



Regenerative agriculture

A contested open moment

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Abstract

Agriculture is both heavily impacted by climate change and responsible for greenhouse gas emissions causing climate change. Transitioning towards more sustainable agricultural practices is therefore imperative and requires new ways of thinking about agricultural knowledge and technologies. One rapidly emerging contender for how to transition to more sustainable agriculture is regenerative agriculture.

Regenerative agriculture is far from a new idea. It involves ancient and diverse practices such as minimizing tilling soil in favor of cover crops and mimicking how wild animals graze. Over the past five years, it has seen a renaissance with a growing number of different actors showing interest in its potential for sequestering carbon and maintaining soil health. Despite this surge of interest, few studies have examined the underlying motives and ideals of farmers engaging in regenerative agriculture. This study aims to fill this gap and explore how Swedish regenerative farmers view the involvement of external actors, such as corporations, in regenerative agriculture.

As attention to regenerative agriculture has grown, so have its political dimensions. Diverse ways of framing regenerative agriculture currently compete. Some view it as a farmer-led movement that can correct the weaknesses of industrial agriculture. Others see it as a chance for corporations and institutions to gain further control over rural environments. In other words, regenerative agriculture has become a contested concept. At stake is its claimed potential to support not only environmental sustainability but also equitable rural development.

This study takes a political ecology perspective to consider how knowledge about regenerative agriculture is disseminated and legitimated, asking how this is reflective of power relations. Specifically, it asks who has the power to determine the future of regenerative agriculture. Empirical findings from interviews with farmers and analysis of discussions in internet forums show that too many farmers who adopted regenerative agriculture it is not only a farming system but entwined with ideological and social aspects. Farmer's enthusiasm for regenerative agriculture is matched by suspicious and cautious views on state and corporate intervention.

The findings highlight the rather understudied farmer's point of view of regenerative agriculture. Farmer perceptions are important for external actors to understand when implementing frameworks and certifications. More generally, this thesis provides an understanding of how sustainability initiatives emerge through a combination of land managers, grassroots movements, and corporate actors.

Keywords: Regenerative agriculture, Alternative Food Networks, Food sovereignty, Political ecology, Discourse & Food systems

Sammanfattning

Jordbruket är både kraftigt påverkat av klimatförändringar och en bidragande orsak till utsläpp av växthusgaser som förorsakar klimatförändringar. En övergång till mer hållbara jordbruksmetoder är därför nödvändig och kräver nya sätt att tänka om jordbrukets kunskaper och teknologier. En snabbt växande utmanare för hur en övergång till ett mer hållbart jordbruk skulle kunna ske är regenerativt jordbruk.

Regenerativt jordbruk är långt ifrån en ny idé. Det involverar uråldriga och diversifierade metoder som till exempel att minimera plöjning till förmån för täckgrödor och att hålla tamboskap efterliknade hur vilda djur betar. Under de senaste fem åren har det skett en sorts renässans med ett ökande antal olika aktörer som visar intresse för det regenerativa jordbrukets potential för att binda kol och bevara jord hälsa. Trots detta ökade intresse har få studier undersökt de bakomliggande motiven och idealen för jordbrukare vilka ägnar sig åt regenerativt jordbruk. Denna studie syftar till att fylla denna lucka och att undersöka hur svenska regenerativa lantbrukare ser på externa aktörers, såsom företags, engagemang i regenerativt jordbruk.

I takt med att uppmärksamheten på det regenerativa jordbruket har ökat, har också dess politiska dimensioner expanderat. Olika sätt att utforma och förstå regenerativt jordbruk konkurrerar för närvarande. Vissa ser det som en lantbrukarledd rörelse som kan rätta till problemen det industriella jordbruket har skapat. Andra ser det som en chans för industriellt jordbruk och företag att få ytterligare kontroll över landsbygdsmiljöer. Med andra ord har regenerativt jordbruk blivit ett omtvistat begrepp. På spel är således regenerativt jordbruks möjliga potential att främja inte bara miljömässig hållbarhet utan också en hållbar landsbygdsutveckling.

Denna studie tar ett politiskt ekologiskt perspektiv för att undersöka hur kunskap om regenerativt jordbruk sprids och legitimeras och hur detta reflekteras i maktrelationer. Specifikt frågar denna studie vem som har makten att bestämma framtiden för regenerativt jordbruk. Det empiriska materialet från intervjuer med lantbrukare och analys av diskussioner på ett internetforum visar att för många lantbrukare som anammat regenerativt jordbruk är det inte bara ett jordbrukssystem, utan det är sammanflätat med ideologiska och sociala aspekter. Lantbrukarnas entusiasm för regenerativt jordbruk stämmas med misstänksamhet mot statliga- och företagsintressen i regenerativt jordbruk.

Resultaten i denna studie belyser det relativt understuderade jordbrukarnas perspektiv på regenerativt jordbruk. Lantbrukares perspektiv är viktiga för externa aktörer att förstå och för att kunna implementera ramverk och certifieringar på ett lyckat sätt. Mer generellt ger denna studie en förståelse för hur hållbarhetsinitiativ uppstår genom en kombination av markförvaltare, gräsrotsrörelser och företagsaktörer.

Nyckelord: Regenerativt jordbruk, Alternative Food Networks, Food sovereignty, Political ecology, Diskurs & Food systems

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Abbreviations

AFNs	Alternative Food Networks
ECA	Ethnographic Content Analysis
EOV	Ecological Outcome Verification
NGOs	Non-Governmental Organisations
NNRL	Nordiskt Nätverk för Regenerativt Lantbruk
ROC	Regenerative Organic Certification
SDGs	Sustainable Development Goals

1. Introduction

In 2021 Forbes published an article under the headline *Regenerative agriculture: the next trend in food retailing* calling regenerative agriculture the new buzzword. This was just one of the numerous recent articles in the popular media covering regenerative agriculture, suggesting a rapidly growing interest across food producers and consumers in this ‘new’ form of sustainability. Adding to this, large actors within the food industry have announced different commitments to the expansion of regenerative agriculture initiatives. For example, Walmart aims to source produce from at least fifty million acres of regenerative agriculture by 2030. Another example of regenerative initiatives comes from Arla and their ongoing regenerative experiment on dairy farms around Europe, which will be used for evaluating regenerative agricultural practices for dairy production. Additional prominent actors within the food sector such as General Mills, Nestle, Pepsi co, and others make similar claims of having an interest in regenerative agriculture.

Although interest in regenerative agriculture has surged only in the past few years, the idea of a regenerative agriculture system has been around for some time within farming communities (Burns 2021; Giller et al. 2021; Rhodes 2017). The interest is now not solely coming from the farmers and corporations but also from the consumer, producer, retailer, and policymaker arenas, with the effect of an emerging niche market and pending certification schemes (Duncan et al. 2021; Montgomery 2018). The rise of interest has been so sudden that regenerative agriculture still does not have a comprehensive scientific definition (Elevitch et al. 2018) or a unanimously agreed-upon definition within either the farmer or the corporate community (Newton et al. 2020; Schreefel et al. 2020). Comparing for example to organic agriculture this is completely different, as organic agriculture is governed by a complex array of laws, policies, and certification schemes.

The emergence of regenerative agriculture as a sustainability solution is closely tied to concerns about climate change. Drawing upon a crisis and a failing food system narrative for a new sustainable agricultural narrative (Giller et al. 2021; Schreefel et al. 2020). Agricultural challenges on farms are expected to be intensified by climate change, with changing temperature and precipitation patterns likely in much of the world (Olsson 2021; Rockström et al. 2018; Rhodes 2017, etc.). Transitioning towards more sustainable agricultural practices is therefore imperative and requires new ways of thinking and the development of new

agricultural knowledge and technologies (Olsson 2021). Such a transition is likely to be both enabled and constrained by the rather complicated global food system.

A food system refers to a set of activities and relationships that interact to determine what, how much, by what method, and for whom food is produced and distributed (Galt 2013). While a century ago foods were produced and consumed in relatively close proximity, today food systems are thoroughly globalized (Clapp 2020). This means that nearly every food is embedded in a globalized network of knowledge production regarding farm technologies, production, consumption, and regulatory systems (Watts 2000). It is argued that during the latest decades power over the food systems has been concentrated towards large transnational corporations (Clapp 2020; McMichael 2009). Replacing subsistence farming and regional markets with a globalized food system has led to changes in power dynamics, with retailers, in particular, holding significant power (Levkoe et al. 2021).

How individuals acquire, disseminate, and legitimate knowledge about the environment is highly politicized and reflective of relations of power, and indeed very much a contested arena (Neuman 2005). This has been the focus of work in ‘critical food studies,’ which has argued that to understand the dynamics of food and food systems one cannot treat it as an abstract concept outside of the social relationships (Levkoe et al. 2021). Political ecology research on food has shown that we need to understand food and nature as more than inanimate matter, and to focus on actual processes surrounding political contention towards agro-industrial models and the ways in which more ecological and materially sustainable models often emerge (Moragues-Faus & Marsden 2017).

As this study will show, regenerative agriculture proposes an idea of a more sustainable food system. Regenerative agriculture proclaims a transformation and revitalization of the global food system (Duncan et al. 2021). Drawing upon the crisis narrative of a failing or broken agriculture and food systems which has created a large set of different consequences and inequalities for society (Giller et al. 2021). Yet, diverse ways of framing regenerative agriculture currently compete. The political consequences of various actors making regenerative claims are important to examine. The political ecology of food lens implemented in this study enables a rigorous assessment of the discourses as well as an embracing of the socio-nature and lived experiences of the farmers. This dual approach is key to examining the diverse paths to making food systems more sustainable, some of which could benefit retailers at the expense of farmers or the other way around (Moragues-Faus & Marsden 2017). The place-based analysis shows the farmers’ resistance and suspicion of both state and corporate intervention as potentially undermining the alternative ideals and for achieving the proposed food system transformation.

Alternative models and proclamations for change against dominant narratives within the food system come from a plethora of movements and organizations

(Clapp 2020). While it seems fair to say that many around the world agree that farming and the food systems need to become more sustainable, some argue that the concept of sustainable development has itself been co-opted and misused by powerful actors, enabling them to continue practices that are socially and environmentally unsustainable (Ikerd 2021). Demanding more fundamental change in our understanding and approach to farming and sustainability, Gosnell (2021) notices that many farmers engaging in regenerative agriculture also tend to undertake fundamental changes in systemic design, structure, and ways of thinking about their farm and their farming concerning grand narratives of agriculture. Many of these farmers adopted an approach to agriculture that is viewed as working with nature rather than against nature (Ibid). In this sense, regenerative agriculture is more than just an agricultural practice or method: it is a mentality that requires a fundamentally different mindset about human-environment interaction (Merfield 2019).

As my study will show with the case of Swedish farmers, there are both underlying and outspoken desires for change. These range from a desire to change how agriculture and the food system are understood fundamentally to changes in the individual and human-nature relationships. While practices of regenerative agriculture are diverse, there is some consensus in terms of healthy soils and biodiversity (Evans 2020). Some even claim it to be a sort of soil revolution (Montgomery 2018). The degradation and loss of soil narrative, together with the loss of biodiversity narrative have been widely covered in academic writing on the failures of the current food system (Béné et al. 2019). Olsson (2021) argues that soil has recently seen a renewed political interest, specifically in how land management can create synergies between climate change mitigation and adaptation. The phrase “*Healthy soils sequester carbon!*” has been a sort of catchphrase expressed by different actors during the data collection of this study.

