the theoretical framework, mainly based on Bernstein (2010). Following that, I will go through the process of data gathering and the processing and coding of material. Then follows a description of my process of analysis; a thematic content analysis aiming to reveal any reoccurring themes and main arguments from the interviews. Lastly, I will go through any ethical considerations and limitations of the process.

4.1. Operationalization of theory

To approach agriculture in broad terms and the landscape of interest specifically, I follow Bernstein’s (2010, pp. 22-23) four key questions for political economy; Who owns what, who does what, who gets what, and what do they do with it? These four questions are aimed toward the whole chain of production, starting at the very beginning with the matter of ownership of both resources and means of production, and ending at the consumption of that which has been produced. They also resemble Lefebvre’s (1991 [1974], p. 69) questions of “‘Who produces?’, ‘What?’, ‘How?’, ‘Why and for whom?’” mentioned above. By putting Bernstein’s four questions to work, it is possible to reveal the structure of ownership, the process of labor, the resulting profit and ‘fruits of labour’, and the patterns of consumption and possibilities for reproduction following the production. Bernstein’s questions carry a greater focus on ownership compared to Lefebvre’s questions, an element which I have seized in this thesis in the sense that ownership played an important role during the interviews. Bernstein’s questions informed the construction of two interview guides (see Appendix 8.1) used in the interviews.

Because of the subjective element of the research interest of this thesis, the aim was to create an environment where interviewees could talk freely and state their points of view (Bryman,

2012). This is of course a difficult aim, but it was the ambition when preparing for the interview and conducting the data gathering. With that said, the interview guide and data gathering were planned and conducted with agrarian production in focus, trying to operationalize the theoretical understanding of this thesis in such a way that the reproduction of the agrarian process was revealed.

4.2. Research design

4.2.1. Situated knowledge

Before we move into the actual research design, a discussion on situated knowledge is required (Haraway, 1988). I have approached the agrarian landscape surrounding Uppsala with a great preunderstanding of it, because I am from it. Objectivity, Haraway (Haraway, 1988, p. 595) argues, “is not about disengagement but about mutual and usually unequal structuring” in the sense that if I would have approached another landscape than Uppsala, I would have done it with a mutual structure, but without a preunderstanding of it impossible to achieve as an outsider. One way to handle this has been to not interview persons I knew beforehand.

I have also approached this thesis with an ontological foundation based on critical realism, where “Reality is assumed to exist but to be only imperfectly apprehendable” (Guba & Lincoln, 1994, p. 110). Lefebvre’s production of space and in turn Mitchell’s understanding of landscapes as produced are the epistemological way to approach this imperfectly apprehendable world, used to categorize, conceptualize, and understand it.

4.2.2. Sampling and data

The primary data for this research originates from two field trips and eight in-depth interviews. One of the greatest challenges in qualitative sampling regards the purposive aspects of whom to interview or analyze. Deciding whom to ask qualitative questions might affect the answers as much as the questions themselves, if not more (Bryman, 2012, p. 416). This decision of sampling was conducted with the help of two key informants, both originating from and being active in Uppsala county as farmers and known to me before this study. They might of course have had an immense effect on the outcome of this thesis considering their influence on the data gathered, but the gathering had not been possible without them and was vastly more effective thanks to them.

In discussions with the key informants, a sample of interviewees was acquired, aiming for a broad group of farmers in the sense of different forms and ratios of ownerships of used land, (rent vs. private ownership), different scales of production (small to large scale measured in hectares farmed), and different kinds of production (organic vs. conventional) (see Table 1).

Table 1 Review of interviewed farmers.

<i>Farmer, age</i>	<i>Education</i>	<i>Owned/leased land (ha)</i>	<i>Employed people</i>	<i>Production</i>	<i>History at the farm</i>	<i>Relation to UAF</i>
<i>A, 44</i>	Electrician, 40-week agrarian basic course	400/ 200	1	Conventional grain cultivation	The sixth generation, A has been active for about ten years.	None, other than that UAF has land bordering A's land, preventing expansion.
<i>B, 74</i>	Agricultural school	110/ 110	0	Conventional grain cultivation	B's wife's family farm for at least two generations and B has been there since 1973.	Has been a UAF tenant for three years, and has bordering lands.
<i>C, 56</i>	Agricultural school	25/ 185	1	Organic grain cultivation	The first generation, since 1989.	UAF farmer who lives on a UAF farm and leases most land from them.
<i>D:1, 75</i> <i>D:2, 76</i>	Agricultural technologist ³ , teacher.	40/0	0	Sheep, both skin and meat	First-generation, since 1978.	None, other than that UAF owns some land in the proximity.
<i>E, 31</i>	Agricultural school	50/ 130	1 (+10 seasonal)	Conventional grain cultivation	The fourth generation since the 1930s, E has been active since 2015.	None, other than that UAF has land bordering A's land, preventing expansion.
<i>F, 70</i>	Agricultural technologist	0/700	2	Conventional grain cultivation	The fourth generation since ~1900, F has been active since the 1980s.	UAF farmer who lives on a UAF farm and leases most land from them.

³ Swedish: "lantmästare"

This information was impossible for me to acquire without the key informants, and they helped me in reaching out to a suitable group of people. They also helped in the construction of the interview guide, in the sense that they helped in formulating questions, and gave insights into what questions might be interesting to ask to whom. Considering the ambition of facilitating a conversation rather than an interview, this information was critical in the preparations. The initial sampling was followed by a sort of snowballing method (Bryman, 2012, p. 424), where some interviewees could provide contact information and other relevant information about two other farmers who were of interest.

In total, seven farmers were interviewed. They are all active close to Uppsala and have agricultural activities as their main source of income. They range in age from 31 to 75 and differ in ownership composition from owning all farmed land themselves to renting almost everything from UAF. One interview was also conducted with a representative from UAF, to create an understanding of their activities in the landscape, together with a discussion on their view on sustainability.

I will here talk about both ‘farmers’ and ‘farms’ when discussing the interviews, and for the sake of ease, they have all been anonymized to a letter (A-F) which can be found in Table 1. For example, ‘A’ can correspond to both farmer A, and his farm. Two farmers, D:1 and D:2, are married and operate their farm together. They both expressed a will to be interviewed as equal farmers and are thus managed as two separate interviewees in the analysis. D:2 is also the only woman in the data set, which reflects the male dominance in agriculture. All other farmers are operating their farms alone, although some have employed workers, and some have agricultural companies together with other farmers as a form of cooperation.

As described earlier, Uppsala is an agricultural landscape dominated by crop production, something that shows amongst the farmers interviewed here. As Table 1 shows, only one visited farm (D) had animals. All other farms visited are primarily focused on crop production and grain cultivation, with only one farm (C) producing organic products. Several of the farmers, B, C, and especially E, are also contractors, meaning that they do jobs for other farmers or Uppsala municipality, such as harvesting or snow plowing. For them, contracting was a way to pay off large machines which would otherwise be unused for large parts of the year, acquire work for the whole year, or simply generate more money. Farmer E even has a whole side business only for contracting with ten seasonal workers, doing road sweeping, snow plowing, and other things in the close area. E is also the second smallest farmer in terms of farmed land and expressed a will to expand the agricultural side on the behalf of contracting. All crop farmers in the survey lease at least some land added to their owned land, and two farmers, C and F, are UAF tenants.

The persons in the data set are slightly older than the average in Sweden, but the representation of farmers corresponds well with the usual agrarian production in Uppsala, with few animals. Following Table 1, we can also see that the largest farm is the one owned by UAF, but that all visited crop farms are larger than the Swedish average of 43 ha (Jordbruksverket, 2021b). Three people (C, D:1, and D:2) had no family background as farmers and are the first generation in their family working both on the actual farm and as farmers. All other interviewees had a family heritage as farmers, and they all described their families as protracted lines of farmers.

4.2.3. Conducting interviews and preparing questions

The interviews were conducted semi-structured, to allow the interviewees to respond freely on open topics, and at the same time leave space for picking up on other topics emerging during the interview (Bryman, 2012, p. 471). The interviews were all conducted during two field trips to Uppsala, spanning over one week each at the beginning and end of April 2022. All interviews were conducted in the interviewees' homes or offices, face to face. All interviews were recorded, with permission from the interviewee, and for the sake of ease and to facilitate the discussion during the interview all interviewees are anonymous. An interview guide was prepared beforehand (see Appendix 8.1.1 and 8.1.2), constructed following Bernstein's (2010) four key questions of political economy and in consultation with the key informants.

VÅR DEFINITION AV HÅLLBARHET



Picture 4 UAF's three-dimensional model of sustainability. Source: (UAF, 2022a).

The first half of the guide, following Bernstein's first two questions; "Who owns what?" and "Who does what?", were constructed in a way similar to what Bryman (2012, p. 488) calls "Life history and oral history interviewing". This part played a two-folded purpose: on the one hand, it was meant to gather information about the interviewee and the farm while also getting an understanding of why the person choose to become a farmer in the first place. On the other hand, it also played a part in making the person comfortable and feel safe, while talking mainly about themselves. In the second half of the interview guide, the questions "Who gets what?" and "What do they do with it?" brought in elements of social relations and challenges in daily life as a farmer and their production, while also picking up on themes that emerged from the first half of questions. This part was supposed to be less structured compared to the first half and could also contain specific questions for each farmer resulting from information from key informants.

For five interviews, I brought with me a picture from UAF's sustainability plan (UAF, 2022a), showing their three-folded structure of sustainability under the terms economic, organic, and social (see Picture 4). As mentioned above, this is a common way of defining sustainability, and the same structure can be found in e.g., the UN's plan for sustainability or the Swedish Board of Agriculture's sustainability program. The picture from UAF was chosen mainly because of its clarity and practicality, but also because of its relevance to the thesis. Any other picture describing this three-folded way of describing sustainability could have been chosen.

