



URBAN AND RURAL REPORTS 2021:1

A review of recent social science literature on Swedish farming

A research agenda for understanding current and future challenges

BRIAN KUNS

Swedish University of Agricultural Sciences
Department of Urban and Rural Development

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Summary

This report contains a review of recent social science research on the subject of Swedish farming, with the aim to highlight the challenges that farmers are facing, raise and discuss research gaps, and more generally to emphasize the importance of the non-economic social sciences on this important topic. Sustainability, policy and gender are among the most frequent keywords in the current research, with sustainability and policy often being discussed together, while studies with gender as a keyword mostly deal with important questions of equality in the farming sector. Other important themes in the recent research are agrarian change, farm labor, and animal welfare. The recent research shows considerable contestation around agricultural sustainability. On the one hand, some farms and other actors are trying to achieve a “genuine” sustainability with some successes, at the same time that the recent research shows the dilemmas and problems such efforts face. Meanwhile, numerous studies show that many farmers are skeptical of current policies promoting agricultural sustainability, a skepticism that is in part grounded in the tough economic conditions that farmers face. Studies focusing on gender chart an increase in the number of female farmers, which, as these studies show, is occurring under quite unequal conditions. This report also shows how a gender focus opens up for fundamental questions about the purpose of farming and the categories we use to understand farm change. The report also notes a gap in research on migrant labor in Swedish farming (as opposed to berry-picking). Broadly speaking the recent research shows continuity and change in Sweden’s agrarian structure. However, a number of studies highlight emerging change and diversity—with respect to demographics, gender, production orientation, farmer identities—that portend new avenues of differentiation for the future. Finally, the report notes how sustainability in the recent research is mostly conceived as environmental sustainability, and this report argues that a broader definition of sustainability, including equality, gender, and decent work conditions—as promoted by the Sustainable Development Goals—would enrich the study of sustainability in Swedish agriculture.

Keywords: social science, agriculture, Sweden, sustainability, gender, farm labor, farmer identity, agrarian change.

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Content

List of figures	10
1 Introduction	11
2 Review approach	13
3 Concepts and terms from recent social science debates on farming	15
4 Agricultural sustainability	23
<i>Sustainability definitions</i>	23
<i>Agricultural sustainability dilemmas</i>	29
<i>Agricultural sustainability, policy and rural development</i>	31
5 Equality and fair treatment	39
<i>Gender</i>	39
<i>Labor</i>	42
6 Agrarian change	47
7 Farmer identities and values	51
8 Animal welfare	55
9 Concluding reflections	59
References	63

List of figures

Figure 1. Total number of farms in Sweden 1999—2016.....	36
Figure 2. Total number of certified organic farms in Sweden 2009—2019	36
Figure 3. Percent female farm managers in EU 2005—2016.....	36
Figure 4. Average Annual Working Units (AWU) for both paid labor and unpaid labor (i.e. family labor) in Nordic EU countries, 2004—2018.....	37
Figure 5. Percent Swedish and EU farmers in different age groups 2016.....	38

1 Introduction

Farming in Sweden continues to undergo profound structural changes brought on by global competition and other factors. While crop yields are increasing and productivity in livestock farming is improving (Jordbruksverket, 2017), the ongoing restructuring has also led to a declining number of farms (see Figure 1). At the same time, the need for agricultural change or transformation towards greater sustainability and resilience grows more urgent. Against the backdrop of these challenges, the question is where is Swedish agriculture heading? While a variety of perspectives can be found in the mass media, an overall pessimism, grounded in the declining number of farms, seems to prevail, particularly with respect to broader questions of the future of family farming and farming's role in rural areas in Sweden (Waldenström, 2018). Social science researchers play an important role in mapping out, from diverse perspectives, agriculture's future challenges. However, there has not been a review of the agriculturally related social science research in recent years, which makes it difficult to take stock of present and future challenges facing agriculture in Sweden.

Given this gap, this report has several aims. The first aim is to both outline some of the challenges facing Swedish agriculture, as seen from a social science perspective, and address the question of where it is headed, by reviewing recent social science literature on farming in Sweden. A second aim is to highlight the value of social science research concerning agriculture, a value which is at times overshadowed by natural science, economic or agronomical approaches, which generally have a strong if not dominating position in debates on the future of agriculture. To be clear, I am talking about the non-economic social sciences, and this report will highlight (some of) the different ways in which social science expands our understanding of agriculture, with a focus on Sweden, and the challenges that Sweden faces. In this sense, this report has a message for researchers and specialists outside social science. Thirdly, this report aims to identify research gaps and frontiers in agricultural related social science research. This aim in particular is directed towards fellow social scientists interested in developments in the agricultural sector in Sweden. To a limited degree official Swedish data will be presented to exemplify tendencies discussed in this report but this report is not intended to be an overview of trends.