It is in this rather messy discursive arena of food systems, agriculture, environment, and political authority where this study is situated. Through a discourse analysis and by talking to farmers engaged in regenerative agriculture, I aim to provide a better understanding of regenerative agriculture ideals and how the current interest from external actors is understood from a farmer's point of view.

1.1 Aim and research questions

Regenerative agriculture can be seen as part of an alternative geography of food to one or multiple perceived problems related to primarily agro-industrial systems (Cf. Marsden et al. 2000), and to some extent other alternative agricultural systems. A response in light of climate change and environmental degradation to do something different to address the challenges created by current dominant agricultural paradigms (Burns 2021). As of now, there is no unanimous agreed-upon definition

of what regenerative agriculture is (See Loring 2021; Newton et al. 2020; Schreefel et al. 2020). Specific techniques and what constitutes regenerative agriculture remain quite vague (Newton et al. 2020). Regenerative agriculture can include a diversity of more widely practiced approaches and techniques to agriculture including agroecology, permaculture, holistic farming, organic farming, and sequence farming among others (Raven 2020; Merfield 2019). It is further described as being inclusive of new ideas and methods rather than excluding specific agricultural methods (Lal 2020). In summary, we can say that regenerative agriculture is currently in an ‘open moment’ where its practices are actively being negotiated and its parameters defined.

This thesis examines this open moment. It will show how different actors are situated in regenerative agriculture as a diverse movement within the political arena of agriculture and food systems. These actors draw upon distinct sustainable vs unsustainable narratives that are common to food system problems and solutions (Béné et al. 2019). Many actors currently involved in the regenerative movement are questioning how the political economy of modern agriculture and technologies, corporate power, and state regulations have pushed agriculture in a productivist agro-industrial direction (See Olsson 2021). The regenerative movement shows a prevalence as an alternative discourse and technological imaginary for what agriculture should become (Loring 2021). At the same time, regenerative agriculture has captured the interest of mainstream actors in agri-food industries, the very actors who alternative food systems proponents tend to oppose.

To understand regenerative agriculture, we must make sense of these competing narratives, examining where they intersect. This raises the question of *who* and *what* is directing the narratives about regenerative agriculture? These questions remain unaddressed by the scientific community at the time of writing this thesis. As more and more actors make regenerative claims, the concept is undergoing a process of reorganizing and reshaping as we speak. Who are they who frame the problems that are to be addressed, and what are they gaining by framing the problems in these ways? These framings expose the underlying values held by different actors. How problems are described tends to shape how certain solutions are offered, thus creating opportunities for certain actors or technologies and foreclosing on others (Béné et al. 2019). At the core of these framings, then, is *how the practice of regenerative agriculture is realized and developed*.

To explore this broader process, this study focuses on farmer dialogues and experience with regenerative agriculture. It aims to answer two specific research questions:

- How do farmers talk of and understand regenerative agriculture and what are their motives and ideals for pursuing regenerative agriculture?

- What are the experiences and perceived consequences of the farmers in the relation to the recent surge of interest in regenerative agriculture from external actors from outside the farmer community?

1.2 Limitations of the study

This study is based on my own interpretation of the data that I collected for this thesis project. I acknowledge that as a researcher my own biases affect the interpretation of the material and concerning the subject. This will further be discussed in the following chapter 2.4. I also wish to note that this study recognizes the ambiguity and diverse definitions and aspects concerning regenerative agriculture that exists today. This study does not aim to define what regenerative agriculture is but rather to address specific underlying narratives and motives behind a set of individual farmers engaging in the field of regenerative agriculture in the Swedish context. The methods were selected in order to provide an understanding of how these farmers perceive the effects of the rising interest by external actors in regenerative agriculture. The overall intention is to focus on and lift the views of these farmers.

Further limitations to this study are that farmers interviewed, though some maintain international networks, are all working and practicing agriculture in Sweden. Interviews conducted with other organizations and participating in courses and meetings have been to expand my knowledge on the topic. Thus, the material has a Nordic perspective to it, but the study recognizes that the farmers operate within an increasingly globalized arena that makes it hard to separate the scales of local and global. This approach is consistent with the conventions of political ecology, which focuses on a number of geographical scales that links place-specific conditions to regional, national, and global processes and patterns (Neumann 2005).

2. Theoretical and methodological framework

This chapter provides an overview of the methodical and theoretical framework for the design of this qualitative study. It introduces how and what empirical data was sourced in conducting the study and what and how theory and methodological tools were used in the analysis.

Inspired by ethnographic content analysis and discourse analysis the empirical material was explored to find patterns and narratives in farmers' perspectives and reasonings regarding regenerative agriculture. To further explain the findings, a political ecology perspective has been used to present the data and put it in a scientific context and provide an answer to the research questions. Political ecology often focuses, as I do in this study, on smaller rural communities and builds upon ethnographic data (Neumann 2005). Further, political ecology stresses a political dimension of socio-ecological systems for exploring linkages and power relations in the production of knowledge (Robbins 2020; Forsyth 2003). This study looks at a specific context and group of people that are engaged in regenerative agriculture to better understand the everyday life and experiences of these individuals, by trying to understand the norms and values that are created within the group (Kaijser & Öhlander 2011), upon which my analysis is based. With the help of a political ecology perspective, this allows for linking the empirical material to a broader context through what Blaikie and Brookfield termed 'chains of explanation' (Robbins 2020).

2.1 The collection of data

The empirical data for this study consists of seven interviews, some of them combined with participatory observational elements, together with in-depth reading on the internet-based forum *Nordiskt Nätverk för Regenerativt Lantbruk* (NNRL). A literature review focusing on scientific papers and books together with collecting data from non-governmental organizations (NGOs) and governmental bodies about regenerative agriculture was also conducted, which enabled me to assess different narratives and use both the discursive terms and practices by different actors in relation to regenerative agriculture.

Two of the seven interviews were with non-farmer individuals as they were with representatives from Länsstyrelsen Dalarna (County Administrative Board of Dalarna) and Svenskt Sigill. The latter organization is in the process of developing a framework for regenerative agriculture standards better suited for a Nordic context. Following the interview with Svenskt Sigill I also took part in the second reference group meeting for the mentioned framework project. The reference group consisted of various actors ranging from individual farmers and farmer organization representatives to NGOs and corporate representatives from different Nordic regions.

To further deepen my understanding of how regenerative agriculture is developing within a Nordic context I took part in a web-based course in regenerative agriculture provided by the County Administrative Board of Dalarna. This course of four segments was initiated due to interest from the County Administrative Board of Dalarna and requests from the local farmer community.

2.1.1 The forum

Parts of the data for this study have been sourced from the internet-based forum *Nordiskt Nätverk för Regenerativt Lantbruk* on Facebook. The forum is an online space, connected to the Savoury Institutes' global network and holistic management framework, for farmers and others to discuss and exchange knowledge under the regenerative umbrella. Therefore, the forum is a space that contains a large amount of interesting data regarding how these individuals talk and make sense of regenerative agriculture.

Using data from an online forum such as this study is regarded as somewhat of a grey area within academic research (Bryman 2018; Sugiura et al. 2017), particularly when it comes to issues on consent and ethical considerations (Sugiura 2016). There has been however growing attention within academia focusing on online spaces as sources of data (See for example Kozinets 2020). Forums such as the one used in this study can provide a substantial amount of qualitative data (Bhutta 2010). Using forums such as the NNRL can provide qualitative data that gives the researcher capacity to examine user posts over linear time frames. This can provide data with a certain amount of precision for determining how, why, and when certain themes and frames begin to emerge and how and why they become topics of a discourse (Altheide & Schneider 2013). Acknowledging the somewhat grey area regarding ethical concerns when using data from online forums, certain measures have been taken in this study to ensure the anonymity of forum respondents in line with suggestions of Sugiura et al. (2017) and Sugiura (2016). Rather than using quotes as in the case of the interviews where I have gotten individuals' permission to use the data (See Bryman 2018; Creswell & Creswell 2018), all of the relevant data gathered from the forum will be paraphrased in order due to ethical considerations and to preserve anonymity for forum members

(Sugiura 2016). The use of paraphrasing is done to protect individuals from being traced and still be able to present a vivid material for analysis (Ibid). It should also be noted that I presented myself on the forum saying that I was conducting a study on regenerative agriculture and stated my aims for this study.

2.1.2 Interviews

The empirical material for this study also relies on five interviews with farmers practicing regenerative agriculture. Participants for interviews were sourced through the above-mentioned forum. Personal interviews with individuals on the forum were used to get a more in-depth understanding of the individuals within the same group (Creswell & Creswell 2018). During the research process, two non-farmer interviews were also contacted. These two interviews were the ones mentioned earlier with the County Administrative Board of Dalarna and Svenskt Sigill. For the most part, notes were taken during the interviews while on two occasions these were also recorded and then transcribed.

Interviews were chosen as a method for the purpose of being able to talk to individuals face-to-face about their beliefs and attitudes concerning regenerative agriculture. They served as a way of broadening my sources of data that could potentially give interesting cues and act as a complement to the data collected from the forum. All interviews were semi-structured to allow the conversations an element of freedom and let the interviewees talk about what is important to them (Robson & McCartan 2016). The farmer interviews were done in their home environment on the respective farms over a cup of coffee and walking around the farms on some brisk days in February 2022. Thus, this allowed for conducting a participatory observation element and interesting observations of how the farmers interacted with their home environment and contexts. The two interviews with the County Administrative Board of Dalarna and Svenskt Sigill were conducted over telephone and Skype. These interviews were primarily a contribution to getting an understanding of how institutions and framework development around regenerative agriculture are understood and progressing.

Interview participants' names are anonymized as per conventional research standards in this study and quotes taken from the interviews will be cited as Farmer 1, 2, 3, 4, and 5 (Bryman 2018; Robson & McCartan 2016). A further presentation and description of some interviewees and their farms follow in the analysis, chapter 4, of this study. No quotes will be used in this study from the other two interviews, the County Administrative Board of Dalarna and Svenskt Sigill, and where information from these is presented, it will be my own words reiterating the information.

2.2 Analytical process

Bryman (2018) stresses the importance of letting the topic and research questions guide the choice of theory and not the other way around. Having this in mind this study started by diving into the empirical material consisting of the forum looking for themes and topics. This was followed by reaching out to farmers through the forum to conduct interviews to get a deeper understanding of their realities and experiences as regenerative farmers (Kajiser & Öhlander 2011), searching for underlying themes through their words and language.

Words and language can be vital theoretical tools in understanding a phenomenon as words and language create patterns in terms of power and relations (Bergström & Boréus 2012). It is through a shared and mutually agreed-on use between peers that words and languages create meaning (Jorgensen & Phillips 2002). Language can therefore be both a constitutive and constituted form of power that shapes and determine how individuals create and understand reality and social identities (Wodak & Meyer 2009). Language thus can be understood as a social practice that constitutes reality and shapes different worldviews constructed through specific categorizations, institutional and personal relations together with politics and ideologies (Fairclough 2013). This approach to the understanding of words and language is discursive. Specific discourses generate certain patterns for action and production of knowledge (Jorgensen & Philips 2002). The approach to the empirical material in this study is clearly inspired by discursive thinking in the reading and interpreting of the material. Though a quantitative discourse analysis cannot be said to have been applied in this study. It rather has been a mix of theories and concepts in the structuring and analysis of the different themes in connection to the research questions.