The interview guide was meant to be dynamic, and some changes were made along the way. This was an important part of the constantly ongoing reflectiveness of the interview process and reflected the way of analysis chosen for this thesis, where data was analyzed *in situ* (see Loubere, 2017). The first interviews affected the latter, and the analysis of the gathered data began at the same time as the first interview was conducted. Handling qualitative data requires some reflectiveness and interpretation of words and text which is not possible or desirable in quantitative research (Bryman, 2012). Field notes from the interviews were written down directly after, often in the car as soon as possible after each interview. The processing of the data resulting from the first trip was finished before the second trip. This made it possible to bring insights from the first half of the interviews to the second field trip.

4.2.4. Thematic data processing and analytical framework

The processing and analysis of the interviews and the field notes were conducted through a thematic coding of the material, where reoccurring themes were defined and analysed (Gibbs, 2007). The construction of these themes followed an *abductive* way of reasoning (Bryman, 2012), where some themes were expected in the data beforehand and therefore prepared for in the interview guide,

while other themes were identified in the data. This allowed for a dynamic approach to the interviews and the material, while also making it possible to bring in my previous understanding of the landscape into the interviews, making way for theoretical and empirical work in parallel (Dubois & Gadde, 2002).

All interviews were transcribed, but as Loubere (2017) argues, using only transcribed data from qualitative interviews can limit the research and possibly damage the resulting analysis because of too much focus on the written word. Therefore, following Loubere's arguments, the initial part of the analysis focused on reflecting on the interviews without the written word resulting from the transcribing process. From this reflection, field notes were written down and used in the initial construction of themes used in the analysis (Crang & Cook, 2007).

In total, four themes have been identified and constructed (see Table 2). Two themes, 3 and 4, were prepared for deductively in the interview guide, constructed based on the theoretical interest and knowledge of the landscape. The other two themes were constructed inductively, based on subjects that appeared during the field trips and in the processing of that data (Bryman, 2012). Field notes were taken regularly during the trips, directly after interviews and at the end of each day, summarizing interviews, describing the interviewee and the interview situation, and in short picking up on things said and expressed by the interviewee (Crang & Cook, 2007). Some discussions were also held with one of the key informants between interviews, to fill in knowledge gaps and ask questions regarding different subjects, resulting in specific notes. From all these notes resulting from the first trip, and with the interviews in mind, a few major reoccurring subjects were identified and concretized in the processing before the second trip (Gibbs, 2007). The price of food was for example such a subject. A scepticism towards organic farming as environmentally sustainable was another.

These subjects could then be used in the interviews during the second field trip, to test their relevance, while also further developing their complexity by asking questions focusing on them specifically. See Appendix 10.1.2 for more information on which questions were added to the second field trip. When all interviews and fieldnotes were processed after the second trip, two inductive in-depth themes were constructed and defined, totalling four themes. After the second trip, all interviews were also transcribed. The four themes were thus constructed *before* the first listening to the recorded interviews, following Loubere's (2017) argumentation of trying to focus on more than just the written word in analyzing and coding qualitative data. The four themes were applied to the transcribed text data in a coding process (Bryman, 2012), to find quotes strengthening the themes and further testing their relevance. All four themes were found relevant for all interviews, while also being con-

stantly processed during the coding. All themes relate to the struggles of the interviewed farmers and were present in all interviews.

Table 2 Presentation and short description of each theme used in the analysis and coding of gathered data.

#	Themes	Description
1	The high threshold for farming	It has become too expensive and complicated to start or take over a farm. Even if you inherit it, most farms today are mortgaged. Even renting has become too expensive. To this is added the increasing regulation for environmental sustainability, requiring much education and investments. Becoming a farmer without any connection to the occupation beforehand is both unusual and difficult. All farmers said that food today is either too cheap or that too much of the price paid by the consumer ends up somewhere else on the line back to the farmer.
2	Distance between regulations and discussions of agriculture, and farmers	Organic production cannot be understood as absolutely equal to environmentally sustainable. This is because the definition of organic farming is decided beyond farmers and the agricultural sector, and hence it misses several important aspects of the farming process. This pattern is repeated in other discussions, but organic farming is the clearest example of the distance between the conceptualization of farming and actual farming.
3	Leasing vs. Private owned farms	Several pros and cons were expressed regarding either leasing or owning. Those who were mainly privately owned preferred it that way but agreed that renting was a good way to expand the production. Those renting from UAF differed in their opinions. All would have preferred to have owned everything themselves but argued that it is not always economically possible.
4	Rationalization and capital's creation of desirability in the landscape	This theme is mostly related to the local perspective in this thesis of UAF as a major actor and landowner in agrarian Uppsala. UAF's activities, together with general agrarian rationalization, can be summed up to create a pattern of desirability in the landscape, where some win and some lose.

Through this analytical framework, I could approach the interviews with both my previous understanding of the landscape and of agriculture (Haraway, 1988), while also being able to take in new insights and information to the analysis. Conducting two field trips allowed for a dynamic approach to the interviews, where insights from the first trip were used during the second. The themes are presented more in-depth in Chapter 6, together with a discussion of their implications for sustainability in agriculture.

4.3. Ethical considerations and limitations

All research carries limitations, especially in qualitative studies. The main limitation going into this study was regarding the population sampling. As mentioned, that was done with great help from two key informants. However, these two persons might have affected the sampling greatly, in that they were responsible for whom were interviewed which might have biased the sampling. One way to work around this problem was to gather a few more interviewees through snowballing; two farmers were added through recommendations from other interviewees.

Another limitation in this research is that although the geographical delimitation of the thesis is the agrarian landscape surrounding Uppsala, all farmers in that area are of course not accounted for here. That would have been impossible to do, and instead in-depth interviews with a few of them from different backgrounds and with different ways of production have been used to aggregate a larger picture. Asking other farmers might have resulted in another tale, and that is a limitation this thesis must accept.

5. Prelude: Contextualizing agrarian landscapes, local and national

Swedish food production is a great example of the globalization of agriculture (Andersson & Jansson, 2012). Sweden imports about twice as much food as it exports and two-thirds of the greenhouse gas emissions resulting from food consumed in Sweden derive from production abroad (SLU, 2021). Many input resources, some labor power, and even regulations in the form of EU directives derive from abroad (Jordbruksverket, 2022b). Much of this globalization process happened during the 20th century when agriculture in not only in Sweden but in most of the world transformed and rationalized into a large-scale industry (Flygare & Isacson, 2003).

Therefore, the empirical part of this thesis will take as its starting point a historical background of Swedish agriculture from the 20th century onward, following Mitchell's (2008) argument that history matters for landscape analysis. After that follows some statistical data on Swedish farming today, and a short description of UAF as an actor in the landscape.

5.1. Background, history, and actors in agrarian Uppsala

5.1.1. Regulations and deregulations in Swedish agriculture

The 20th century brought the greatest transformation of Swedish agriculture in history when an incredibly long tradition of small-scale farming employing a large part of the population ended at the hands of rationalization and effectivization (Flygare & Isacson, 2003). During the 19th century, the factories required labor power, which had to be taken from the agricultural fields (Morell, 2001). This meant that what earlier had been done through the labor of human hands and whole families, now could be done with tractors, harvesters, and few men⁴. Swedish agriculture went from small-scale to large-scale, and from manpower to machine power. Farming was transformed from a lifestyle into a business, and farmers became entrepreneurs (Stenseke, 1997). This necessarily meant larger farms, because the same amount of land had to be farmed but by fewer people. However, this transition was not without challenges for Swedish farmers. Investing in new machines and, most importantly, in new land required funding and is by nature a risky path in an industry so dependent on weather. Swedish farmers had to rationalize and invest, without carrying too large risks of failure. The solution was state intervention and heavy regulation of Swedish agriculture with government grants. From the 1930s, until around 1990, Swedish agriculture was secured through state funding and avoided falling into endless debt while still being able to rationalize and feed a growing population (Flygare & Isacson, 2003).

⁴ During the 20th century, Swedish agriculture has been a mainly male occupation, and from the 1970's and onward, the share of women compared to men in agriculture decreased to lower than 50%. Before that, the ratio was about three women on five men (SS, 2012b; SS, 2017) In 2016, the share of women in agriculture was 18% (Jordbruksverket, 2020c).

Then the 1990s came, and Swedish agriculture was deregulated for a few years. Prices that had previously been regulated (resulting in prices around 60% above the EU average (Flygare & Isacson, 2003, p. 254)), was now decided on the world market, and Swedish farmers had to adapt to a new economic reality with great challenges and possibilities. Parallel to this came a raising interest in climate change and solutions to it, which for the agricultural sector meant a higher pressure from the outside on *how* the production of food was conducted.

In 1995 Sweden joined the EU, and regulations were back on the menu. The difference this time was that the regulations came from outside of Sweden and that Swedish agriculture became a part of European farming through CAP (EU, 2022). Shared food production was important for peacekeeping and kept Europe (or the nations in the EU at least) somewhat together, but for Swedish farmers, this has meant a kept need for economic support. Today, the main regulating force in Swedish agriculture is the Land Acquisition Act (Sweden's Riksdag, 2022), which dictates that juridical persons are not allowed to expand their owned land, to prevent private owners from corporations and organizations such as UAF from growing too large.

5.1.2. Agriculture in Sweden, statistics, and background

Modern Swedish agriculture is, as mentioned, dominated by large-scale production and heavy machine dependence. 60% of all farmed land in Sweden is used by companies farming more than 100 hectares. However, the average farm works 43 ha, and two-thirds of all agricultural companies consist of less than 20 hectares (Jordbruksverket, 2021b). Simply put, out of almost 60 000 agricultural holdings in Sweden, most are rather small while the larger ones use most of the land.⁵ The number of farming-related businesses with more than two hectares of land was 58 791 in 2020, a decrease from 76 800 in 2000, which in turn had seen 13 700 companies disappear since 1996 (Jordbruksverket, 2001; Jordbruksverket, 2020a).