An overall picture emerges from the reviewed literature of a farming sector under tremendous pressure from both markets and agricultural regulation. Indeed many farmers rank these pressures as their main challenges, above and beyond climate change or environmental degradation. There are of course farmers converting to more sustainable

farming practices. While there are some successes in this regard and alternative farm networks and short food supply chains (SFSCs) appear to be proliferating in Sweden, sustainability minded farmers are confronted with dilemmas and challenges that make achieving sustainability a process that is far from straightforward. At the same time, there have been well-known trends towards specialization and scaling up of production in agriculture, among both conventional and, importantly, organic farms, resulting in uniform production landscapes with fewer and fewer farms and simpler crop rotations. However, there is also a fragmentation in what farmers profess to be good farming practice, chipping away at the long dominance of productivist attitudes. One result of this—though this is currently understudied—is that conventional farmers, in response to a persistent cost-price squeeze and various policy incentives, are increasingly tempted to employ practices usually associated with the toolkit of organic or agro-ecological farming as a way of increasing on-farm value capture. Meanwhile, as will be discussed below in detail, the number of female farmers is growing despite obstacles. However, the potential impacts of this for sustainability and rural development remain unclear. Broadly speaking, while the number of farms is likely to continue declining, there are a number of processes underway that portend new vectors of farm differentiation in the future, which will be discussed in the last section of this report.

After this first introductory section, the second section explains the approach for the review and the themes into which the literature has been divided up. The third section outlines important key words and terms of debate on agriculture from a social science perspective and contains reflections on theories and perspectives on agricultural sustainability and agrarian change from the European and international literature. These theoretical reflections help to contextualize both the themes that will be explored in more detail in the Swedish literature and the potential gaps that are identified. The fourth section contains the main substance of the review, divided up into the identified themes. The fifth and final section is a concluding reflection about the importance of social science research with respect to agriculture.

2 Review approach

In total 63 papers dealing with Swedish farming have been reviewed, with a focus on the last five years (from 2016 up to and including 2020). In a few cases, papers prior to 2016 were included, primarily to highlight themes that were not touched on between 2016–2020. Agriculture is of course a broad term in which a wide spectrum of land production activities can fit, including for example forestry and berry picking. This report however focused on farming, defined as arable crop, live-stock, and horticulture production. The word “agriculture” in this report refers to this somewhat narrower definition unless indicated otherwise in the text.

The list of literature to be reviewed was produced through online searches using both Google Scholar and Web of Science, with search terms centered on the words “farm*,” “agriculture,” “food,” and “Sweden.” Further publications were found by snowballing from the reference list from the initial search and also from publication lists of researchers based in Sweden. The chief criterion for inclusion was if the study was published in a peer reviewed scientific journal or an edited volume. PhD theses and various other reports are therefore not under review here, though a few reports from different organizations are mentioned. The focus on published research meant that the vast majority of the literature under review was written in English.

Other than excluding economic research, drawing borders around what is social science is not the purpose of this report. Instead simple heuristics were employed to determine if a study should or should not be included in this review. First, the character of the journal was taken into account—if the article in question was published in a social science journal, and was not economic in nature, then it was included in this study. Second, the academic background of the author(s) and their institutional milieu were also taken into account. A final important heuristic for determining inclusion in the review was the methods used in the study. If methods common to the social sciences were used, for example interviews, with the purpose of producing qualitative insights on aspects of farming, it was included in the study.

At a meta level, various broad themes can be identified in the reviewed research. Articles dealing with policy, gender and sustainability, the latter variously defined and also including adjacent key words such as organic agriculture, were most common. Other important, but less common themes were farmer identities and values; agrarian change, farm geography, land tenure, family farming and farm succession; animal welfare; and work conditions on the farm. One comment that can be made at this meta level, is that articles dealing with sustainability and policy overlap considerably, while

articles dealing with gender do not overlap to a significant degree with articles dealing with sustainability and policy, something that will be discussed below.