The search for underlying themes in the empirical material is related to the common method of qualitative content analysis (Bryman 2018). As this study is linked more to the narratives of a specific group of individuals an ethnographic content analysis (ECA) inspired approach was performed (Altheide & Schneider 2013). The ethnographic analysis has perhaps historically focused more on the exotic 'other', but its usefulness is not limited to that and can be utterly useful for focusing on institutions and organizations as well (Neumann 2005). The ECA approach allows a more abductive method in working with the empirical material and analysis as ECA is characterized by its reflexive and recursive nature of moving between concepts, data, interpretation, and analysis during the whole process (Bryman 2018; Altheide & Schneider 2013). Allowing for new themes to emerge and old ones to be confirmed by going back and forth between analysis and the empirical material (Altheide & Schneider 2013). The types of framings, as well as inclusion and exclusion of specific views, affect the social realities and why the topic of discourse is important (Ibid).

In relation to the second research question, two major themes of interest will be presented below that show a contradiction or tension within the community of regenerative agriculture. Firstly, and integrated into the first research question, the underlying motives for pursuing regenerative agriculture showed notions of challenging perceived dominant narratives of agriculture. Regenerative agriculture promotes a discursive change for transformation toward a more sustainable food system (Gordon et al. 2021), challenging a perceived dominant agro-industrial discourse. Second, is a worry of having the concept of regenerative agriculture being co-opted by external actors with potential negative effects for regenerative agriculture as an outcome. To understand these opinions this study will argue for the importance of understanding the ideals and motivational aspects of farmers engaging in regenerative agriculture.

The following analysis is based on the empirical findings derived from the interviews and discussions on the NNRL forum along with a range of articles on regenerative agriculture and earlier critical food studies. The study employs a qualitative research approach regarding the data collection and analysis (Bryman 2018; Robson & McCartan 2016). The ethnographic element refers to the depiction of the regenerative farmers and the analysis of their interactions and social realities (Altheide & Schneider 2013). The theoretical framework together with earlier research is used to place the study in a wider agricultural political context aiming at providing a better understanding of regenerative agriculture practitioners' own realities (Bryman 2018; Creswell & Creswell 2018). Drawing upon concepts such as food systems, alternative food networks, and sustainability to steer the discussion around the research questions.

2.3 Analytical framework

During the ethnographic content analysis certain questions came up and the need for a theoretical framework to explain these arose. The findings pointed to interesting issues of how problems related to agriculture and sustainability are framed. There was also a clear political aspect entwined in the stories of the interviewees and in the discussions on the forum. This is further backed up by seeing the growing number of political actors ranging from NGOs, multi-national corporations, and political bodies such as the EU showing interest in regenerative agriculture. The empirical data showed a tension where practitioners of regenerative agriculture both expressed a desire to challenge what is perceived as dominant agricultural paradigms and at the same time expressed a fear of having their concept co-opted by external forces. In other words: losing control over the direction of future regenerative development. This led me to adopt a political ecology perspective to situate the findings in a broader societal and academic context while retaining a political perspective.

Political ecology as a science can be said to have emerged in the 1960s with the growing attention to human impacts on the biophysical environment (Forsyth 2003). Political ecology is a critical research field that aims to examine how economic structures and power relations drive environmental change in a globalized world (Robbins 2020). A common focus for political ecology studies is how the role of capitalist markets and state forces affects processes of local dispossession and environmental disruption, by trying to assess whose voices and perceptions count when it comes to framing problems (Roberts 2020). Thus, political ecology as a theoretical approach tends to reveal the winners and losers and the differential power relations that produce social and environmental outcomes (Ibid). The field of political ecology is a fairly generous term embracing a large range of definitions and draws upon several academic fields and theories making political ecology epistemologically and methodologically pluralistic (Robbins 2020; Galt 2013). Political ecology has earlier made a significant contribution to research on agriculture and food studies (See Robbins 2020; Moragues-Faus & Marsden 2017; Galt 2013 etc.), emphasizing the political and ecological scales as instrumental in critical food studies and their role in the development of AFNs (Moragues-Faus & Marsden 2017). AFNs refer to movements that commonly insist on a reconfiguration of how the food system should work and issues of governance of them. They generally emerge from a joint multifaceted critique and contradiction of a perceived unsustainable industrial food system (Goodman et al. 2013).

This study further draws upon food system discourse theory to address the complex nature of agriculture and food production (Stefanovic et al. 2020). Food systems are contested and intricate in their nature, meaning that initiatives trying to change a food system are necessarily entangled in the complexity of food systems. Yet these initiatives are often framed within specific disciplinary food system discourses, which tend to undercount this complexity (Eakin et al. 2017; Foran et al. 2014). Food systems is a broad concept that includes different scales ranging from supply chains and material flows to social-ecological system frameworks and approaches towards food (Eakin et al. 2017; Ericksen 2008).

Regenerative agriculture can be understood as a reaction to perceived problems with how agriculture is, and was, being conducted, and in its essence by the practitioners as a way of addressing climate change and environmental damage to do something different to mitigate/answer these problems (Burns 2021). I will refer to regenerative as a movement under the basic assumption of the characteristics of being a loose network joined together to promote certain ideas (McMichael 2017). The relationship between nature and society is dialectical, and the transformation of ecosystems is embedded in political and economic structures and institutions and thus cannot be understood without consideration of these (Neumann 2005). Agriculture and both climate change and environmental degradation are political from a political ecology standpoint (Zimmerer & Bassett 2012; Forsyth 2003). A

political ecology lens thus is helpful as this study aims to explore how meanings and discourses are shaping specific socio-natural configurations through political and ecological processes (Moragues-Faus & Marsden 2017). The approach of political ecology follows a mode of explanation that evaluates the influence of different variables on several scales nested together and how global, economic, and local politics influence local decisions (Robbins 2020). Regenerative agriculture thus here could be understood as a node acting within a larger ecology of the local and global politics surrounding agriculture and the food systems. Where this study is trying to take into account the broader structural forces of socio-ecological change through the understanding of impacts and responses to changes on the local level (Roberts 2020).

2.4 Reflexivity and ethical considerations

It should be clear that any analysis and/or assumptions made in this study are my own interpretation of the empirical data (Bryman 2018; Creswell & Creswell 2018). It should also be noted that this study is not trying to take any side or say whether one thing is better than the other. The goal of this study is to broaden the debate by focusing on interpreted narratives concerning regenerative agriculture that are out there, in the real world. Surely other types of conclusions if using another type of framework can be done but this study has aimed to be true to the words of practitioners.

A great deal of reflexivity has been present in all the stages of my research from beginning to end and further thanks to the ECA approach. But also, because reflexivity is important when conducting research (Creswell & Creswell 2018), and as science though arguably is seldom non-biased (Bryman 2018). Therefore, it is important when conducting a study with real people as a researcher to be reflexive of the authors' own biases and role as to ethical concerns regarding participants taking part in the study (Bryman 2018; Robson & McCartan 2016). When working with individuals while doing research there is a need to respect the integrity of the participants. Such as having permission and consent for recording interviews but also letting participants know why and for what reasons they are interviewed (Creswell & Creswell 2018). Further, the data collected should be treated with confidentiality in an effort to not jeopardize any participants under any circumstances. Regarding ethical concerns, though none of the interview participants did mind their names being published they will be anonymized and not be mentioned by name in this study (Robson & McCartan 2016; Sugiura 2016). As this study is using an online forum for research purposes it raises certain ethical issues regarding informed consent, privacy, and anonymity for individuals (Sugiura et al. 2017). Therefore, specific methods and respect as mentioned in section 2.1.1 have been taken.

Also, regarding the forum data, one might raise the question of who is writing and expressing themselves, as even though there are over 2000 individuals enrolled on the forum everyone may perhaps not express their views and take part in the discussions. Thus, this affects any conclusion and analysis drawn in this study as the data come from what could be regarded as ‘the loudest voices’, and people willingly sharing their views. The political ecology perspective also raises certain questions about what conclusions this study draws. Political ecology and its historical desire of understanding marginalization and contestation from those who are perceived as excluded or exploited possess potentially a dilemma of objectivity (Wolford & Keene 2015). Therefore, I want to make clear that regarding who maybe is marginalized, excluded, or exploited is not a matter for this study. This study uses political ecology in addressing the discursive social identities and how these relate to ideas of agriculture and sustainability situated in different political contexts (Neumann 2005).

3. Regenerative agriculture

Regenerative agriculture is not a new practice or idea, despite the recent surge in interest (Giller et al. 2021). Therefore, this section will cover briefly the historical aspects and discuss what sets regenerative agriculture apart from (as well as some similarities to) other alternative agricultural practices. A discussion on current understandings of definitions of regenerative agriculture is followed by a presentation of an initiative from Svenskt Sigill proposing a framework for regenerative agriculture suited for a Nordic context.

The following discussion is largely based upon a review of several scientific papers, organizational websites and press material, and other books on regenerative agriculture together with the interviews and the forum data.

3.1 Regenerative agriculture a brief overview

Gosnell (2021) argues that the discontent with the negative environmental and social impacts of modern industrial agriculture has given rise to the interest in alternative agricultural models, such as regenerative agriculture. Often seen drawing upon the narrative of an agriculture in crisis and of a food system that is failing us (Sumberg 2022; Giller et al. 2021; Béné et al. 2019). Regenerative agriculture as an idea has been around for some decades now (See Sampson 1982) prior to the resurgence of attention it seemingly has been given lately as a solution for a more sustainable food system (Giller et al. 2021; White 2020; LaCanne & Lundgren 2018).

The origin of the idea seems to be commonly understood as being traced back to Robert Rodale and the Rodale Institute founded in the USA in 1947 (Gosnell 2021; Ikerd 2021; Merfield 2019; Rhodes, 2017). It came as a response to what was then seen as a dysfunctional development of the agriculture system that caused the depletion of soil and fertility on agricultural lands. Primarily regenerative agriculture was focused on soil and ecosystem health, and still does to a large extent (Merfield 2019; Rhodes 2017). Though, the regenerative idea has more recently developed and has also become more concerned about social equity in relation to ecological health (Gosnell 2021). Recent writing suggests that a move toward a regenerative agricultural system that is vibrant, socially equitable, culturally

diverse, and spiritually meaningful has been happening (Gosnell 2021; Lal 2020). For example, the Rodale Institute envisions regenerative agriculture as a long term and holistically inspired design that allows for growing food with as few resources as possible, while revitalizing soils which allows for a higher degree of carbon sequestration that grants improvements in environmental, social, and economic measures (Rodale Institute 2014). This indicates the roots in an ecological perspective, shared by many other alternative agricultural concepts as it explicitly and sometimes implicitly suggests a (re)turn to nature as the only true way to transform agriculture (Sumberg 2022). While sharing what seems to be a sort of common ground in the semiotic idea of creating something *regenerative* rather than the more static notion of sustainability, different actors, as will be shown, also have slight variations and definitions of what constitutes as regenerative (Schreefel et al. 2020).