Almost one-third of all agriculture companies active in 1996 have thus shut down their business since then. The most common way of ownership in Swedish agriculture seen to used farmland is completely self-owned, with about half of all agricultural businesses owning all used land. Companies renting some land make up around 30% of the total, and only 7% rent all used land (Jordbruksverket, 2020a). Farmland is the main part of agricultural land in Sweden, with only around 15% being used for pasture, but the total amount of agricultural land is decreasing since at least 2007⁶ (Jordbruksverket, 2022c). As seen in Chart 4, crops and fodder plants dominate plant production.

⁵ Horse farms are accounted for in these statistics, which might skew it a bit because of their in general smaller size compared to crop or animal farms.

⁶ Since 2007, almost 125 000 hectares of agricultural land in Sweden has been removed (Jordbruksverket, 2022c).

Regarding the export and import of agricultural products, Sweden has for a long time had a balance overweight to exported food. In the middle of the 00s, Sweden exported food for 41 billion SEK and imported food valued at 77 billion SEK. In 2020, those numbers had risen to more than 160 billion in imports and just above 100 billion in export. Most of the value of food imported is from the kind of food not produced in Sweden, such as coffee and different sorts of fruit, but a lot of the food imported from the EU, Sweden's largest agricultural business partner, is directly competing with Swedish production (Jordbruksverket, 2008; 2020b).

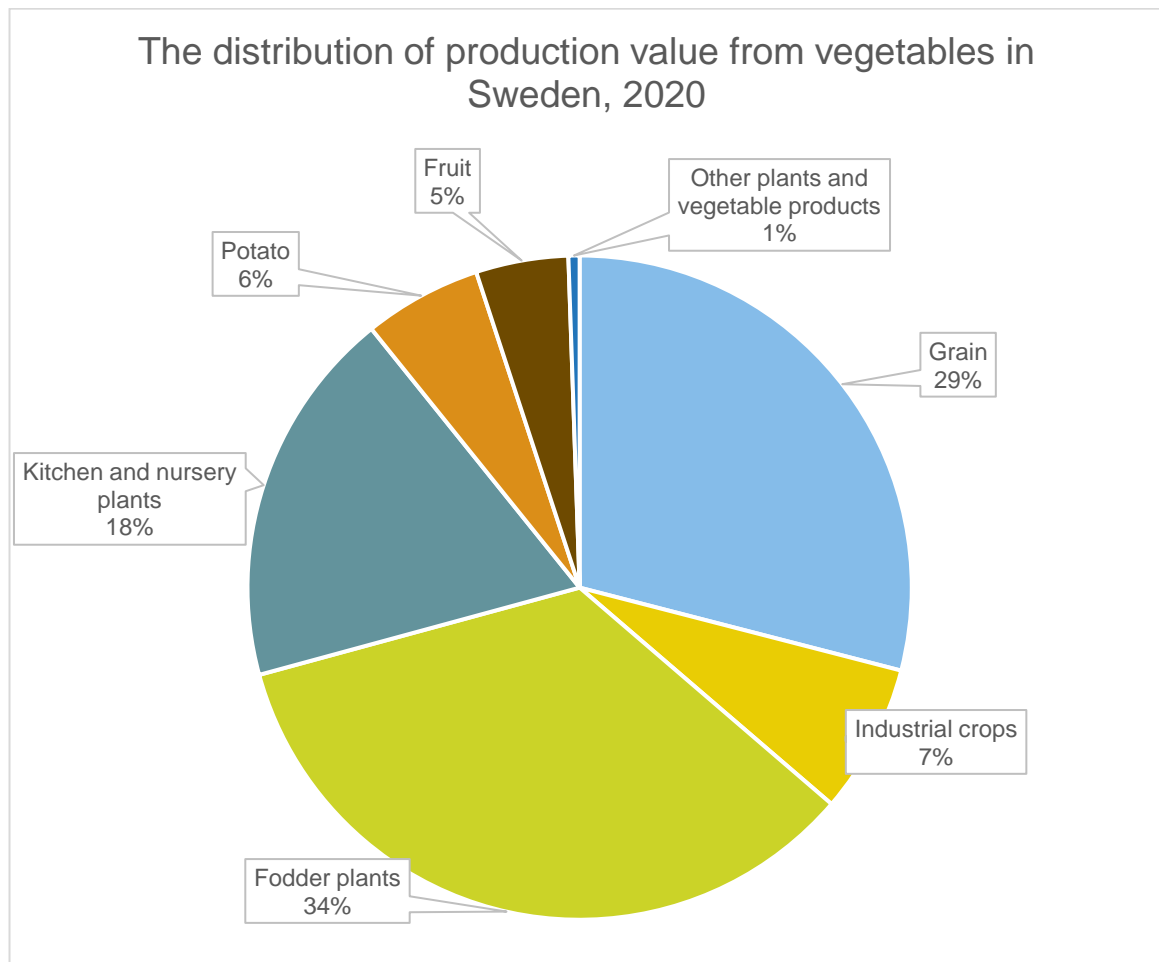


Chart 4 The distribution of production value from vegetables in Sweden, 2020. Source: (Jordbruksverket, 2021b).

The agricultural landscape of Uppsala has for a long time been dominated by crop production, with a low amount of animal production (Jordbruksverket, 2001; Jordbruksverket, 2021b). This follows a rather regular pattern in Sweden, where single farms usually have become specialized in either crops or animals. In turn, whole regions have followed the same pattern. The middle parts of Sweden together with Skåne are dominated by crop production, and the area in between has become specialized in animals (Jordbruksverket, 2021b). Why this is the case is not so easy to say, but the land quality might be one reason. One important aspect, which was mentioned during the data gathering for this thesis during several interviews, might be that the regions specialized in crops also have a lot

else to offer in the sense of labor market and proximity to larger cities. Animal production usually requires a whole other kind of commitment compared to crop production, because animals require attention all the time. A crop farmer on the other hand can much more easily combine the agricultural job with another activity and experience another kind of freedom. The proximity to larger cities and opportunities for other jobs thus seem to affect the production taking place on the farms.

Table 3 Labour power in Swedish agriculture, 2000 & 2020. Source: (Jordbruksverket, 2001; 2020c)

Year	2000	2020
Total number of people employed in agriculture	177 000	166 000
AWU ⁷	74 000	54 837
Share of males employed	67%	60%

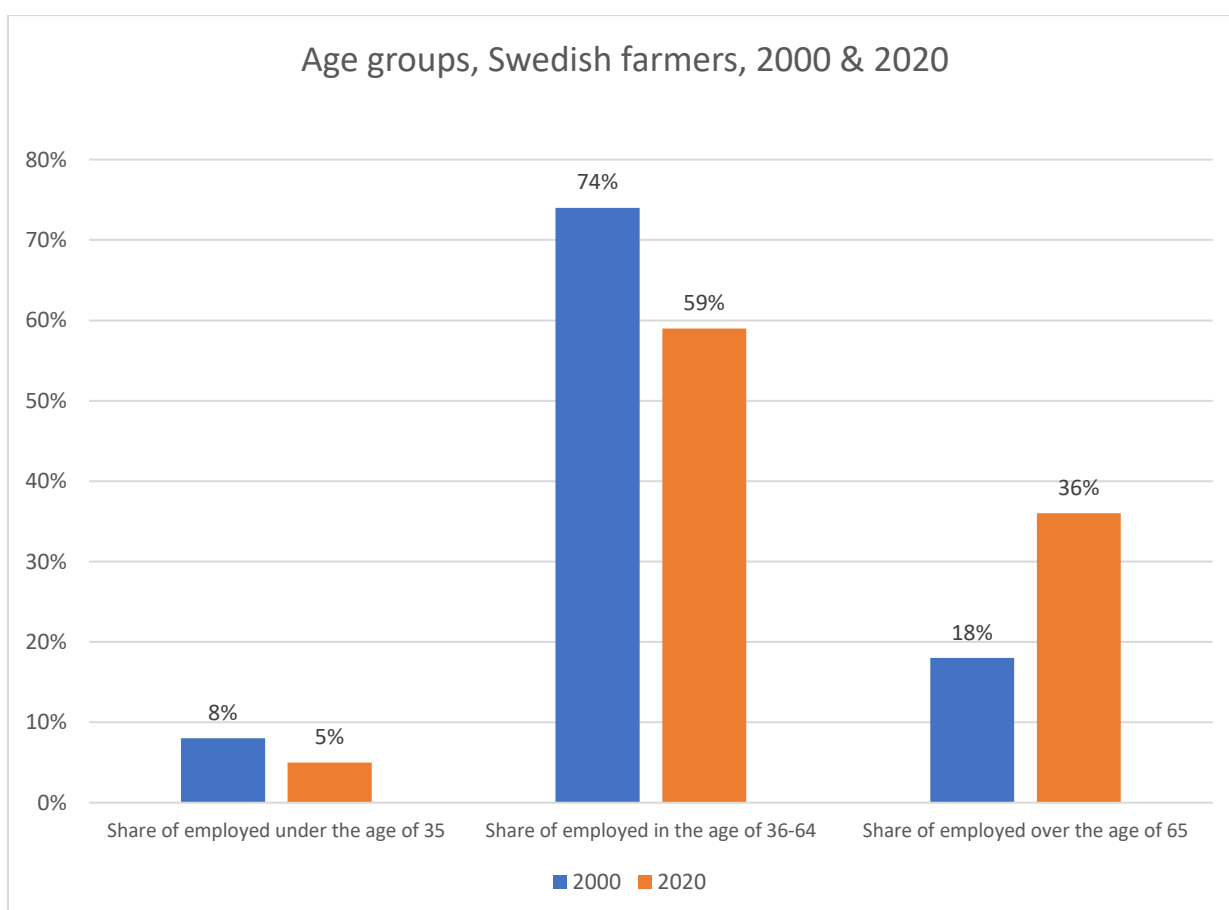


Chart 5 Age groups, Swedish farmers, 2000 & 2020. Source: (Jordbruksverket, 2001; 2020c).