I will use these themes to structure the review. In other words, this review will focus on the following subjects (as relates to Sweden) (1) contestations around and discussion of making agriculture more sustainable (however defined); (2) questions of equality with respect to access to and control over farm resources and assets, particularly with respect to gender, but also labor; (3) agrarian change, farm geographies, land tenure and farm succession and how these result in different development pathways for family farms; (4) explorations of farmer attitudes and identities and how these shape decision making beyond, and even in spite of, economic and policy pressures; and (5) studies of animal welfare from a social science perspective, looking either at how farmers relate to livestock and how technology mediates these relationships or critically deconstructing discourses that promote livestock farming. Obviously, these themes clearly overlap and some articles reviewed here straddle different themes – studies from the fourth theme, farmers' identities and attitudes, in particular overlap with a number of other different themes. Policy related questions are also prominent in the reviewed research, but mostly (again) either in relation to sustainability (1), farmer's attitudes and values (4), or animal welfare (5). As such policy related questions will be dealt with under those themes.

3 Concepts and terms from recent social science debates on farming

To help situate research on Swedish farming in broader European and international debates, this section will define important terms and concepts, and discuss recent social science theories and debates on farming, with a focus on the themes identified above.

One of the main themes in social science literature on agriculture, in relation to Sweden and more generally, concerns agricultural sustainability. Discussion of sustainability in the literature is wide-ranging, so wide-ranging that it is difficult to establish an agreed upon definition of what agricultural sustainability is or what it should look like. Partly this is an effect of the common practice of dividing up sustainability into different aspects or dimensions¹, i.e. environmental, economic or social. There are also frequently used adjacent terms—agro-ecology, organic agriculture—that have different definitions, and emphasize different aspects of sustainability. Also, as agricultural sustainability has increasingly entered political discourse and become an object of policy, there is political contestation about how to define agricultural sustainability. Overall, the result is a definitional muddle. This report will not attempt to define sustainability, but rather will follow how the reviewed authors appear to be using it in their respective articles.

Indeed showing what a muddle “sustainability” has become, particularly in political and policy discourse, is one of the contributions of the social science literature on agriculture. It is common to assume that organic agriculture is more sustainable per

¹ For an example on the common practice of dividing up sustainability into different dimensions, see Gulliksson and Holmgren (2018) which is a widely used (in Sweden) textbook on sustainability. (Note, the text is in Swedish). While critical social science is starting to move past this practice (Nightingale, 2019), it still remains quite common today to speak in terms of different dimensions of sustainability in and outside the social sciences.

definition than conventional, but proponents of industrialized agriculture² for example argue that it too is or can be sustainable, an argument that has made achieving a consensus on indicators for sustainable agriculture for the Sustainable Development Goals (SDGs) fraught and difficult (McNeill, 2019). As Schebasta and Candel (2020) argue, the EU Commission has a tendency to speak of sustainability in fuzzy terms, ironically in order to create broad political preconditions for promoting greater sustainability in agriculture (and other fields). The risk here, however, is that sustainability becomes a “container concept, covering a broad range of objectives...” leading to “... policy incoherence.” (Ibid, p. 586). Meanwhile policy discussion on agricultural sustainability “is often driven by technocratic language and assumptions about incremental policy reform, which obscure vital cross-cutting questions of power and politics.” (Leach et al., 2020, p. 2). This creates a gap between the “laudable aspirations” (Ibid, p. 1) of, for example, the SDGs and the plodding bureaucratic reality.

This contestation, equivocation and incrementalism has, one can say, muddied the waters with respect to agricultural sustainability. In response the research debate has moved towards calls for “real” change (Horlings and Marsden, 2011) or “transformation...” that is “genuine [and] radical” (Scoones et al., 2020, p. 65). This call for “real” sustainability reflects a growing split between sustainability that is an object of bureaucratic and policy incrementalism and “real” sustainability as a challenge that still desperately needs to be achieved. Proponents of “real” sustainability also fear that the contested, compromising and bureaucratic “sustainability” will put obstacles in the path of achieving the real, transformative “sustainability.” Several cases will be reviewed below that reflect this search for a real agricultural sustainability in the Swedish context.

There are a number of more specific agricultural terms that are related to sustainability discourse and also quite prominent in social science research—in particular (but not limited to) organic agriculture, agro-ecology, alternative food networks and short-food supply chains (SFSCs) and variants thereof. In the social science debate, these terms often have to do with questions of how agricultural production should be organized, the contradictions and dilemmas that can arise and, importantly, who benefits.