There are visible connections and linkages between regenerative agriculture and other alternative agricultural practices or alternative food networks promoting change (Sumberg 2022). Some have been largely covered in scientific literature and regulated, such as climate-smart agriculture and organic agriculture (Schreefel et al. 2020). For example, all three alternative agriculture models focus on healthy soils, ecosystems, and ecological processes and are popular ‘buzzwords’ in different sustainability discursive settings (Ibid). Organic agriculture often refers to a set of standards that are defined by sets of laws and less formal rules and regulated by different authorities that specify what is and what is not allowable to be classified as organic farming (Schreefel et al. 2020; Merfield 2019; Guthman 2014). Climate-smart agriculture is an approach that aims to transform and protect the agricultural sector by addressing and adapting agriculture to the challenges of climate change and food security (Chandra et al. 2018). The clear difference from regenerative agriculture is that organic regulations tend to focus on restricting such things as inputs, fertilizers, and methods. While Climate-smart agriculture is criticized to be a narrowly apolitical framework that disregards issues of power, inequalities, and access (Taylor 2018). It is with concern to these notions of power and constraints that the empirical data for this study will show why farmers engage in regenerative agriculture. Further, regenerative agriculture also seemingly shares some of the core values found in agroecology such as aiming in retaining nutrients and energy on the farm rather than introducing external inputs to enhance the soils and biodiversity (McMichael 2017).

As mentioned earlier regenerative agriculture as of now has no commonly agreed-upon definition (Elevitch et al. 2018), and it, therefore, lacks a set of rules guiding what and what not is allowed. This makes for an open and diverse playing field in terms of how to practice and what constitutes as regenerative agriculture. It should be noted that from an ecological perspective the question of whether or not regenerative practices have the potential to contribute to climate change mitigation

and how much it can actually retain more carbon in the soils remains somewhat controversial (See Giller et al. 2021; Ranganathan et al. 2020). By some regenerative agriculture is even argued to just be sort of a re-framing of agroecology and sustainable intensification (Giller et al. 2021). Some, however, claim (see for example Burns 2021; White 2020) that regenerative practices show positive outcomes on both carbon sequestration in the soils and increased biodiversity on regeneratively managed farms.

In summary, regenerative agriculture focuses on the enhancement and restoration of resilient ecosystem processes (Newton et al. 2020; Gosnell et al. 2019), yet it is thus far more of an attitude (rather than a well-defined method per se) according to the practitioners that aim to restore and improve ecological resilience (White 2020). Practices include improving and/or restoring soil health and fertility as well as biodiversity through techniques such as minimum or no-tillage, cover and rotational crops, and various grazing methods for achieving effects such as carbon sequestration and improved soil water retention (Gosnell et al. 2019; Rhodes 2017). This makes defining what regenerative agriculture is rather complex. Not to mention the integrated aim for the need to also take into account the aim of fulfilling human needs such as strong livelihoods and rural communities in regenerative agriculture.

3.2 Definitions of regenerative agriculture

Having not received a great deal of attention previously the number of scientific articles on regenerative agriculture has increased noticeably lately. A study by Newton et al. (2020) of 229 scientific articles and 25 practitioner's websites showed a large variety in existing definitions and descriptions of regenerative agriculture. They found that the definitions could be characterized into two main categories of process and outcome-focused definitions (Ibid). Process-focused definitions emphasize the inclusion and exclusion of different agricultural practices based on their regenerative prospects, such as the integration of certain crops and/or animals, no-till agriculture, or the use of cover crops (Ibid). The outcome-oriented definitions focus more on the effects of specific practices, such as carbon sequestrations, increased soil health, and biodiversity (Ibid). The Newton et al. (2020) study also noted that combinations of process and outcome-oriented definitions were common.

This ambiguity and plethora of different definitions and understandings of what constitutes regenerative agriculture make up the complex reality of the emerging discursive space of regenerative agriculture (Gordon et al. 2020). A clear definition of regenerative agriculture would be useful for creating indicators and policies that enable the assessment and support of regenerative practices to, for example, reach the Sustainable Development Goals (SDGs) (Schreefel et al. 2020). Presently the

farmers and parts of the scientific community are pressing for an understanding of regenerative agriculture as principles and results, while corporations and state actors often seem more interested in what agronomic methods are used (Newton et al. 2020).

There are however currently two farmer-initiated certification or assessment systems for regenerative agriculture originating from the US but are also used by farmers globally to various degrees. The first one is coming from the non-profit organization Regenerative Organic Alliance composed of farmers, business leaders, and experts in the fields of soil health, animal welfare, and social fairness (Regenerative Organic Alliance 2022). It started in 2017 and came up with a revised framework for Regenerative Organic Certification (ROC) in 2020 (Regenerative Organic Alliance 2021). The certification system focuses on three pillars to promote holistic agriculture practices in an all-encompassing certification that 1: Increases soil organic matter over time and sequesters carbon below and above ground, which could be a tool to mitigate climate change; 2: Improve animal welfare; 3: Provides economic stability and fairness for farmers, ranchers, and workers. (Ibid)

The second certification system is the Ecological Outcome Verification (EOV) by the Savoury Institute. Contrary to many other certification systems that are process-oriented (See Tayleur et al. 2017), the EOV is focused on the outcomes instead (Savoury Institute 2021). Similar to the ROC the EOV also is built upon three main strategic pillars. The first one is the focus on outcomes as tools and practices alone do not guarantee a regenerative outcome which brings us to the second pillar, the contextuality. The EOV recognizes that a one-size-fits-all attitude is not a useful approach because tools and practices need to be adjusted to fit each specific location and context. This is addressed by defining areas with an ecoregion map that acknowledges each ecoregion's biodiversity, climate, geology, and soil profiles. The third pillar is what EOV refers to as 'farmers first.' Overall, EOV is a farmer assessment tool to encourage learning and improvement between farmers rather than a top-down approach (Ibid).

These are two approaches toward a certification scheme and for defining regenerative agriculture and practices. Regenerative agriculture as shown above can consist of many different practices combined with the intention to move beyond the static notion of sustainability and, as the name implies, be more regenerative (Rhodes 2017). Many interpretations of regenerative agriculture also take into account that different places and geographies need different approaches and are in different ecological states for becoming regenerative, suggesting that farmers need to get accustomed to and know their land such that they can identify what is good and bad for it. The data from the interviews and the forum shows that this understanding is seemingly predominate amongst the Swedish farmers of regenerative agriculture. Regenerative agriculture understood as a way of thinking and attitude rather than specific methods was presented by the interviewed farmers

as regenerative agriculture is more about results, thus aligning more with the outcome-focused definitions noted by Newton et al. (2020). In the study by Schreefel et al. (2020) on regenerative agriculture based upon the themes found in the reviewed scientific articles, they propose a provisional working definition of regenerative agriculture. They define regenerative agriculture as a practice that focuses on soil conservation as the foundation to regenerate and contribute to multiple provisioning, regulating, and supporting services that enhance environmental aspects in conjunction with social and economic dimensions of food production (Schreefel et al. 2020).

The lack of a clear definition and the rather flexible nature of regenerative agriculture also creates a space for the interpretation of key objectives and practices that are regenerative (White 2020; Merfield 2019). This is what opens a space for actors to be able to interpret and define their ideas so to say of regenerative agriculture. Based on the interviews and forum the farmers perceive regenerative agriculture as *theirs*. Expressing a sort of ownership over ideas and the concept. It is thus important to note that there are other prominent actors also who have entered the field of trying to define regenerative agriculture such as Carbon Underground, SAI-platform, and Soil Carbon Initiative. Together with corporations within the food industry such as General Mills, Unilever, and many others who also have created and adapted their own sets of principles and guidelines for regenerative agriculture. Further combined with recent corporate regenerative initiatives led by actors such as Arla, Wasa, Walmart, and Nestle to name a few. This plethora of actors is what makes up the political and discursive arena of regenerative agriculture at the moment, and where questions on how to define regenerative agriculture have implications in terms of whose benefit and to whose disadvantage specific interpretations of regenerative agriculture will have (Cf. Robbins 2020; Moragues-Faus & Marsden 2017)

It should also be noted that the forum NNRL has its own short definition, which is also the same as the Norwegian regenerative movement, of regenerative agriculture which is *“To enable the highest possible vitality in ecosystems, by satisfying human needs”*.

3.3 Towards a Nordic regenerative agriculture

As implied by many advocates of regenerative agriculture, specific practices need to take into account the regional and local agricultural contextualities. On the 14th of February 2022, Svenskt Sigill presented a new initiative aimed at defining regenerative agriculture for a Nordic context (Svenskt Sigill 2022). Though, a reference group meeting did occur already in November of 2021. In this more recent update on the 14th of February 2022, they acknowledged that the origin and systems of regenerative agriculture come from a North American perspective. With the

growing interest in regenerative agriculture in the Nordic region, a framework for regenerative agriculture adapted to a Nordic context is needed. The aim is to create a unified definition and guidelines based on scientific support for how to interpret regenerative agriculture in a Nordic environment.

The initiative has two goals. Firstly, the goal is to adapt existing definitions and principles of regenerative agriculture to fit a Nordic context where these can be used as tools for achieving more sustainable agriculture. The second goal is to have a framework to avoid the risks of regenerative agriculture being watered down. (Sigill Kvalitetssystem 2021).

In the more recent publication (Svenskt Sigill 2022), three purposes for the initiative can be distinguished. First, it is aimed to address the confusion, that has also been noted within the science community (see Newton et al. 2020; Elevitch et al. 2018; etc.), about what constitutes regenerative agriculture. Second, they argue that a unified definition could also assist in creating business opportunities between farmers and food sector corporations. Third, one of the outermost important issues is to make sure that the rising interest in regenerative agriculture actually leads to an increase in sustainability within the food sector production chains.

In the interview with the representative from Svenskt Sigill they clarify that what they are aiming at is to come up with a definition of regenerative agriculture that works for the Nordic environment, as they saw that existing definitions were not suitable for the Nordic context. It is not an attempt to have a certification in place but rather a framework for conducting regenerative agriculture in the Nordic context. The framework is an attempt to avoid appropriation of the concept and misuse of its potential positive climate and environmental effects.

This chapter has not been intended as a comprehensive overview of the definitions of regenerative agriculture. Rather it shows the prevalence of a discursive hegemonical arena of change happening. As many different actors now are promoting an agricultural transformation in creating more sustainable food systems, where regenerative agriculture can be seen as part of an emerging regenerative discursive alternative (Gordon et al. 2021). This chapter further situates regenerative agriculture in a political arena and sets a stage where groups of actors are seen making claims and to some extent claiming ownership over ideas concerning the creation of new social and environmental systems (Robbins 2020; Neumann 2005). But the chapter is also a link in the chain important for understanding the historical and present situated processes in which regenerative are both materially and discursively produced (Moragues-Faus & Marsden 2017).

4. What about the farmers

Following is a discussion derived from the empirical data collected and an analysis based on the conceptual and theoretical framework presented above. The analysis is presented inspired by Geertz's (1973) thick description in such a way that results, analysis, and discussion are done side by side to invigorate the material under thematically themed chapters (Bryman 2018).