⁷ AWU: Annual Work Unit, used to define the number of full-time employees in a sector or company per year. One full time employee for a whole year equal 1 AWU (EU, 2022).

Moving into the more critical background for this thesis, the number of people working in agriculture follows, logically, the same pattern as the number of agricultural companies or the amount of farming land. Swedish farms are getting larger and Swedish farmers are getting more effective, but they are also becoming fewer. As Table 3 reveals, the number of employed people in agriculture in Sweden has decreased by over 7% since the year 2000. Even more strikingly, the AWU has decreased by 25%, as expected with more effective machines. From this, we can conclude that while many people have left agriculture, amongst those still in the sector the number of people working full time as farmers have also decreased.

However, the most striking aspect of Swedish agriculture is the age structure. From less than two out of five farmers in 2000, the number of farmers over the age of 65 went up to more than one out of three in 2020 (see Chart 5). To add to this, at the beginning of the 1990s, only one out of ten farmers were over the age of 65 (Andersson & Jansson, 2012). As Chart 5 also shows, the number of young farmers has decreased over the same period. The decrease in the total number of farmers since then thus seems to stem from the fact that young people simply do not enter the sector. The reason behind the aging workforce can thus be understood as a combination of older people being able to work for a longer time thanks to better working conditions and lower workload thanks to technological improvement, but also because no one is taking over.

5.1.3. Uppsala Akademiförvaltning

Partly because of this thesis's interest in relations of production (where structures of ownership are of great importance) and the production of agrarian Uppsala especially, and partly because of how often they emerged in the interviews, a presentation of Uppsala Akademiförvaltning (UAF) is required. Uppsala University was founded in 1477 and is thus Northern Europe's oldest university. After some tough first 150 years economically, the Swedish king Gustav II Adolf donated over 300 farms to the university in what has been called the Gustavian donation year 1624 (UAF, 2022c). The value of the Gustavian donation today is estimated to be at around four billion SEK. The great wealth and all the estates called for management and control and led to the foundation of Uppsala Akademiförvaltning. UAF is today active in finance, forestry, agriculture, and house estates, managing a value of eleven billion SEK (UAF, 2022c).

UAF has thus been active in the agrarian landscape surrounding Uppsala for almost exactly 400 years. This activity has been driven by rent, and the surplus value achieved by renting out agrarian land. UAF does not operate any of its agrarian lands directly themselves but instead leases it out to private farmers. The profit from this rent is transferred to the university through over six hundred

foundations, to fund scholarships, research, and other activities. However, UAF is not a state-owned organization, despite its strong connections to the university. Those working there are not employed by the state, and the estates and funds are not indirectly state-owned. UAF is a private company, working for the university. The sole purpose of UAF is thus to manage the estates of Uppsala university while generating a profit and more capital (Interview with UAF, 9/3 2022). Some critiques have been aimed toward UAF because of this profit hunting, especially within student housing and forestry, with their way of business argued to be greedy, environmentally unsustainable, and negative for tenant students and UAF's owned forest (Naturskyddsföreningen, 2020; Sandow & Averbäck, 2020; Skeri, 2020; 2022; Wärnbäck & Malmaeus, 2020). This critique will not be further discussed here, but the knowledge about it was part of the deductive approach to the landscape and was brought up in several interviews.

One important thing to know about UAF is that they are affected by the earlier mentioned Land Acquisition Act (Sweden's Riksdag, 2022), which means that they are not allowed to expand their owned land. Over a five-year cycle, they must sell as much land (measured by the area) as they acquire, and is, therefore, a strong force on the land market in Uppsala county. Since the deregulation of the agrarian land market in the 1990s, UAF has implemented a violent rationalization process of their estates, where they have centralized their estates to fewer, larger, and economically stronger units. Today, UAF has 38 farm tenants, compared to almost four hundred in 1624 (Interview with UAF, 9/3 2022). This rationalization process began in the 20th century, but according to the UAF representative, the greatest change has come in the last 20-30 years. The representative also described how they had rationalized faster compared to the rest of agricultural Sweden. Today, the average UAF farm estate is over 300 ha, compared to the national average of 43 ha and the local average in Uppsala county of 75 ha (Interview with UAF, 9/3 2022; Jordbruksverket, 2022c).

This understanding of UAF (and its history) is important to be able to understand many of the processes of the production in and of agrarian Uppsala. Especially the Land Acquisition Act has created a situation where UAF is interested in offloading land perceived as bad, to be able to buy better land somewhere else. This was a frequent discussion subject during the interviews and is important to remember when they are mentioned as a force to be reckoned with in the landscape.

Before I move on with the analysis it might be worth pointing out again that UAF in this thesis plays a role as the landowner and capitalist, and that the interest is on this role rather than on UAF specifically. As the largest owner of collective agrarian land in Sweden, they are expected to play this role marvelously. The discussion about them should however be understood as a discussion about forms of ownership in agriculture, and not about their specific activities.

6. Results and analysis: Struggles of profitability and distance

In the following sections, I will present and analyze the gathered data thematically. The chapter ends with a summary of the findings, acting as an aggregation of the themes into one concluding answer. As described in Chapter 4, four reoccurring themes appeared during the coding of the interviews. Theme 3 and 4 should be read and understood as highly interrelated. However, they focus on different elements, and for the sake of clarity, I have chosen to divide them into specific themes.

6.1. The high threshold for farming

It is very expensive to start a farm today. I can say that there is no one who comes from outside who can start up a farm. Starting a farm of viable size requires 8-10 million, and not many 25–30-year-olds have it. The competence is there, and it has increased around, there is an increased occupancy at the agricultural schools, but those who go there mostly ends up as advisers or consultants for farmers and work for the state.⁸

The first theme regards the reasons stated by the interviewees as to why they believed that people move away from agriculture. It also makes up the lion's share of their own perceived main challenges in farming today. It is about the required input to become a farmer, the level of investment in both time and money required to first acquire the right competence, machinery, and infrastructure to get a farm going, and then to keep it running. All older farmers (all except E) stated that, compared to when they began their careers, farming has become too capital intensive and too large-scale for someone to enter the industry from the outside. Those above the age of 65 described how they began on a smaller farm, successively expanded their owned lands, or moved to larger farms. At that time, smaller farms could still be economically sustainable to a point where they could reinvest their profit and expand, often with governmental support (Flygare & Isacson, 2003). Farmers A, B, C, and F described a large expansion of their farm from when they took over until today, with A expanding from 250 to 600 ha and F expanding from 200 to 700 ha, also as a result of the national rationalization of farming.

The outlier here is farmer E, who started his career in 2015 when he took over his grandparents' farm. He inherited a rather small farm at the time, with about 50 ha of land, but has managed to start a side business of contracting which has outgrown his agricultural activity. He states that about 70-80% of his revenue results from contracting, even though he has grown his farm to about 180

⁸ Interview with farmer B, translated from Swedish: "Det är väldigt dyrt att starta upp ett lantbruk idag. Jag kan säga att det finns ingen som kommer utifrån som kan starta upp ett lantbruk. Att starta ett lantbruk i driftduglig storlek kräver 8-10 miljoner, och det är inte så många 25-30 åringar som har det. Kompetensen finns, och den har ökat iochmed ökad beläggning på lantbruksskolorna, men de som går där blir mest rådgivare eller konsulter för lantbrukare och jobbar mest statligt. "

hectares of land through renting land from neighbors. The contracting, he states, is a way to compensate for the fact that his farm is not large enough to sustain him economically, while also being able to use his machines over a greater part of the year. However, he wishes to be able to scale down on the contracting for the benefit of future investments in agriculture. He also described the high share of rented land as an uncertainty in his business, which makes him unable to do some investments such as facilities to dry his harvest himself.

Nonetheless, E did not start from scratch and inherited his farm with economic possibilities for expansion. He also had a strong connection to farming and knew early on in his life that he wanted to become a farmer. For someone to enter the agricultural sector from the outside, one would need sums between 8-20 million SEK to acquire machinery and land⁹. Add to that the growing level of competence needed when machines become more complex and regulations on environmental sustainability become stricter, and the amount of people being both interested, rich, and competent enough to enter the sector is unsurprisingly small.

To contrast this, we can focus on couple D, the only example, together with C, of first-generation farmers. While C stated an interest in agriculture from early age and encouragement from his parents, the couple D stated that their interest in agriculture started when D:1 went to university in the 1970s and became a part of the 'Green wave', interested in a greener lifestyle and critical towards urban ways of life. D:1 acquired a degree as an agricultural technologist, and they bought a cow farm in the late 1970s. While their Green Wave friends dropped out of the agricultural life one by one, the D's stayed and developed their farm. However, they described a rationalization process in agriculture during their lifetime which has made them redundant. When they started, they had twenty-seven cows and described themselves as the largest cow farm in the area. At their largest, they grew to forty cows, but since then animal farms have grown rapidly, and when they shut down their cow production in 2005 cow farming had grown to an industry far surpassing their size. As a form of downsizing, they changed to sheep production, partly because they got older, but mostly because the conceptualization of 'large-scale' had grown to something else, to an industry far from their initial green wave ideals. Comparing the couple D with E, the amount of capital required in the 1970s to start a larger farm is not even enough to start what E inherited, and that is a small-scale farm compared to other farms visited here.

To summarize, entering the agricultural sector today is close to impossible for an average wealthy person, regardless of potential agricultural interests or ambitions. Capital corresponding to a large company is needed, in a sector long characterized by the lone, hard-working individual. 20 million

⁹ As stated by several interviewees, including the UAF representative.