Here it is relevant to point out some nuances in emphasis and differences between these terms. Agro-ecology, as a research subject in the social science literature, is about autonomy through taking control of the labor process, wise husbanding of resources and meaningful, community-embedded, cooperation between other farmers and actors (e.g. food processors) in locally adapted and owned supply chains (Ploeg, 2020, 2009). It also connects to a revival or re-appreciation of less input intensive traditional

2 McNeil (2019) describes in detail a debate, taking place over several years, on how to define indicators used to monitor sustainable agriculture immediately before agreement on the SDGs, and then following the creation and release of the SDGs. Several countries, including but not limited to the United States, have in various UN forums resisted potential indicators that would more robustly define sustainable agriculture as relating to less intensive and more organic farming practices. Various industry bodies, such as for example, the International Fertilizer Industry Association have leveled similar criticisms. Instead such critics argue that the SDGs should be more open for sustainable and “productive” agriculture, the latter allowing the intensive use of chemical and other inputs to boost yields per ha.

forms of agriculture, in both Global South and North contexts. Agro-ecology has, as Rosset and Altieri say (2017, p. 1), “a strong political element” and is often associated with Food Sovereignty. While not downplaying its political dimensions, van der Ploeg demonstrates the strong economic benefits of agro-ecology. In other words, agro-ecology can be conceptualized to significant degrees on a political-economic plane. Organic agriculture is defined as “a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects” (IFOAM, 2019, p. 13). Even if these criteria overlap with agro-ecology as defined above, definitions of organic agriculture in practice tend to focus more narrowly on which inputs are allowed and not allowed (Seufert et al., 2017).

Agro-ecology and organic, as the latter is often practically defined, can thus actually diverge, which is something we see in general in the world, and more specifically in Sweden. For example, some organic farmers are increasingly “conventionalizing” their production, i.e. scaling up production, simplifying rotations and using off-farm resources in ways that do not violate the letter of organic certification standards, but might violate the spirit (Darnhofer et al., 2011; Guthman, 2004; Sutherland, 2013; Sutherland and Darnhofer, 2012). This increases profitability, but, all else equal, limits or even decreases autonomy, i.e. makes the farms in question less agro-ecological as defined here. On the other hand, some conventional farmers are deploying agro-ecological practices to increase on farm value capture, particularly through on-farm food processing, local marketing of produce in alternative food networks or SFSCs, and participation in agri-environmental schemes that encourage more environmentally sustainable farm practices. At the risk of further confusing these terms, this has provocatively been referred to (outside the Swedish context) as “organification” of conventional agriculture (Rosin and Campbell 2009 cited in Sutherland, 2013, p. 430). More practically, this means that participation in alternative food networks or SFSCs does not automatically mean that the participating farm is organic, though it does entail, all else equal, that the farm is agro-ecologic in some measure (as defined here). Another way of putting this is that many farms practicing agro-ecology are also certified organic (or fulfill the requirements but have not certified for various reasons), while not all organic farms align perfectly with the principles of agro-ecology, in particular the search for autonomy. (Figure 2 shows the number of certified organic farms in Sweden.)

Beyond potential conceptual complexity, establishing autonomous and sustainable food production systems and distribution chains is not without dilemmas, challenges and contradictions. One of the principle challenges relates to pressures that alternative food networks, and the farms that constitute them, face to scale up production systems either to be able to also participate in mainstream food supply chains, which generally demand greater volumes, and/or to increase production for reasons of economic viability. As mentioned above, organic farms face related temptations to “conventionalize” aspects of production to secure greater profit. Another dilemma, as shown by Galt et al. (2016) in a study in California and Ehrnström and Leipämaa-Leskinen (2019) in a study in Finland, is that there can be internal conflict within alternative food networks

due to different motivations on the part of members and varying commitments and values with respect to organic and agro-ecological principles. Conflict can also arise due to competition within the network between producers of similar products. In the end, if and how alternative food networks should scale up, and what the overall relationship should be with mainstream food chains and the broader economy remain open questions. As Rosset and Altieri argue “our understanding of how to bring agroecology to scale is nascent” (2017, p. 98). Moreover, a clear dividing line between alternative networks and mainstream supply chains can be difficult to find, as members in AFNs, “continually ‘dip in and out of’ different supply chains.” (Ilbery and Maye, 2005, p. 342). Swedish cases reviewed below reflect different aspects of these dilemmas.