Firstly, this chapter is composed of a discussion on motivation and ideals to understand why farmers engage in and how they understand regenerative agriculture. This has been an understudied part of the regenerative agricultural movement (See for example Burns 2021; Giller et al. 2021; Newton et al. 2020). This is followed secondly with the exploration of two themed chapters on how farmers perceive the interest, and a growing number of external actors' involvement affects regenerative agriculture.

The understanding of motivations and ideals, and why people do what they do is, as will be shown, important to why they are trying to do something different and making claims of challenging paradigms (Gosnell 2021). As is addressing the threads of material, ethical and political commitments in which individuals and AFNs try to govern food system social change (Goodman et al. 2013). It is also important for understanding why the regenerative movement is fearing having their movement co-opted or assimilated due to the growing number of external actors interested in regenerative agriculture. As the reproduction and dissemination of regenerative agriculture are happening in politicized and market-embedded spaces and scales (Robbins 2020; Goodman et al. 2013; Zimmerer & Bassett 2012).

4.1 Motivation for regenerative adaptations

One entry point for individuals to adopt new agricultural practices, such as regenerative agriculture, is a crisis of some sort (Gosnell 2019). The food system and agriculture today consist of a complex web of relations involving a multitude of actors that have shifted control over agricultural development away from both farmers and consumers (Clapp 2020). Further, with the globalization of the food system and the market integration a growing concern about the negative effects this development has had on social, economic, and ecological aspects are raised (Clapp 2020; McMichael 2013). Different concepts and adaptations have evolved over the

years in a response to try to mitigate these perceived problems with the food system and agriculture. These efforts are trying to pursue and find more sustainable ways of producing food and mitigating the negative effects of agriculture contributing to climate and environmental change, and regain governance over the food system. Forsyth (2003) describes environmental adaptations as practices adopted by practitioners to mitigate the effects of environmental change and environmental impacts of resource scarcity. Alternative agriculture models, such as regenerative agriculture, are often presented as practices of solutions to mitigate these negative effects contributing to environmental change and the degradation of land created by an agro-industrial system.

The first interview conducted was with a farmer on an old family farm who had dairy cows grazing the open farmlands. Their production and farm were organic and KRAV¹ certified prior to adopting a regenerative attitude towards how to operate the farm. Even though they had a fairly large amount of grazing land relative to the number of cows, they described how the pastures seemed to be depleted every year by the end of summer, resulting in the need for buying extra feed for the cows. The farmer shared that he understood this as something was wrong, the way he ran his farm was not the optimal way of running it. *“We had a problem where we ran out of grass for our animals every year and questioned ourselves, what are we doing wrong?”* (Farmer 1). Through information in a newsletter from the local County Administrative Board with an invitation to a seminar, he attended a lecture by Allen Savoury of the Savoury Institute during one of Savoury’s visits to Sweden. This was how the farmer was introduced to holistic management and regenerative agriculture. While learning more about holistic management and regenerative agriculture through mainly social media sources and his own research the transition towards a holistic management approach on the farm showed significant positive results. The grass now lasted well over the summer period and far into the autumn season. Similar stories of experiences of doing something wrong and finding regenerative agriculture to be a sort of solution to their problems are also found on the forum.

There is a difference between adaptive strategies and adaptive processes. Adaptive strategies are practical decisions made by the individual to change productive strategies on the farm (Forsyth 2003). Adaptive processes are more long-term decisions that aim for socio-economic change (Ibid). For this specific farmer, the transition towards a holistic management approach of their farm was a practical decision made to improve his grazing lands which also lead to less need

¹ KRAV is a Swedish certification meaning that produce is not only organically produced but grown and raised without artificial chemical pesticides and artificial fertilizers. While also contributing to biological diversity, reducing climate impact and protection of environment and health. Together with promoting better animal welfare and social equity. Aiming for being the most sustainable way of producing foods: <https://www.krav.se/en/this-is-krav/a-label-for-organic-food/>

for extra feed to be bought for their animals. The transition to managing the farm was also partly ideologically based. The interview touched upon the subject of holistic management and was described by farmer 1 as more of a mindset, a set of principles that helps in making decisions not only related to the farm but also in life itself. The farmer explained it with a very basic example of if he needed a new tractor to manage farm duties on the farm and a specific tractor would cost him five million SEK. The purchase of the new tractor would force him to work more to pay the loan he would need to take to make the purchase, which would infringe on other goals he had in his life such as being able to spend more time with his family. Thus, the investment of five million SEK would not be a viable option as he values his time to do other things than work, which are more important for him than investing in a new tractor. Implying that embracing a holistic mindset and regenerative agriculture is also a way for the farmers of including the social equity and spiritual meanings, as mentioned earlier, into the agricultural context (Gosnell 2021; Lal 2020). As well as part of a critique of how agricultural development has distanced the farmer from the lands. A more holistic and regenerative mindset is described on the forum as a way of “... *taking back the farm, the plants, and the cultivation, much of that the third and fourth agrarian revolution outsourced to the industry*” (NNRL forum member). This adheres to a longstanding critique found in other food system research of corporate dominance in the agricultural sector and how the agro-industrial approach has distanced farmers from their lands and food (See for example Canfield et al. 2021; Clapp 2020; Guthman 2014; Holt-Giménez & Altieri 2013; McMichael 2013).

The following interviewed farmers had all in comparison to the first relatively smaller farms consisting of an average of around seven hectares of land. They also had more diversified and smaller herds and flocks of animals on their farms. Ranging from sheep, goats, rabbits, chickens, and ducks in combination with larger vegetable and tree gardens. These farmers had all bought old run-down farms that had been overgrown and not farmed for several decades prior to them coming there. In common these farmers also came from different academic backgrounds such as biology, and social and political sciences. All of them had prior experiences in permaculture, agroecology, and agroforestry and acquired the farms intending to revitalize the farms in different ways based on the three mentioned practices. On two of the smaller farms that had been overgrown the farmers started with the labourious work of cutting down trees and shrubs to clear the pastures that once had historically been there. They told of an almost nostalgic vision of recreating what once was seen as a golden age of their farms in their efforts to revitalize the lands. A nod to a somewhat romanticized vision of the old days where their farms were being farmed and sustained itself. One pair of interviewees said, “*we would rather describe ourselves as re-settlers rather than pioneers*” (Farmer 3 & 4). This interestingly draws upon and connects to other types of contemporary social

movements and is coupled with a sort of counter-cultural idea of wanting rural change such as back-to-the-land movements (See Wilbur 2014; Wilbur 2013; Halfacree 2007). That could be understood as part of a larger transformation discourse with more ecological embedding questioning how we are supposed to live our lives and that seeks a more sustainable way of living. Unanimous amongst the interviewees was that they also talked a lot about human and nature relations, understanding themselves as part of the ecosystem on their farms. Pressing on the importance of letting nature have its course and adjusting their methods to what happened naturally on the farm. Wanting to work together with nature and the farm for achieving greater biodiversity and vital lands:

After a year of rotational grazing with a few sheep, I could see new species of grass coming, there were more insects, and the birds were more plentiful. And the mushrooms, there are a lot of new species of mushrooms all over the farm. The grazing spurred the grass and has strengthened the roots. In the beginning, I could not even dig in the soil with a shovel because it was so compacted, but now after a couple of years of managing my farm regenerative the soil is healthy and lush again. (Farmer 2)

Working with nature was a unified theme in the interviews and likewise present in discussions on the forum. Sumberg (2022) differentiates between two types of transformational elements within agricultural development. Where the first type is a more technocratic element that relies on science and technology to improve the existing agricultural system through modernization and increased efficiency (Sumberg 2022). Seemingly the adoption of regenerative practices gives positive results for the farmers in terms of visual confirmation of increased biodiversity and the prolonged grazing periods over the year for their animals. It was often described in how they, the farmers, see that the grass is seemingly stronger and thus lasts much longer than before, together with visual confirmations of higher biodiversity in flora and fauna on the farmlands. This also shows a prevalence of them wanting and being an active part both in the creation and maintenance of ecosystems on the farms. Where they actively engage in and assess methods in creating a balance between themselves, ecosystems, and the lands.

The working with nature approach that was presented by the interviewees more clearly is positioned with Sumberg's (2022) second type of transformational element: demanding a more radical shift towards an ecological benign alternative agricultural development including technical, social, and economic change (Sumberg 2022). There are similarities here in the regenerative movement today to the early organic movement. Where the tension between those who were more radically proclaiming an alternative to a hegemonic agri-food system and those who viewed organic as more of an altruistic and more ecologically benign approach to agriculture (see Guthman 2014), that also exists within the regenerative movement. Regenerative agriculture is proposed as an alternative for more sustainable food production by making claims such as lowering carbon emissions and external inputs

while improving ecosystem services and resilience to climate change (Al-Kaisi & Lal 2020). There are clear ideological elements in the proclamation of change and critique against an agro-industrial discourse that is perceived as not being concerned about the social and human aspects of agriculture. Talking about forest management with farmer 3 she said: *“the forest companies run things, the owners of the forests rarely have a connection to them, they do not live here”* (Farmer 3) implying that without connection and knowledge of the forest how can you know what is good for the forest and those living nearby. This further implies that the role of the farmer is a sort of custodian and someone that has the responsibility for their lands that differentiates from the views of the corporations.

Many of the alternative agricultural approaches, such as organic farming, permaculture, and agroforestry, share the ecological perspective of looking to and trying to mimic nature in different ways to conceive what is understood as sustainable development (Sumberg 2022). For the farmers, the reconnection to nature is also apparently crucial but it also contains a relational element of connection to nature, a desire for a rethinking of human and nature relations. This is comparable to how Merfield (2019) and Guthman (2014) describe that many organic farmers also understand their commitment to organic agriculture as a philosophy and as a social movement. Regenerative agriculture seems to show the same inclinations. Considering their farming system and their personal world views are strongly entwined (Burns 2021; Merfield 2019).

Understanding motives and why farmers adopt regenerative practices is crucial for creating frameworks and policies to be adopted and understood by farmers and other practitioners (Gosnell 2020). A strong motivator for change is the emotion related to crisis and the galvanization of a strong ethical element (Massy 2017). Similar to Massy (2017) who claims that regenerative farmers are developing a strong sense of community and compassion for wider society, the empirical data point towards a similar conclusion. As seen in this quote: *“I guess why regenerative, it is a sort of passion. A want to do good for the land and the community and not being destructive”* (Farmer 4). A transition toward becoming regenerative is often tied to a philosophical change or standpoint in heart and mind (Merfield 2019). Yet it should be noted that combating climate change was a less frequently found theme in the study composed of 28 scientific peer-reviewed articles on regenerative agriculture by Schreefel et al. (2020). In contrast, interviewed farmers and farmers on the forum expressed how regenerative agriculture is a way to transform agriculture into becoming more climate and environmentally friendly. As one of the interviewees put it when explaining why he pursues regenerative agriculture on his farm *“...it might be a small drop in the ocean as to the bigger picture, but I want to do my part, do what I can do for a brighter future for mankind and for the lands here outside”* (Farmer 2)

One motivational aspect in common for the interviewees for adopting regenerative agriculture stems from a personal realization of how modern agriculture is associated with negative environmental and social impacts. Together with the idea of creating a space that enables agricultural change towards higher sustainability or even a regenerative state. This critique against perceived paradigms of agriculture is also what creates the spaces for alternative agriculture initiatives to be developed (Gosnell 2021). Regenerative agriculture contains a resemblance to a social movement in that it has an overarching yet somewhat diffuse purpose (Burns 2021). A further resemblance is how the Swedish farmers connect themselves to wider networks both locally and internationally to seek inspiration and knowledge exchange with like-minded individuals. Creating a space under a common agenda for reaching a regenerative system under the banner of soil health and biodiversity (Ibid). But also, important to note, as stated unanimously by all farmer interviewees when asked why they adopted regenerative practices, it gave them “*freedom*”. This statement pairs with contemporary food sovereignty movements across the globe. The food sovereignty movement opposes the reliance on export agriculture and food imports within the dominant food system (Clapp 2020). The food sovereignty movement seeks to create an alternative local food system for farmers and communities to regain control over local food systems (Clapp 2020; Holt-Giménez & Altieri 2013). The interviewed farmers' expression of freedom comes from a similar desire to regain control over food and their farms but also in a way their livelihood and lifestyle. Seeking a state of more local sovereignty over how to produce and manage their farms.