SEK is better invested in many other industries, where most do not require even close to the same amount of labor time put in from the farmer. This solves the major question of why no new people enter the agricultural sector. The next question is why people are leaving it. One major aspect there is the economic returns of farming:

Food is too cheap today. Otherwise, we would not throw away 30%. We throw away too much food, and you can spend less and less time working to fill your grocery bag, and that is perhaps good because then you still have money to spend on other things. But somewhere on the other end, it will cost, at least when it comes to animal welfare and such, if you must push the limits all the time. It is living material you are working with.¹⁰

Even for active farmers with a running farm, the problem of high capital requirements is critical. As described earlier, all the farms visited here are larger than the national average and have grown sub-



Picture 5 Farmer A offloading fertilizers, which cost he said is irrelevant as long as he is compensated for it when selling his crops, something he is worried about. Photo: Herman Bernström (2022).

¹⁰ Interview with farmer C, translated from Swedish: “Mat är för billig idag. Annars skulle vi inte kasta 30 %. Vi kastar ju alldeles för mycket mat, och man får lägga ner mindre och mindre tid för att arbeta ihop till sin matkasse, och det är väl bra för då har man kvar pengar att lägga på annat. Men någonstans i den andra änden så kanske det kostar, i alla fall när det gäller djurvälstånd och sådant, om man ska pressa hela tiden. Det är ju levande material man håller på med.”

stantially over the time from when the interviewees took over. This follows the national pattern and is a result of lowered economic return and growing requirements for scaling up the production. Every single farmer interviewed stated that food in Sweden is too cheap, at least compared to what they put into the production. Too much of the prize of food paid in the supermarket ends up elsewhere, mostly in store owners' pockets, while the crop-producing farmers must sell their products according to the world market price. Add to this increasing fuel costs in input wares, especially following the Ukraine war, and food cannot continue getting relatively cheaper. Several farmers (A, B, C, D, and E) stated that without economic sustainability and security, social sustainability is impossible.

One solution to this is, as for farmer C, to switch to organic farming, a product paying slightly better and generating more EU funding. Some farmers described an internal struggle within Swedish agriculture, where conventional farmers argue that organic farmers are being compensated too much, compared to what they do. Farmer C, the only organic farmer in this data set, expressed an interesting take on organic versus conventional farming. He described his transition from conventional to organic farming 20 years ago as mainly an economic decision, driven by economic motives: "There is a perception that you must be organic for ideological reasons, which I do not think. The conventional farmer does not spray for ideological reasons, but because it is profitable"¹¹. The interviewees addressed that organic farming is often portrayed as an ideological choice, the moral decision taken by those responsible enough to care for the environment. But the reality for Swedish farmers is different. For them, economic incentives are what decide the form of production taking place on the farm. If organic products pay better than conventional, then that is the way to go. But if conventional farming becomes more economically sustainable, as it might do when fuel and fertilizers become more expensive for the farmer, then conventional farming is the rational thing to do.

6.2. Distance between regulations and discussions of agriculture, and farmers

I'm not a benefactor of the environment, but I justify it by saying that we must have food. So farming is an impact on the land, it is not natural in any way to grow things. When you grow something, you upset nature, but we need to do that if we are to have food. Otherwise, we must start as collectors and hunt for food, and we are too many for that today.¹²

¹¹ Interview with farmer C, translated from Swedish: "Där finns det en uppfattning att man måste vara ekologisk av ideologiska skäl, vilket jag inte tycker. Den som är konventionell sprutar väl inte av ideologiska skäl, utan för att det är lönsamt."

¹² Interview with farmer A, translated from Swedish: "Jag är ingen välgörare för miljön, men jag rättfärdigar det med att vi måste ha mat. Alltså lant-bruket är ju en påverkan, det är ingen naturligt på något sätt att odla saker. När man odlar något så rubbar man ju det naturliga, men det behöver vi ju göra om vi ska ha mat. Annars får vi ju börja som samlare och jaga mat, och det är ju för många till idag."

The notion in section 6.1 about organic farming being mainly a question about income brings us to the next theme in the analysis: regulations of farming and its supposed sustainability. We have already seen that the only organic farmer in the data set mainly cared about what it paid him. All other farmers, when asked about organic farming and why they have stayed conventional, answered that they were too old or did not have the resources to transition into organic farming. That is a process that takes time and some farmers stated that such a transition takes between five to ten years before it yields even close to the same output economically as before.

However, what was most striking, was that all farmers, even the organic farmer C, expressed strong scepticism toward organic farming as being environmentally sustainable. They all agreed that forbidding pesticides and chemicals is better for the environment and themselves, but that the lowered output required larger areal being used which meant a larger environmental footprint, together with more usage of machines. Farmer E described it well:

I have a bit of a hard time seeing why it should be focused so hard on just organic farming all the time. Because it takes quite a lot of energy to produce organic production, while we who drive conventionally, we may make more direct efforts that are needed at the moment. To get the organic grain, it consumes an awful lot more fuel, diesel. You must work the soil much more. It feels like the pesticides we use are pretty much milder than all emissions that organic gets. My own belief about organic is that it is a bit hyped because it sounds great when you talk about it, and consumers buy it obviously.¹³

Farmer E here talks about organic production as a brand, a way to legitimize a higher price on food, rather than as a solution to environmental issues. Farmer B, when asked about organic regulations and environmental sustainability, described an administrative problem stemming from lacking knowledge about the farming process, but also a feeling of being seen as part of the problem rather than as a possible solution to climate change:

How can food production be an environmentally hazardous activity? It has come from politics, and politics is a bit far from the practical activities, and those who see our activities are very far from the agricultural knowledge, because they are environmentally educated. They know the environment, but not the agrarian process. I think this is strange with environmental inspectors, that there should be no knowledge requirements in the agricultural sector, because if you go out and inspect a farm, you should understand what is happening out in the fields instead of just seeing the environmental aspect. My

¹³ Interview with farmer E, translated from Swedish: ”Jag har lite svårt att se varför det ska fokuseras så hårt på just ekologisk odling hela tiden. För det går åt ganska mycket energi för att få fram den där ekologiska produktionen, medan vi som kör konventionellt, vi kanske gör mer direkta insatser som behövs för stunden. För att få fram det ekologiska spannmålet, det går åt fruktansvärt mycket mera soppa, diesel. Du lär sitta och bearbeta jorden mycket mer. Så det känns som att de bekämpningsmedel vi använder är ganska mycket mer lindriga än alla utsläpp som det blir. Min egen tro kring ekologiskt är att det är lite upp-hypat, för det låter ju jättebra när du pratar om det, och konsumenterna köper det ju tydligen”

opinion is that they come to see my environmental shortcomings, instead of going in with a neutral position. They have decided from the beginning that it is environmental degradation.¹⁴

Farmer D:2 touched upon the same theme when discussing the picture shown from UAF's sustainability plan (Picture 4): "the impact on nature and the earth's resources should be as limited as possible'. Then the impact is somewhat negative. I think that if we plow a field to sow, it is clear that it affects [the landscape], but it is not negative. So there I think it is incorrectly worded. You should work the land, as well as possible"¹⁵. These statements reflect the opinions of all interviewees well. The agrarian production process on its whole is not taken into account when defining organic farming, and therefore, they all believed that it is counter-productive and even dangerous to understand organic as equal to environmentally sustainable. If we also consider the fact that one main driver for organic farming is economics, the image of organic farming as the solution to climate change starts to fall apart.

6.3. Leasing vs. Private owned farms

A privately owned farmer lives poorly and dies rich. A leasing farmer lives richly and dies poor.¹⁶

Rent and leasing are not something new in Swedish agriculture (Wästfelt, 2014). Quite opposite, leasing land has been a common way in modern agriculture to complement private land, and amongst the farms visited during the field trips only one (D) owns all land used. However, renting agricultural land is becoming increasingly common (Jordbruksverket, 2021b), as more and more agricultural companies are being shut down. The next step when shutting down is often to rent out the land to a neighboring farmer, something all the older farmers in the data set had experienced. A, B, and E, who are those renting privately from neighbors, all described an expansion process from when they took over, where farms in the proximity have shut down, with the owners offering them to rent the land instead.

Those leasing their farms from UAF (C and F) stated that the element of rent did not affect their actual production process at all. Both stated that the relationship with UAF has worked well and

¹⁴ Interview with farmer B, translated from Swedish: "Hur kan matproduktion vara miljöfarlig verksamhet? Det har ju kommit från politiken, och politiken är lite långt ifrån den praktiska verksamheten, och de som synar vår verksamhet är väldigt långt ifrån den agrara kunskapen, för dom är miljö-utbildade. Dom kan miljön, men inte det agrara. Det tycker jag är konstigt med miljöinspektörer, att det inte ska finnas kunskapskrav inom det agrara, för går man ut och inspekterar ett lant-bruk så borde man ju förstå vad som händer ute på åkrarna istället för att enbart se miljöaspekten. Min uppfattning är att dom kommer för att se mina miljöbrister, istället för att gå in med en neutral position. Dom har redan från början bestämt sig för att det är miljöförstöring."

¹⁵ Interview with farmer D:2, translated from Swedish: "påverkan på naturen och jordens resurser ska vara så begränsad som möjligt'. Då är ju påverkan något negativt. Jag tycker väl att om vi plöjer en åker för att så, det är klart att det påverkar, men det är ju inte negativt. Så där tycker jag att det är felformulerat. Man ska bruka det, så väl som möjligt".

¹⁶ Interview with farmer B, translated from Swedish: "En privatägd bonde lever fattigt och dör rik. En arrendator lever rikt och dör fattig".

that it has been an advantageous factor for them to rent. For both, the scale of production they are at would not have been possible without renting. C stated that without the possibility to rent a whole farm, he would not have become a farmer, and F, who inherited his UAF contract from his father, described how UAF has helped to develop and expand the farm. However, both described the importance of not being left empty-handed when the rent contract ends and have made sure to invest in something for themselves for the future.

The same picture was given by all other farmers, who either own most of their land or rent a large part privately. As the quote starting this section points to, a renting farmer must always make sure that what has been rented is returned in the same shape after the contract ends as when it started (also mentioned in the interview with the UAF representative). This can mean that what has been accumulated during the contract must be paid back to the rentier to compensate for restorations. Rent thus creates uncertainty for the farmer. For example, B also rented from UAF for a short period, after UAF bought land which he already had a leasing contract for. When the contract ran out after three years, UAF merged the land with one of their nearby farms, and B lost a significant part of his production. For farmer E, renting a lot of lands means that he cannot invest enough in other things such as a harvest drier, because of how uncertain his user right of the land is. Potentially, he can lose more than two-thirds of his farmed land if the rentiers choose to start farming themselves or rent to someone else. His contracts are for five years, but investing in a built environment would call for pay-offs for decades. At the same time, he would not be a farmer if it was not for the possibility to rent as much land as he does.

To summarize, renting has for the interviewees in this thesis been an effective way to expand their businesses. The rationalization process of the 20th century meant state funds to farmers to help with economic problems. The solution to the same problem for the last 30 years has been higher shares of rented land. Even active farmers cannot afford to acquire more land today, and therefore, rent is here expected to become the common way of entering and conducting agricultural activities in Sweden. All interviewees stated that agriculture has become too capital intensive, and rent, despite the uncertainty it creates for the farmer, often offers the only possibility for expansion.

6.4. Rationalization and capital's creation of desirability in the landscape

There is a great deal of uncertainty in this area because UAF has a very large wallet and is a strong buyer. If you have a farm that you rent privately, which the owner wants to sell, it is very difficult to be involved and buy it. It is difficult to go to the bank because if I have had this lease, and I buy it, I will not receive any reinforcement to the economy because I already use the land, but I will have a higher cost. The university has the cash to buy the land, and then that means that the private lease condition disap-

pears, and it is sad because it depletes the countryside. [...] What happens then is that instead of there being X number of farmers, there is only one left, and that makes it sparse between the farmers, and in the demarcated farm areas, other people from the town move in.¹⁷

For the last theme, we move the focus specifically to the activities of UAF. This theme regards the ownership of land in agrarian production. UAF was mentioned in every interview, simply because all the farmers must relate to them in one way or another. Those who had the weakest relationship with them were the couple D, who own all their land themselves and have not had many plans for expansion over the years. In the past, UAF used to own land surrounding the D's, which is mostly mire, but they have since sold off that land because it is not as usable for crop production and thus not as valuable for UAF.

Those with the strongest connection to UAF are of course farmers C and F, those renting from UAF. For C, that renting contract was a way to enter the agricultural sector some forty years ago, and for F the contract has been in his family for four generations including him. They both described a healthy and functional relationship with the landowner, and F told a story of great expansion and investments from UAF into the farm he is living on. Regarding the actual production process, they told me that they were both completely free to do what they want, a statement confirmed by the UAF representative who even told me that if the tenant does not want them on the farm, they are not welcome to visit there during the contract period.

However, even in the case of renting, the costs have become too large for some. F, who farms over 700 ha of land, planned to retire two years ago, but UAF could not find a new tenant interested in taking over the farm. The next tenant will not only have to bring in extensive machinery, but a large sum of money will also be required to buy facilities built by F. The added rent from UAF means a lower marginal for the producer which in turn means higher requirements on rational production processes and transfer of money away from agriculture. The UAF representative told me that some of this money is reinvested back into the farms and their housing, but that it could as well be turned into stocks or other investments elsewhere if it was not transferred to the university. No person was interested two years ago, and it will be interesting to follow what happens to F's farm in three years when he definitely will retire.

¹⁷ Interview with farmer B, translated from Swedish: "Det är en väldigt stor osäkerhet i det här området eftersom att UAF har en väldigt stor plånbok och är starka köpare. Har man en gård som man privat arrenderar, som ägaren vill sälja, är det väldigt svårt att vara med och köpa den. Dels är det svårt att gå till banken för att jag har ju haft det här arrende, och ska jag köpa det får jag ingen förstärkning till ekonomin eftersom att jag redan brukar marken, men jag får en högre kostnad [i om. markköpet]. Universitet har ju kontanta medel att köpa marken, och det innebär att då försvinner den privata arrendeförutsättningen, och det är tråkigt för att det utmärglar bygden. [...] Då blir det så att istället för att det varit X antal lantbrukare blir det bara en kvar, och det gör ju att det blir glest emellan bönderna, och i de avstyckade gårdsområdena flyttar annat folk från stan in".

For the rest of the farmers (A, B, and E), the discussion about UAF revolved around it as a potential threat to their own production. Most importantly, they all described a feeling of being surrounded by UAF, especially B and E. Farmer A described a problem with them regarding potential leasing of near land. UAF recently acquired a former church-owned farm bordering A and has centralized land to that farm. This means that A will never be able to lease all that land, ever again. If the church or a private owner owned that land, it would eventually be available on the leasing market, but when UAF buys it, is it trapped with them for all foreseeable future only available for their tenant. The time horizon for UAF vastly overshadows that of a single, private farmer, and the UAF representative confirmed this in our discussion when describing their mission as managing the university's funds "for eternity".

Farmers B and E both have quite an extensive machinery, they own land but rent a lot as well, and they are both mainly focused on crop production. For both, private leasing contracts have been a way to expand their businesses without having to invest heavily to buy more land. This expansion through renting could go on until both ran into the borders of UAF. As described above, farmer B even used to lease some land some years ago, which UAF suddenly acquired. This meant that his contract was not renewed, something he had relied on heavily for several years and that he lost a lot of farming land to a near located UAF farm.

Farmer E has a great focus on contracting besides his agricultural business but would like to focus more on farming. This is today not possible, simply because there is no land available for him to expand on. UAF has acquired land around him that used to belong to about twenty or thirty farms in the past, and at all these farms, his grandparents could always find someone who could rent out their land when needed. It was also easier for farmers in the same area to help each other out, both with problems and dividing rented land among them. Today, in a sign of rationalization, all this land has been centralized to one farm, with one renting farmer, all trapped behind UAF contracts.

Farmers A, B, C, D, and E told me that this centralization of land from UAF also decreases the attractiveness of land bordering UAF, because of the uncertainty it creates when, and simply because few others engage in the bidding process of land when UAF participate.

Following this, UAF not only acts as a barrier for smaller farmers in the landscape. This described rationalization process has meant a drastic decrease in active farms and farmers in the neighbourhood, as described by several interviewees. As mentioned in section 5.1.3, UAF has rationalized faster and more than the national average. Rationalization in general, not only relating to UAF, was described by some farmers as a self-feeding loop, where fewer farmers in the landscape meant even fewer farmers in the future. Farmer E said, when discussing agricultural rationalization, that "if there

is a business within the family when you grow up, then I think it often goes into generations”¹⁸. When a farmer decides to end the business and instead lease out the land, that not only means that he or she disappears from agriculture. It also means that the chances for their children to become farmers shrink to almost zero, ending a line of generations of potential farmers.

Lastly, UAF does not only buy up land, but they are also as active on the other side of the market. As described in 5.1.1, the Land Acquisition Act requires that UAF sell as much land as they buy, and this forms a sort of hierarchy in the landscape based on land which interests UAF. When asked about this movement in the landscape and what drives them to buy or sell land, the UAF representative answered that

it is in principle always [about] reinforcements of existing farms, and in sales, it is in principle always either land located in the periphery that cannot add anything to the farms, or an entire farm where we do not see that we can move forward with the development.¹⁹

The centralization process, therefore, means that in some areas, UAF is dumping land that they are no longer interested in or cannot see any economic incentives to keep. Farmers A, B, and E could describe how UAF are closing in on them while knowing of other places in Uppsala where farmers have had great possibilities for expansion because of much available land from UAF. This means that UAF in their buying of land lowers the number of farmers in that area, while in their process of selling land mostly strengthens already active farmers. The net change of their movement in the landscape is a decrease in farmers.

To summarize themes three and four, the activities of a large organization seeking profit in agriculture through rent both speed up the rationalization process, as well as expand the extent of rationalization in agriculture overall. It also creates a new kind of barrier in the landscape, when relatively huge agricultural units trap other farmers, preventing them from expanding their business. Lastly, the rationalization process contributes to the decrease of active farmers in the area, while also making it less conceivable for people to become a farmer.

6.5. Aggregation of findings

There is a greater risk of local conflicts [nowadays], when I come and spray weeds on a Friday evening when the weather is perfect for a BBQ. If it is a farmer, he waves and says that it is good that I drive when the weather is good. If it is someone who does not understand [the agrarian production process],

¹⁸ Interview, with farmer E, translated from Swedish: “finns det en verksamhet inom familjen när man växer upp, då tror jag att det ofta går i generationer”

¹⁹ Interview with UAF representative, translated from Swedish: “Då är det i princip alltid förstärkningar av befintliga gårdar, och vid försäljningar är det i princip alltid antingen mark som ligger i periferin som inte kan tillföra gårdarna något, eller en hel gård där vi inte ser att vi kan komma vidare med utvecklingen”.

it will be ‘does he have to go out and spread poison now on a Friday night, can he not do it another day, on Monday morning when we are at work?’.²⁰

It has been noticed that there is a bit of controversy when you come out with the combine and the laundry hangs out. The understanding of agriculture has been difficult [for us].²¹

It is still a pity that the farms will be larger. I understand that they must be, but it is a pity that there will only be a few farmers left in the area. The surrounding society loses a bit of the connection to agriculture then.²²

These examples are rather specific, but they summarize the themes resulting from the data gathering rather well. All farmers expressed a feeling of not being appreciated for their work, and even to some degree being negatively valued by society. They also stated low economic incentives as a problem in their business. But most importantly, they exhibited a feeling of society as distanced from them or even renunciative. Where there used to be people greeting farmers working out on the fields, people today are being irritated and angry at them or at best ignore them. Leasing land was experienced as a source of insecurity, but also as a necessary way of production for some to even be able to be active. Regulations were described as complicated for the smaller farmers. Especially organic farming and other ‘green’ regulations in agriculture were described as diffuse, counter-productive, and disconnected from the agrarian process.