To conclude this section, I draw attention to a statement by a respondent that regenerative agriculture “...is more of a way of thinking, and learning how to make decisions that are regenerative rather than a set of actual methods” (Farmer 1). This suggests that it contains a preponderance of a desire for challenging current paradigms in agriculture and trying to present a solution to apparent issues with how the food system currently is run by an agro-industrial agenda. The industrial food system for example is considered one of the largest contributors to climate change (Canfield et al. 2021). Duncan et al. (2021) describe a linkage between a regenerative movement and the realization for a radical systemic change in the food system is needed to reach the goals of the SDGs. Discussions in relation to SDGs and both climate change and environmental degradation is frequently seen on the forum. The creation of a more environmentally friendly way of undertaking agriculture seems to be one of the main idealistic motivators for adopting a regenerative mindset as seen above.

4.2 Challenging paradigms or not

The agricultural system today is dominated by an industrial-productivist discourse that is blamed to have contributed to the degradation of both human and ecological systems (Canfield et al. 2021; Gordon et al. 2021; Olsson 2021; Clapp 2020; Béné et al. 2019). Modern agriculture is further both heavily impacted by climate change and responsible for greenhouse gas emissions causing climate change. (Clapp 2020; McMichael 2013). Stemming from this critique different sustainability discourses is pushed for by several entities both globally and locally to transform agriculture and food systems toward mitigating climate change and creating more sustainable agriculture (Hawes et al. 2020; Béné et al. 2019; Moscatelli et al. 2016). These globally joint efforts are perhaps most clearly seen in the Sustainable Development Goals (SDGs) of Agenda 2030 where pathways for the development of social, economic, and environmental dimensions of sustainability have been laid out (Duncan et al. 2021). Regenerative agriculture can be understood as an evolving and diverse regenerative discursive alternative to industrial-productivist agriculture (Loring 2021). As a movement, it is making claims of being a more sustainable option to the dominant industrial-productivist agriculture. It is clear in the interviews with the farmers and discussion on the forum, that the pursuit and motives behind adopting regenerative farming are about challenging how we think of sustainability and farming.

The concept of sustainability has during the last decades transformed to become somewhat of an orthodoxy for discourses in both public and private sectors (Duncan et al. 2021). Though sustainability is frequently used by many entities it is a rather ubiquitous term (Trigo et al. 2021; Béné et al. 2019; Matson et al. 2016). Therefore, when talking about sustainability in this study it adheres to the more general understanding of sustainability as a multi-dimensional concept that includes elements of social equity, human welfare, and the maintenance of natural resource bases (Duncan et al. 2021). Regenerative agriculture as shown earlier incorporates different sets of practices and ideas with the intention to move beyond the static notion of sustainability and, as the name implies, go even further to create a regenerative agricultural system (Ibid). It is in this context of sustainability and critique against the food system and modern agriculture, that regenerative agriculture is situated (Giller et al. 2021).

The foundation for the emergence of the organic farming movement stemmed from four broad social movements including various campaigns focused on alternative production technologies, health and pure food movements, the 1960s counterculture movement, and modern environmentalism (Guthman 2014). Similar but perhaps more of a contemporary version of these ideas can possibly be observed in why regenerative agriculture is growing now. On the NNRL forum in a discussion on contradictions between regenerative agriculture and organic agriculture it is stated:

I do not see it as a contradiction between the two concepts. It is excellent to be both regenerative and organic. Organic though has become something you can only call yourself if you follow the existing regulations. It is more about what you are not allowed to do, while regenerative is more about working towards a goal (to revitalize ecosystems and at the same time meet human needs). And then, as I said, you focus on results about that goal, rather than rules about what you can and cannot do. (NNRL forum member)

As discussed earlier there are similarities in ideas and practices to many other alternative agriculture movements. The alternative movements together are often seen promoting change toward more nature-oriented agriculture and focusing more on social aspects of agriculture (Sumberg 2022; Marsden et al. 2000). Often also drawing on the narrative of a failing food system (Clapp 2020). What the paraphrased quote shows is that regenerative agriculture is an idea for achieving a higher degree of sustainability or even the creation of a regenerative ecological state and it recognizes that this can be achieved in different ways. This semiotic standpoint, sustainability vs regenerative, is also found in literature and articles promoting regenerative agriculture (See Duncan et al. 2021; Ikerd 2021). Further, the quote also hints at the desire of having more sovereignty as regulations are seen as a possible hindrance that could impede the goals of regenerative agriculture. In the paraphrased quote we also see the connection to the definition of regenerative agriculture from the NNRL forum.

To enable the highest possible vitality in ecosystems, by satisfying human needs is the definition of what regenerative agriculture aims for taken from the NNRL forum. The definition points towards the desire for incorporating the human and social aspects back into agriculture but also the reconnection with nature (Cf. Sumberg 2022). Which the food system and an industrial agricultural discourse have received a fair amount of critique for not adhering (Anderson & Rivera-Ferre 2021). More clearly seen in a discussion on the forum that further develops the idea of *“the regenerative system as an ecosystem vitalization agriculture which includes plants, humans, animals, economy, different social structures, and all other natural things is included in the understanding of these ecosystems”* (NNRL forum member). Showing the desire for a more holistically encompassing understanding of the food system and agriculture much like food sovereignty movements (Andersson & Rivera-Ferre 2021; Clapp 2020).

On the forum, we can read statements that none can know how the actual highest possible vitality in ecosystems would manifest itself and that we all, as humans, need to take responsibility for our actions to sustain landscapes and care for the ecosystems. It is further argued in the forum that the agro-industrial mindset has distanced humans from the landscapes of agriculture and brought with it a displacement of nature (Cf. Murdoch et al. 2000). Very similar in their critique to more contemporary critical food studies (see Levkoe et al. 2021; Clapp 2020). That commonly recognizes that dominant agricultural narratives have tended to disconnect the relation between food and agriculture from the ecological base

which has led to placeless foodscapes (Andersson & Rivera-Ferre 2021; Clapp 2020; Moragues-Faus & Marsden 2017). This critique from the farmers correlates to the early organic agricultural movements' critique of similar events, and concerns about corporate power and agro-industrializations infringing on the family-owned and operated small-scale farm as the upholder of social justice and ecological sustainability (Guthman 2014). In the same discussion on the forum as the quote above one individual states: “*food belongs to civil society, the sphere of humanity that should be completely outside the state and market*” (NNRL forum member). Regenerative agriculture from the farmer's point of view is a desire to restore an ecological relation where humans are an active part of the food system once again. Claiming sovereignty over food in the critique to flaws with dominant agricultural narratives perceived promoted and run by corporate, state, and international authorities. That through policies and market conditions have produced undesirable impacts in the ecological landscapes, like the placeless foodscapes and the distortion of human relations to food.

While the idea of a regenerative agriculture system is not new (Gosnell 2021; Ikerd 2021; Merfield 2019; Rhodes 2017) and neither is the expressing need for transformation of agriculture towards more sustainability (Duncan et al. 2021; Guthman 2014; Goodman 2004). The interview with the first dairy farmer also confirmed findings on the forum of a desire for being able to have a farm that would support itself. “*A farm should be able to support itself and us, not reliant on subsidies or inputs*” (Farmer 1). The farmer's argument is based on a view of industrial farming systems that are depleting soils and destroying the ecological balance in the landscape in the search of maximizing profits. That further traps farmers in a for them undesirable food system where farming relies on a never-ending loop of subsidies and inputs. The desire to have a self-reliant farm operation is also seen in the search for *freedom* mentioned at the end of chapter 4.1. Building on the critique of agro-industrialization and corporate power dominance over food systems. Therefore, adopting regenerative agriculture can be understood as a way of trying to regain control and sovereignty over the farm and food. A desire to remove the metaphorical shackles of political and economic structures and institutions surrounding agriculture (Cf. Neumann 2005). Further, Canfield et al. (2021) point toward a growing concern about how industrial agriculture contributes to climate change and how institutions have struggled over the narrative of sustainability. The interviewees and the forum point towards similar concerns and distrust on an institutional level and of corporate powers set the stage for agriculture and sustainable development. Clearly in contrast to the freedom ideas nested in the farmer's interpretation of regenerative ideals. As regenerative agriculture draws on socio-ecological and cultural contexts in which local knowledge is fundamental, and which proponents of industrial agriculture have critiqued for being backwards

and anti-science (Andersson & Rivera-Ferre 2021). Potentially further inciting tension between the different actors.

“We label our honey organic, but we are not certified, it is organically produced in the sense of how we keep the bees... it is our way of a sort of rebellion” (Farmer 3 & 4). The quote comes from an interview with two farmers regarding agricultural methods and certifications. Tending on one of the smaller farms in this study they used a wide range of different agricultural practices. Ranging from agroforestry-inspired approaches in how they managed the lands to permaculture management of their gardens. Another of the interviewees showed similar use of a wide range of practices. This correlates with the central idea of regenerative agriculture of trying to know your lands and adapt practices accordingly that suites the local contextuality (Burns 2021; Merfield 2019). It also points towards the ideological side of regenerative agriculture. Where it rather should be treated as a regenerative mindset on how to tend the farm where practitioners adopt certain methods and practices in achieving enrichment of soils and increased biodiversity. Seeking to achieve a sort of ecological balance for all components, including humans, contributing to the farm (Anderson & Rivera-Ferre 2021). Understanding regenerative agriculture as a set of regenerative principles makes concepts such as conventional or organic uninteresting as it is explained in a discussion on the forum: *“...concepts such as ecologically or conventionally are uninteresting. The question (what practices to be used) is to what extent it is customary following the principles of regenerative agriculture”* (NNRL forum member). This also points back to the critique of organic agriculture as being more about rules for what you are allowed and not allowed to do (Guthman 2014). There is a desire from the farmers not wanting to conform to rules and regulations or be told what and what not to do. Implying again the notion of freedom and a lack of trust towards state and corporate regulations being implemented on agriculture, and regenerative agriculture potentially in the long run.