The result of rationalization with fewer farmers overall was described by several interviewees as the major reason why fewer people are interested in becoming farmers today: it simply is not conceived as a possibility for many to become a farmer, because many people today have no relation to it or have never been in contact with it. It does not *make sense* (Katz & Norton, 2017) to become a farmer today for most young people, a contesting view to farmers’ perception of their occupation. While the rationalization process means fewer farmers, it also follows that fewer people ever get the idea of becoming a farmer because they have never been in contact with agriculture or seen what it means to be a farmer. Where 20-30 farms and farmers before meant a huge contact area for agricul-

²⁰ Interview with farmer A, translated from Swedish: “Det är större risk för att få lokala konflikter, när jag kommer och ska spruta ogräs en fredagskväll när det är perfekt grillväder. Är det en bonde så vinkar han och säger att det bra att jag kör när det är bra väder. Är det någon som inte har förståelse så blir det ju "måste han ut och sprida gift nu en fredagskväll, kan han inte göra den någon annan dag, på måndag förmiddag när vi är på jobbet?”

²¹ Interview with farmer B, translated from Swedish: “Det har märkts att det blir lite kontroverser när man kommer ut med skördetröskan och tvätten hänger ute. Förståelsen för jordbruket har varit besvärlig”.

²² Interview with farmer D:1, translated from Swedish: “det är ändå synd att gårdarna ska bli större. Jag förstår att dom ska bli det, men det är synd att det bara blir några få bönder kvar i bygden. Samhället runt om tappar lite kopplingen till jordbruket då.”

ture with the rest of society, one farmer today does not provide the same ability to reach out to other people.

All in all, the themes can be boiled down to agriculture being too capital intensive to be rational for the private farmer, and as distanced from society in social terms. Social sustainability in agriculture is threatened because of both these factors, and they affect each other, as shown in this thesis. Higher economic requirements accelerate the need for rationalization of agriculture, which started this disconnection from the rest of society in the first place. This in turn means even higher economic requirements, when fewer farmers are supposed to farm more land with more complex and expensive machines.

7. Discussion

Villagers? As far as they were concerned, they no longer worked for the territorial lords, they produced for the city, for the urban market. And even though they realized that the wheat and wood merchants exploited them, they understood that the path to freedom crossed the marketplace.

- Henri Lefebvre (2003 [1970], p. 11)

When discussing the transition from the agrarian society to the urban society, Lefebvre (2003 [1970], p. 15) described that process as “the complete subordination of the agrarian to urban”. By saying so, he did not mean that agrarian activities were to cease to exist, but rather, that everything agrarian (and rural) over time will be subordinate to the urban, the city, and capital. As true as that might be, we still live in an agrarian society. Not many of us take part in the modern agrarian process, but in the transition process of human civilization from hunters and gatherers to farmers, we still have not moved away from putting food on our tables using plow and harrow. Society may have been digitalized and urbanized, but I would argue that it is still agrarian. However, people with a strong connection to farming move away from it partly because of economic incentives. Simultaneously, most of us have forgotten that we live in an agrarian society, and have distanced ourselves from it, as in the example of organic farming. We do not *identify* our society as agrarian, and in turn, most of us do not identify ourselves with our farmers.

However, the relationship between agriculture and society is not only about consumers and producers. There is also an element of producers’ connection to their occupation. Deriving from Lefebvre’s concept of ‘works’ described in section 3.2.1, farming as an activity with “something irreplaceable and unique about it” (Lefebvre, 1991 [1974], p. 70) has changed. Through the rationalization of agriculture, farming has become mainly focused on the production of commodities rather than the production of a landscape of habiting (Lefebvre, 1996). In this thesis, it has become apparent that farmers must approach the outcome of their labor in the form of commodities, rather than as an ‘ouvré’, a work (Lefebvre, 1996). Through regulations and rules, the production of food has become uniform, and through higher economic requirements, agricultural land has become alienated from the farmer (and their children) as a home. As the purpose of production in agriculture through rationalization was transformed into the creation of commodities, produced with the intention of exchange (Sweezy, 1942), the farmer also became replaceable. Machines have replaced the labor of whole families of farmers, and machines as means of production belong to the capitalist (Harvey, 2018 [1982]). As Marx and Engels (2010 [1848], p. 222) wrote, “The bourgeoisie cannot exist without constantly revolutionizing the instruments of production, and thereby the relations of produc-

tion, and with them the whole relations of society”. The rationalization of agriculture was not only necessary for sustained food production, but it was also necessary to keep turning the wheels of the capitalist transformation of society. As capitalist agriculture fetishizes the commodification of food, it also calls for higher automation, more rationalization, and, most importantly, the transformation of farmers from humans to laborers (Harvey, 2018 [1982]). If we understand society as agrarian, the commodification of food production is the greatest example of capitalism’s revolution of ‘whole relations of society’.

Even the land itself, as described in this thesis, has been transformed into a commodity bought, sold, and rented out in exchange for money. Agriculture is no longer only meant to feed us, but rather to generate profit, and if food production becomes relatively unprofitable it also becomes less attractive for those (potentially) doing it. The farmer is no longer irreplaceable in the production process of agrarian landscapes, and, as shown here, farmers might even be on their way to being replaced completely. The problem then is what comes next.

One question asked towards the end of the interviews in this thesis was regarding the future of Swedish agriculture; what the farmers believed that farming in Sweden will look like in 20 to 50 years. It was of course a question impossible to answer correctly, but they were all sure that it will not look like it does today. And why would it? Farming in Sweden has changed immensely in the last 50 years and even more so compared to 100 years back. The rationalization of agriculture has transformed agriculture in its roots, from something everybody does to something very few can afford to do, both in economic and social terms. However, in light of the processes drawn out in this thesis, there are grounds to believe that this rationalization is not nearly finished. The lack of labor power must be compensated for somehow, most probably with technology, and this technology will cost money, require a new kind of competence, and change the countryside in its foundation, as agriculture has done for thousands of years. Added to that, Swedish agriculture stands before the immense challenge of adapting to a changing climate, while also trying not to affect nature too much.

The farmers in this thesis could not see farms growing much more. They believed that we have hit the roof in terms of farm size around 600-800 ha. I am not so sure about that. As proved in this thesis, it is already too expensive for most to become a farmer as it is. With even more advanced technology, that price tag will only increase. With the future rationalization of agriculture, I believe that the era of the private-owned farmer is over. Agriculture will become an industry for large companies, just like the weaving sector became in the industrialization of England (Marx, 2013 [1867]). Farmers will be transformed into wage workers, and the means of production in form of land and machines will be completely transferred to the owning capitalist companies. I highly doubt that this

transition will happen smoothly and without new problems arising. After all, every single problem discussed in this thesis results from the agrarian rationalization during the 20th century.

The problem with Swedish farming and food production today is that the rest of us do not know enough about it. People have insufficient knowledge about food production to truly understand what it is we eat, and this must change. Most importantly, we are uninterested in it. As the last few months have proven it is not before war breaks out and the former secure access to cheap food ceases, that we open our eyes to domestic food production. And even then, the interest is focused on the price tag and not the process of production. But as long as we live in an agricultural society, we cannot forget those working in agriculture. It is truly as UN, Jordbruksverket, and several others have argued but perhaps not acted on; that environmental and economic sustainability is dependent on social sustainability.

In societal discussions, we talk a lot about the production and consumption of food, but not as much about those producing it. Food is not being paid enough to the farmer. The distance between farmers and regulators is so vast that farmers feel being worked against rather than helped to become more environmentally sustainable. The economic incentives for farmers are decreasing while larger organizations simultaneously can make a profit from just owning agrarian land. Farmers are slowly being distanced from the rest of society. I relate this strongly to Lefebvre's spatial triad, as a great example of a sort of divide between the spatial practice of agrarian space, and the intellectual representation of that same land. The planning and descriptions of farming together with the medial picture of agriculture and farmers are disconnected from the actual farming process, even in the sense of ownership as with the case of UAF. This, in turn, affects the spaces of representation of agrarian land: the intuition society has towards farming has turned negative, where farmers and their products are seen as an environmental hazard.

Over the span of about one generation, or since the time most of the interviewees started their careers, we have moved from a situation where most had at least some connection to farming, to a society where barely anyone knows a farmer. This is of course a rather expected development considering the rationalization of agriculture and decrease of farmers, but what emerged in the interviews was a feeling of distance from society because of this. To answer the research questions of this thesis, farmers are proud of their work and occupation, and appreciate the actual labor process, but find problems in the economic aspect of production, in the regulation and discussion of agriculture, and the relations *others* have towards their occupation. The representation of agrarian space in society as experienced by those interviewed here is an image of destruction of nature rather than the processing of (agri-)cultural land and the production of food. All farmers interviewed here described

consumers as lacking knowledge about food, regulators as uneducated in the agricultural process, and perhaps most importantly, young people as the potential future labor force as uninterested and/or unaware of the agricultural sector. However, one could say that those interviewed in this thesis to some degree stand outside of the problem formulation of why young people avoid the life of a farmer since they all have chosen to enter the sector. Further research should focus on young people not active in agriculture specifically. The next step following this thesis should therefore be to reach those people and conduct the same kind of data gathering as in this study, aiming to map their opinions and beliefs.