Though, not fully without contradiction, it is possible of being certified organic or manage a conventional farming enterprise and call yourself a regenerative farmer. Perhaps much due to the unregulated state of regenerative agriculture. It is expressed on the forum that *“both conventional and organic systems can be regenerative”* (NNRL forum member). Also visible in the case of the first interview where the production was organic and KRAV certified. While this particular farmer stated that he did not use regenerative as a selling concept it was rather a compliment agriculture system for how he maintained his farming operation. On the forum it is said that *“organic farming has dismissed two, rather misunderstood and misused, inputs, being commercial fertilizers and chemical pesticides”* (NNRL forum member). This is backed by once again stating the importance of results rather than the actual methods for achieving regenerative outcomes such as increasing biodiversity, soil health, and ecological resilience. Seemingly

regenerative agriculture is very diverse in terms of how the individual farmer can manage their farm. Though consensus on this point is rather contested in itself. As described in a quote from one of the interviews “*I know of this farmer who has a large farm, producing mostly grains and who uses regenerative methods but also sprays his fields with chemical pesticides, and I wonder how regenerative that is actually?*” (Farmer 3). What this shows is a tension between different ideas of what constitutes as regenerative agriculture. Similar to the tension within organic agriculture of viewing it as a more ecologically benign approach to agriculture and those promoting a more radical change of a hegemonic food system (Guthman 2014).

In summary, as we have seen in the above chapters regenerative agriculture is understood as a rather multi-faceted concept. There is an idea that “... *regenerative agriculture needs to be diverse*” (Farmer 2), but also clear notions embedded in a critique against a food system and agricultural models that are seen as failing to address certain issues. Seen both in the literature (See Burns 2021; Duncan et al. 2019; Gosnell 2019 etc.) and visible in the data from the interviews and forum. Perhaps concepts like regenerative with the plurality of characteristics are what inspire practitioners to feel like they are enabled to do something different in response to the viewed flaws with the current state of agriculture (Cf. Loring 2021). Opening a space for a grassroots movement, such as regenerative is understood by many of its practitioners, to challenge what is perceived as dominant paradigms (Burns 2021; Loring 2021; Gosnell 2019). The empirical data shows a discontent amongst the farmers with how things are being done. Where they portray regenerative agriculture as an alternative approach to agriculture and very much as a solution to the sustainability challenges of agriculture. Drawing on a sort of countermovement narrative towards industrial agriculture, which is perceived as sort of an adversary to the activities and imaginaries of restoring and enhancing ecosystems (Andersson & Rivera-Ferre 2021). The central point for the farmers in this study is the understanding of regenerative as a mindset as some of the academic literature also confirms (See Ikerd 2021, White 2020; Merfield 2019). Whether intentionally or not, pressing on that regenerative is a mindset and an open-mindedness towards practices and methods can also be a way of keeping control of the concept. Specific practices and methods are wanted by corporate and state interests (Newton et al. 2020) as they are more easily conformed to frameworks and/or certification. Due to them being more clearly measured in terms of their effectiveness than ideals and goals. But the question remains as to whether proclaiming to challenge paradigms and the more radical desires for change of food systems is achievable. Given how economic and spatial power is understood as concentrated in a corporate and institutionalized dominance over the food sector (Goodman et al. 2013; McMichael 2009).

4.3 Fear of assimilation

In the interviews and seen on the forum the growing interest from external actors in regenerative agriculture is viewed with caution. There is an idea of regenerative agriculture as a grassroot and a farmer-led movement for creating something beyond sustainability. The growing interest in regenerative agriculture creates tension as many of the external actors are recognized as part of the food system paradigm regenerative proponents are claiming to challenge. The growing interest from external actors in regenerative agriculture is therefore articulated with a sort of cautious distrust.

Corporate dominance over the food system is argued to have been growing through neo-liberal agendas in the past decades (Holt-Giménez & Altieri 2013; McMichael 2009). Transnational corporations have further become key actors in the social-ecological transformation and sustainable development field today (Folke et al. 2019). Together with the increase of ‘value-added’ activities being conducted within the processing and packaging phase of raw materials and food products has further increased corporate control over the food system (Clapp 2020; Ericksen 2008). This development has led to farming no longer being the dominant economic activity in the food system and redirected more power towards corporate and market control (Canfield et al. 2021; Clapp 2020; Ericksen 2008). Going back to earlier statements and the expressed desire from the farmers to have a farm that sustains itself, not only, economically this development is far from perfect in their perspective. In an article by Canfield et al. (2021) addressing the United Nations Food System Summit, they argue that multinational corporations and philanthropies amongst others are trying to capture the global narrative of food system transformation. In an effort to undermine the democratic arena to maintain corporate control of the food system governance (Canfield et al. 2021). While Canfield et al. (2021) argue that this is undermining social movements' efforts toward food sovereignty similar concerns are visible amongst the farmers. There are several statements expressing a sort of fear from the farmer community that the commercialization of regenerative agriculture could happen due to external actors making regenerative claims and trying to define it to their own agendas. Statements ranging from in the interviews “*They (corporate and state actors) are cutting down grassroots initiatives in order to claim EU funds... we work with regenerative and do not need an absolute definition*” (Farmer 1), to statements from the forum like:

...the grassroots are often lost if the certification comes from a person in power. It is a question of thinking about how to balance and whether it is those who do the work that actually should set certifications. To preserve and improve and maintain your own confidence by being certified, enjoying the results yourself, upholding principles, and being loyal to your customers and community. (NNRL forum member)

From a farmer's perspective, the core for pursuing regenerative agriculture is partly, as seen earlier, the idea of creating something beyond sustainable and addressing flaws created by industrial agriculture and the flaws with the food system. Regenerative narratives seem to have an embedded critique against industrialization and corporate dominance in the food sector (Andersson & Rivera-Ferre 2021). Further, this is also similar to the critique of contemporary agrarian populism towards the role of big science and corporate dominance, which also is described to have an embedded suspicion of state intervention (Guthman 2014). Organic agriculture back in the 1960s and 1970s proclaimed similar radical ideas, not saying it advocates still does not, that can be found in the regenerative movement of today. The organic farming movement voiced for a transformation and the creation of a new society that would be more sustainable and more interconnected with ecological and social realities (Robson 2020; Guthman 2014). These types of transformational ideas are seen on the forum in a discussion on the aim of regenerative agriculture:

The NNRL definition of Regenerative agriculture is well explained in that it aims for going a step further than ever before. We are improving and developing the situation more than ever. Implementing agriculture-revitalizing ecosystems in which plants, humans, other animals, economies, and other social structures, are all part of included in these natural ecosystems. (NNRL forum member)

Guthman's *Agrarian Dreams* (2014) shows that rather paradoxically the dynamics of industrial agriculture more or less have incorporated organic agriculture and that the aims of transforming social realities never were achieved. In the search for institutional legitimacy and regulation in the early days of organic agriculture, the more radical philosophies were sacrificed (Guthman 2014). The broader countercultural philosophies were suppressed as organic agriculture was narrowed down to technical terms and focused on allowable inputs (Ibid). Such as minimizing the importance of agroecology perspectives in favor of a focus on allowable inputs (Ibid). Resulting in organic agriculture becoming conditional through legal definitions governed by private and state institutions (Ibid). Guthman (2014) argues that the codification of regulations and legal frameworks that came to govern organic agriculture resulted in implications for how organic practices have developed. This process resulted in the incorporation of the organic agricultural movement into what would become an organic agricultural industry (Guthman 2014; Guthman 2004). Hence, it never changed the realities of society as was once intended as it got assimilated by the system it was criticizing. While not talking explicitly concerning organic agriculture, in a discussion on the forum about the future of regenerative agriculture and how corporate and state interest would affect regenerative agriculture one member states that

...what you are describing is that the establishment now, through a subsidization route, are trying to control the concept of Regenerative. This means trying to create hegemony. This will probably disarm the movement, among other things, through mechanical thinking and by creating and formalization of privileges. (NNRL forum member)

The paraphrased quote shows what I term as the fear of having *their*, the regenerative agricultural movement, taken from them. This fear is strikingly similar to how the success story of organic agriculture resulted in the undermining of the more progressive goals it was trying to achieve (Guthman 2014).

The formalization and regulation process of the organic movement was a way of legitimizing and building trust in the concept of organic, which among other things was key to ensuring that producers were paid a premium price for these products (Guthman 2014). For regenerative agriculture, the framework developed by Svenskt Sigill mentioned above is about creating legitimacy in the eyes of consumers and a more unified foundation for what constitutes regenerative agriculture to protect it. Thus, raising the question of who creates the frames for what constitutes regenerative agriculture. Inevitably with more actors entering the discursive arena of regenerative agriculture and where due to the structure of outcomes there will be winners at the expense of losers (Robbins 2020). As to the fundamental understanding of political ecology that there is a political dimension to socio-ecological systems where our knowledge is created and shaped by political and economic processes (Forsyth 2003). The farmers seemingly fear that their more progressive desires for socio-ecological change might be toned down, as in the case described of organic agriculture (Guthman 2014). One interviewed farmer said that “...with certifications comes also administrative rules and payments which for our small-scale farm just is too much to handle” (Farmer 4). Similar processes have been shown by Guthman (2014) in the case of organic agriculture. Guthman’s (2014) study of organic agriculture in the US showed how the regulatory mechanisms for organic agriculture influenced the structure and the modes of production that were possible, and how organic farming practices became dependent on this institutionalization. This is an interesting comparison because regenerative agriculture, being in an open moment, could be seen as being in the same position today as organic agriculture was twenty or fifty years ago. It shares many common grounds in its critique of contemporary agriculture and in the more underlying progressive ideals of changing how we perceive agriculture and the desire for the transformation of food systems. The many challenges presented by scholars of food and agriculture regarding how the food system is failing us might not only be narrative or conceptual in its causes but how we talk of and frame such challenges will affect the way they are understood and how solutions for problems are constituted (Duncan et al. 2021; Robbins 2020). Regenerative agriculture proponents have also pointed towards a disparity in academic and policy interest for focusing too much on a scientific need for and value of regenerative agriculture

at the expense of an understanding of the social and human perceived values of regenerative agriculture (Burns 2021; Raven 2020).

In a thread on the forum where explicit concerns about how corporate and state intervention can affect regenerative agriculture, partly jokingly, it is suggested that perhaps regenerative agriculture as a concept has already passed its best before date. The following quote is from an answer to the statement of having passed the best before date:

I can only agree. However, I do not think the solution is to find another new concept that can be co-opted or abused. As with all concepts, ideas, or trends that gain some kind of attraction eventually will be absorbed by the market and adapted to it. (NNRL forum member)

In the last quote of section 4.2, the interviewed farmer said that regenerative agriculture needs to be diverse. The idea of the need for keeping regenerative agriculture diverse can also be seen expressed on the forum: *“I also do not think that the solution is to come up with a certified concept with strict rules”* (NNRL forum member). This further can be linked to the farmers' desires of being free, which with external actors making regenerative claims and upcoming frameworks inevitably is perceived as possibly taking this freedom from the farmers in the long run. As discussed earlier is that many farmers perceive regenerative agriculture as something more than just a farming system. It seemingly has a lot of embedded ideals and values tied to the social realities of the farmers. There is a clear caution and skepticism towards what is seen as external actors from the farmers in the data. Sharing common grounds in similar critique coming from the organic movement that technology and science have been appropriated by state and agri-corporations (Guthman 2014). This appropriation has led to a technical approach to environmental problems (Ibid), that does not adhere to the more socially equitable, culturally diverse, and spiritually meaningful aspects of regenerative agriculture (See Gosnell 2021; Lal 2020). Whether or not an appropriation by external actors of regenerative agriculture would happen it would not only be of a farming system but the farmers' social realities and philosophies that would then be perceived as under attack. Seen summed up in a Swedish expression taken from the NNRL forum *“if you give them your pinkie, they soon will take your whole hand”* (NNRL forum member) implying that if they give in to external actors, they soon will lose their whole movement.

5. Conclusion

What this study has aimed to do is to adhere to Forsyth's (2003) idea of integrating a critical political ecology perspective on current food research, by adopting a more politically aware understanding of the contexts and geographies of regenerative agriculture (Moragues-Faus & Marsden 2017). The critical political ecology perspective intent in this study has been to use the metaphorical axe (Robbins 2020), to address the separation of sciences and politics (Forsyth 2003). This approach is appropriate as regenerative agriculture is understood as a part of an alternative agricultural network and a social movement that indeed is political in its context. The farmers who I interviewed in this study are seen engaging in different political arenas, arguing for their beliefs and a change of how food systems should work. They presented what can be interpreted as a discursive change toward a more holistic understanding of the food system that incorporates the complex character of food systems (Cf. Gordon et al. 2021; Stefanovic et al. 2020), promoting an agricultural transformation in creating a more sustainable, and beyond, agriculture and food systems (Cf. Gordon et al. 2021). Where the farmers are seen engaging in regenerative agriculture largely based on environmental and lifestyle ambitions connected to sustainability narratives. This transformation is further situated within specific agro-ecological contexts of discursive and semiotic production, where meaningful discourses and politicized outcomes of sustainability and agriculture are constructed (Moragues-Faus & Marsden 2017). That shapes how ideas of agriculture and society emerge and change (Ibid).

5.1 The motives and ideals

While there is certainly further interesting research that can be done in this emerging field of regenerative agriculture this study has maintained a focus on two research questions. Firstly, though not extensively, the study focused on how the farmers talk of and understand regenerative agriculture. This is important for the understanding of why people do what they do. As language is a constitutive and constituted form of power that ultimately shapes and determines how individuals create and understand reality and social identities (Wodak & Meyer 2009). Thus, by addressing the language we can get closer to understanding why they are trying to achieve something by making claims about challenging dominant paradigms

found in other studies such as Gosnell (2021). The ideals and beliefs of the general regenerative movement seemingly promote enhancement and restoration of resilient ecosystem processes (See Newton et al. 2020; Gosnell et al. 2019), yet the data shows it is thus far more of an attitude rather than a well-defined method according to the practitioners. That aims to restore and improve ecological resilience while also incorporating social equity and social-ecological causes in line with findings from Raven (2020) and White (2020).

The data further reveals a desire from the farmers to reconnect with the lands and nature not only physically but also emotionally and spiritually (Cf. Sumberg 2022). Combined with a strong sense of stewardship over the lands they tend to. This is much like the newer iterations of agrarianism and AFNs, where earlier research has shown that there is an idea that those who tend to the lands, often implying small-scale farmers, are those who have a long-term interest in managing the land sustainably (Guthman 2014; Goodman 2004). There are also interesting links between the more progressive ideals and a sort of back-to-nature narrative embedded in regenerative agriculture. That also can be interpreted in the interviewed farmers' stories that connect to other types of contemporary counter-cultural movements such as the back-to-the-land movement. Seen in the promotion of a more active engagement in the land and sustainable food production to knowledge exchange on an international level with like-minded individuals (Cf. Halfacree 2007). Only time can tell if the more radical and progressive ideals presented by the farmers will prevail, though there seems to be a fair amount of enthusiasm for the cause.

5.2 Consequences of intervening actors

The second topic this study covered through empirical analysis was how the farmers viewed the growing interest in regenerative agriculture by external actors outside of the farmer community. Drawing upon Guthman's (2014) comprehensive studies on organic agriculture, we can see that many of the initially expressed desires for change and progressive ideals surrounding organic agriculture paradoxically have had the opposite effect. The lesson is that depending on who frames what practices are important to alternative food networks can also marginalize certain social elements (Moragues-Faus & Marsden 2017). Further, global market forces are also often subject to both resistance and facilitation from local actors who try to engage with them according to their own values and agendas (Tsing 2005). Regenerative agriculture proponents and the farmers interviewed in this study are no exception as they are trying to navigate the political arenas of complex food systems and the market. Using the 'open moment', as do the external actors, that regenerative agriculture currently is in to actively negotiate and define parameters of practices

to be in line with an overarching desire for transformation to ultimately make agriculture more sustainable.

The farmers further describe a distrustful relationship towards corporate and state agendas. There are also certain signs in the data of different levels and scales of more radical and revolutionary anti-establishment statements, which probably further prompts tension between some farmers toward corporation and state agendas. What this shows is why it is important to understand that although we talk about and perceive regenerative agriculture as a sort of movement or one cause, regenerative agriculture consists of diverse individuals. Even though they may be joined under a common regenerative agenda, individuals will have differences in motives and ideals as to why they are pursuing regenerative agriculture. Groups and movements such as a regenerative movement are made up of individuals that often have divergent beliefs and interests that affect how they understand and foster socio-ecological change (See Roberts 2020). This further affects the scales of the resistance and the foundations of distrust towards specific institutions.

Regenerative agriculture and other types of AFNs operate within neo-liberal spaces where social reproduction and dissemination of their values occur (Misleh 2022; Goodman et al. 2013). Thus, this space acts as a conditioning and delineating factor of alternativeness that affects the politics of possibilities and the viability of solutions for market-embedded social movements (Goodman et al. 2013). Though there are notions in the data that can be interpreted as challenging hegemonic discourses, it is also a potential to read between the lines and focus on the differences instead in the regenerative alternative framings. This would allow for addressing the issue of the term alternative as something inevitably opposing another thing and therefore also unavoidably highlights power relations (Misleh 2022). Trying instead to view regenerative agriculture as something not on a black and white scale in terms of power and hegemony. By not separating the different dimensions of socio-ecological and socio-cultural factors, agency and structuration of AFNs (Ibid). Instead focus on how the desire for socio-ecological change and alternativeness incorporated in the regenerative ideals can serve as a guide for a more socially fair and socio-economic contribution, to a sustainable transformation of agriculture more in line with the regenerative ideals instead of it as something opposing another. While it is also advocated for an urgent transformation of agriculture, regenerative supporters ask the question of if we have time to wait for knowing what the best way is. This time could afford regenerative farmers the opportunity to experiment with what works for their lands, allowing regenerative agriculture to develop as a farmer-led initiative. As actors will draw upon and interpret and enact sustainability narratives according to their own values and agendas. This slower, more deliberate version of regenerative agriculture would be more in line with what my respondents discussed in terms of the importance of finding what works for them.

5.3 What does this all mean

There are clear notions of an intention and desire of wanting change in the empirical data as to how regenerative agriculture can contribute to a more sustainable food system. While institutions and corporate powers are regarded, not said that they come with bad intent, trying to conform the movement with regulations and frameworks that could impede the sustainability development of a pure farmer-led regenerative agriculture (See Taylor 2018; Guthman 2004). Therefore, to retain the more embedded progressive ideals of regenerative agriculture one would have to be careful in the development of regenerative frameworks, as it has been shown to be something more to the practitioners than just a farming system. Interestingly but partly beyond the scope of this study corporate actors and institutions also seemingly conform themselves and adapt to more regenerative discourses in terms of sustainability. As seen in the growing interest and regenerative claims by many of the large corporations. Only to be met by a community of farmers seemingly seeing their ideals and values as being co-opted and perceived as an attack on autonomous freedom and their way of life. While frameworks certainly can help in guiding and protecting the technicalities of regenerative agriculture the question is if it is possible to create a framework that incorporates the lifestyles of these individuals?

What this study has aimed to do is to raise the issue of whose voice counts in this rather complicated arena of politics, narratives, and discourses surrounding regenerative agriculture and food systems. It raises an important question that remains to be examined, as regenerative agriculture matures, which therefore is whether and how it can retain its progressive ideals. As many other alternatives seemingly have failed with retaining these specifically and have not reached the proposed changes to the desired level. Will the farmers who I interviewed for this study be able to maintain the freedom to experiment with claimed fundamentally different mindsets about agriculture? Or will their capacities to decide their future be constrained under the weight of a neoliberal global food system, where competition with other farmers and pressure from retailers force them to adopt practices that they do not believe are conducive to regenerating their land? Considering how regenerative agriculture is evolving and if the claims of it being a solution to the challenges of agriculture and food systems, rather than just a re-framing of existing approaches (Giller et al. 2021), will lead to a more sustainable agriculture practice and bring forth the desired socio-ecological change.

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Popular science summary

In 2021 Forbes published an article under the headline *Regenerative agriculture: the next trend in food retailing* calling regenerative agriculture the new buzzword. But why now and what is regenerative agriculture? Agriculture today is understood to be both heavily affected by climate change and responsible for large amounts of greenhouse gas emissions causing climate change. Therefore, we need to move towards more sustainable agricultural practices, and this requires new ways of thinking about agricultural knowledge and technologies. This is where regenerative agriculture comes in as a rapidly emerging contender for how we should think about and can make agriculture more sustainable.

Regenerative agriculture is not a new idea and dates back to the 1940s. It draws inspiration from old-fashioned agricultural practices that for example can include avoiding tilling soil in favor of cover crops and keeping husbandry mimicking how wild animal herds graze. Over the past five years, regenerative agriculture has seen a resurgence of attention and a steadily growing number of different actors showing interest in the regenerative agricultural potential for making agriculture more sustainable. Despite this surge of interest little understanding of the underlying motives and ideals of farmers engaging in regenerative agriculture has been given. This study aims to fill this gap by exploring Swedish regenerative farmers' motives and ideals for pursuing regenerative agriculture.

As attention to regenerative agriculture has grown, so have its political dimensions. Diverse ways of framing or how regenerative agriculture is understood currently compete. Some view it more as a farmer-led movement that can correct the weaknesses of how agriculture currently is being managed. Others see it as a chance for corporations to gain further control over rural environments. In other words, regenerative agriculture has become a contested concept and is currently in an 'open moment' where its practices are actively being negotiated and its parameters defined. At stake is its potential to contribute to not only environmental sustainability but also fair rural development.

Therefore, it is important to understand that how we frame something affects how and in what way we understand something. This study takes a political ecology perspective to consider how knowledge about regenerative agriculture is created and legitimized. As these processes, and central to the political ecology perspective, is reflective of power relations and bring forth winners and loser regarding how

regenerative agriculture is ultimately realized. Specifically, this study asks who has the power to determine the future and the shape of regenerative agriculture. Empirical findings from interviews with farmers and analysis of discussions in internet forums show that too many farmers who adopted regenerative agriculture it is not only a farming system but entwined with ideological and social traits. Farmers' enthusiasm for regenerative agriculture as a way to transform agriculture to become more sustainable, is matched by suspicious and cautious views on state and corporate intervention.

The findings in this study highlight the rather understudied farmer's point of view of regenerative agriculture. Farmer perceptions are important for external actors to understand for implementing frameworks and certifications successfully. More generally, the thesis further provides an understanding of how sustainability initiatives emerge through a combination of land managers, grassroots movements, and corporate actors.

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