Ownership was in this thesis not found to be of particular importance to the actual product. Only one farmer stated that he would possibly treat the land he used differently if he rented it all, while all others stated that the actual production process would look the same regardless of ownership. The negative aspects instead related to insecurity and lowered economic incentives. However, the case of rent is interesting in agriculture and has sort of emerged as the potential future for agriculture. No average person can (or wants to) enter the agrarian sector today, in the sense of starting their own farm. It is too expensive, too complicated, and simply not something people think of, at least not in terms of large-scale agrarian production. Farmers will become even fewer in the future, and this calls for an even greater rationalization process. The last time farming was rationalized, it was done to move people away from agriculture. This time, I believe, it will be because of the opposite; there are not enough people in agriculture to sustain the same forms and practices of production. Technological advancements will have to save Swedish agriculture, and that will require capital investment making farming even more impossible for the average person. Therefore, renting will probably become more common in Swedish agriculture, together with wage laboring.

Following Stenseke's (1997) stance that agricultural change must come from inside, in harmony with and through farmers, the way to make farming sustainable must begin by making the farming production process reproducible and stable. It must also be attractive to society; it must *make sense*. Today, agriculture does not make sense for many, either as a form of occupation or as a way in which we achieve food, much because of lacking knowledge about it. When Katz and Norton (2017) described reproduction as a process in which the conditions for production are maintained, while also still making common sense, that is a description poorly fitting for Swedish agriculture. Based on this thesis's understanding of sustainability as reproducibility, Swedish agriculture is not sustainable, not only in the sense of emissions and resource usage but also in the sense of the base for production: the workforce, and how they are perceived by the rest of us.

8. Conclusion

Through a qualitative study with in-depth interviews and field trips, this thesis set out to critically analyse and highlight the lack of social sustainability in Swedish agriculture. The aim was to highlight that food production as an occupation is decreasingly attractive, and the research questions focused on farmers' relations to their production process, and their perceived challenges and problems. Two field trips were conducted to the agrarian landscape surrounding Uppsala in Sweden. Seven farmers and one representative from a large landowner organization were interviewed, resulting in four themes of struggle experienced by the farmers. The study approached agricultural processes and landscapes following Henri Lefebvre's spatial triad, which made it possible to both visualize the relations going into the production process and their implications for the farmers, while also painting a picture of the landscape itself with all its history, contexts, and actors.

The main contribution from this thesis, captured in the four themes, is that while agriculture has become extraordinary capital intensive to a level where individual persons are barred from the sector, farming as a food production process has also been severed from the rest of society. The interviewed farmers stated experiences of consumers and regulators, if they cared about agriculture at all, as disconnected and unknowledgeable about the farming process. In the fight against climate change, this has resulted in a food market focusing on the wrong aspects of food production, as exemplified by organic farming. Farming does not pay back enough considering the amount of job a single farmer on an average large farm has to put in, and this accelerates the rationalization process of farming while it increases the social struggles of agriculture described in this thesis.

To answer this thesis's research questions, Swedish farmers today are highly content with their spatial practices of agrarian landscapes, but the representational space of farming in society is highly problematic. Many problems experienced by those interviewed in this thesis relate to the 'outside' society controlling and discussing agriculture, without having sufficient knowledge of the actual farming process. This in turn has resulted in agrarian spaces of representation influenced by a negative approach to farmers. Farmers are, intuitively, seen as part of the problem when it comes to environmental impact in agriculture, rather than as a potential part of the solution. Together with a problematic economic situation, this has resulted in young people moving away from farming, while few ever get the idea to enter it. Therefore, social sustainability understood as reproducibility in Swedish farming, and the generational change of the labor force, is at risk, at least if it is to continue in the same form of practice as earlier.

I trace the problems discussed in this thesis to the rationalization of agriculture, but also to the transformation of agriculture from a lifestyle to a job, or in Lefebvre's (1996) words, from an 'ouvré'

into the production of commodities. Agrarian space is no longer a space for humans but commodities. Commodity production in the capitalist society is for large-scale industries, and farming has for over a hundred years been on its way to industrializing itself to such a degree that it can finally rationalize away the farmer. This is the knowledge contribution of this thesis, that farming as a way of life soon is irrational in Sweden. That is why young people to a higher degree move away from farming, making the generational change of agriculture increasingly more difficult, and that is why food prices in Sweden skyrocket when war breaks out in our proximity. The Ukraine war has changed much in Europe and Sweden and put many relationships and trusts to the test. But it has also revealed much, such as a great dependence on foreign resources in putting food on our tables. Hopefully, this revelation will stay in people's minds in the future and influence a much-needed transformation of the environmental view of Swedish agriculture in the climate change discourse. Agrarian change must start with the farmer, living in and producing the agrarian land. Therefore, in an agrarian society, agrarian change is social change.

9. References

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10. Appendix

10.1. Interview guides

10.1.1. Interview guide with UAF

Who owns what?

- **Beskriv lite kort er affärsmodell**
- Hur har antalet arrendatorer förändrat över tid?
 - o Minskat?
- Blir er genomsnittliga arrendator större över tid just nu?
 - o Mer åkermark per arrendator?
 - o Hur länge har den genomsnittliga arrendatorn arrenderat av er? Generationer?
- Hur mycket av ert ursprungliga ägande från 1624 finns kvar idag?
 - o Hur stor andel av det totala ägandet är det ursprungliga?
 - o Hur ser det ut med byggnader på dessa ägor?
- Hur ser ni på er roll inom jordbruk i Uppsala? Vilka är era konkurrenter?
- Hur går det till när ni vill köpa ny mark? Hur bestäms det vilken mark ni vill köra?
- Vad för typ av mark är ni intresserade av?
- Vem säljer ni till?
 - o Hur går det till när ni säljer mark?
 - o Vad för mark säljer ni?
- Är ni en statlig myndighet?
 - o Ansvar? Vinstdrivande?

Who does what?

- Hur mycket påverkan har ni över den produktion som pågår på er mark?
- Hur har er agrara produktion (output) förändrats de senaste åren?
 - o Ekologisk odling? Hur mycket? På vems initiativ?
- Hur mycket kontakt har ni vanligtvis med era arrendatorer?
 - o Styrning?
- Utmaningar inom jordbruk idag med en åldrande arbetskraft och minskande antal jordbrukare, hur hanterar ni det?
 - o Ser ni att ni har en roll att spela i den utvecklingen?
- Andra utmaningar?
- Hur jobbar ni med social hållbarhet på era ägor?
 - o Hur jobbar ni med det i jordbruket i stort?
 - o Hur påverkar ni andras verksamhet över tid?

Who gets what?

- Hur mycket av en arrendators produktion (vinst) går till er i arrende?
- Vart hamnar er vinst?
- Hur mycket av vinsten går tillbaka till jordbruket?

What do they do with it?

- Hur används vinsten? Vart hamnar den?
- Utmaningar i verksamheten idag?

Other?

- Jag läste på er hemsida att 1990 innebar en ny form för UAF, på vilket sätt förändrades er organisation och hur såg den ut innan?
- Social hållbarhet för dig/er?
 - Varför tror du att allt färre (vill) arbeta inom jordbruk?
 - Behövs färre personer inom svenskt jordbruk?
 - Vilken roll, utöver matproduktion, anser du att jordbruk spelar för svensk Landsbygd?
 - Är denna roll hotad?
 - Hur tror du att svenskt jordbruk ser ut om 20 år? 50 år?
 - Demografi på jordbrukare?
 - Vem utför arbetet?
 - Utländsk arbetskraft?

10.1.2. Interview with farmers

Questions within parenthesis () were added during the field trips. All other questions were prepared beforehand, some in discussion with the key informants.

Who owns what?

Ägarstruktur

- Vem är du?
 - o Utbildning?
 - o Bakgrund?
 - o (Vad fick dig att börja med jordbruk?)
- Hur stor är gården?
 - o Areal?
 - o Djur?
- Arrende?
- Hur länge har gården funnits i släkten?
- Hur länge har du/ni drivit den?
- Vem kommer ta över?
 - o Sälja?
 - o Till vem?

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- UAF? Förhållande till dem?
 - o Förhåller sig till dem?
 - o (Problem?)

Who does what?

Produktion

- Vilken typ av jordbruk bedriver ni här?
 - o Ekologiskt?
 - o Spannmål?
- Heltidsarbete som jordbrukare?
 - o Vilken är er huvudsakliga inkomstkälla
 - o Hur har mängden arbetstimmar förändrats? Jmf. med tidigare generationer?
 - o (Anställda?)
- Hur mycket gör ni själva?
 - o Vilka tjänster köper ni in?
 - o Vilka tjänster säljer ni?
 - o Samarbeten med andra?
- Vilken är er huvudsakliga inkomstkälla?

Andra aktiviteter

- På vilka andra sätt är ni en del av samhället?
 - o Engagemang?
 - o Tjänster?
 - o Snöröjning?

Förändring över tid

- Hur har jordbruket här förändrats över tid?
 - o Största förändringarna?
 - o Vad har detta inneburit för förändringar?
- Förändringar i konsumtion?
- Lagar och regler, hur har det påverkat produktionen på gården?
- Största utmaningar?
 - o Klimatförändringar?
 - o Sociala problem?
 - o Innovation?

Who gets what?

- Skillnad i inkomstkällor?
- Behov av bidrag?
- (Är mat för billig?)

What do they do with it?

- Investeringar i egen verksamhet?
 - o (Går räkenskaperna ihop sig år efter år? Går det att exndera?)
- Är svenskt jordbruk, matproduktion och matkonsumtion ekonomiskt hållbart?
 - o Socialt hållbart?
 - o Ekologiskt hållbart?

Other?

- Varför tror du att allt färre (vill) arbeta inom jordbruk?
 - o Behövs färre personer inom svenskt jordbruk över tid?
 - o Varför tror du att jordbrukare blir allt äldre?
 - o Vad fick dig att börja som jordbrukare?
- Vilken roll, utöver matproduktion, anser du att jordbruk spelar för svensk Landsbygd?
 - o Är denna roll hotad?
 - o Vad händer om 20 år? 50 år?
- För dig, vad är social hållbarhet?