Another term that has consequences both for sustainability but also refers to how production should be organized is the bioeconomy. The bioeconomy is, according to the OECD: “that part of economic activities which captures the latent value in biological processes and renewable bioresources to produce improved health and sustainable growth and development” (Marsden, 2013, p. 217). Marsden continues: “[it] actively merges areas such as medicine, nutrition, agriculture, energy, industrial biotechnology, the environment and security, and expresses itself in the (largely corporate controlled) production of biomass and biofuels” (Ibid, p. 218), in a way that reflects, he argues, a weaker ecological modernization. The bioeconomy is usually rooted, according to Marsden, in metropolitan areas or regional clusters, the latter in particular facilitating knowledge spillovers and “localized diffusion of innovation” (Ibid). However, it is certainly not confined to these regions, and the bioeconomic paradigm is actually more characterized by global operations and links that render regions where this production is placed as, at best, passive partners in regional development. As Marsden writes “spatial complexity is to be overcome by the pursuit of generic solutions” (Ibid, p. 219).³ The bioeconomy thus conceived clearly impacts agriculture, but extends quite far beyond it as well. Also, the bioeconomy, as a concept, offers an opening for a critical discussion of who benefits as it highlights where and how value-producing activities take place in the supply chain.

As we shall see below, much of the recent research on Swedish farming does not focus on the bioeconomy and agriculture, but rather on alternatives to the bioeconomy. Marsden summarizes these alternatives as the “ecoeconomic” paradigm, to contrast with the bioeconomic. He defines the ecoeconomic paradigm as “[involving] the rise of complex networks or webs of viable businesses (many of them small and medium-sized new businesses), and economic activities that utilize ecological resources in more sustainable and ecologically efficient ways, e.g. new renewable energy firms, agritourism, food processing and catering, and social enterprises” (Ibid, p. 219). Perhaps the most important aspect of the ecoeconomy is that it is rooted in place in the form of “close and interactive communities; short food supply chains: and the embedding of economic processes in local cultures and communities (Ibid, p. 220). In other words,

3 Others have written about the bioeconomy in broadly similar terms, and the reader who wants to read more on the bioeconomy in relation to agriculture is recommended in particular the work of Birch et al. (2010) and Levidow (2015).

the value produced in farming stays with the producers or with the local community in such a way that local autonomy and development is maximized, in contrast with supply chains following a bioeconomic supply chain where value accrues to the part of the supply chain where the capital and technology are clustered. The ecoeconomic paradigm thus aligns with agro-ecology, as defined above. An important point to keep in mind here, and something that will be discussed further below, is the possibility of syntheses between the bioeconomy and what Marsden calls the ecoeconomic paradigm (Levidow, 2015).

Another important term to parse is “feminization” of farming. On its face it refers to increasing participation of women in farming in both the Global South and North, and the degree to which this is empowering or not. The term has positive connotations as signaling a more gender equal farming sector. The use of the term, however, belies a number of problematic aspects of the phenomenon, in particular: the inequalities that accompany or get reproduced in the process of increasing female participation in farming, the difficulties encountered in exposing and rectifying inequalities, and how there are important regional differences in how these inequalities get expressed (Arora-Jonsson and Leder, 2020). In many cases, it turns out, “feminization” is decidedly unfavorable to female farmers. Another important point to make about feminization is that unequal treatment can persist even after more progressive laws and policies on gender equality have been adopted, due to informal, but stubborn and sometimes hard to pin down, attitudes and practices that favor men in a variety of contexts (Shortall et al., 2020).

The literature on increasing female participation in Swedish farming reveals all these tendencies. With a few exceptions, the Swedish literature does not however connect greater female participation to the question of sustainability (however defined). A number of case studies from the US indicate that female farmers tend to occupy alternative production niches, particularly with respect to livestock production, that the farmers themselves characterize as more sustainable (Ball, 2014; Finan, 2011; Keller, 2014; Peter et al., 2000; Trauger et al., 2010). One reason for this is that, as Trauger argues (2004, p. 290), “sustainable agriculture provides spaces of empowerment for women farmers.” Another way of putting this, as Finan writes (Ibid, p. 82) is that women “strategically embrace their alterity,” which is to say that the different farming arrangements chosen by women are a negotiation between structural discrimination, on the one hand, and choice or agency, on the other. The structure of alterity for women in Swedish farming has been mapped out in important detail in recent research, as will be shown below. Except for some indirect or implicit indications, however, no recent studies touch on a possible connection between increasing women participation in the farm sector and the sustainability of chosen production orientations. The question of sustainability in other words remains open. Also, if the number of female farmers does continue to rise in Sweden, not an unreasonable assumption given the recent trends (see Figure 3), that could perhaps eventually change the structure of “alterity”, despite stubborn informal relations that reproduce inequality, and it is not clear what effect this might have on what production models women choose.

Literature on greater female participation in farming can be considered bellwether

for discussions of equality in the farm sector. Another aspect of equality in the farm sector concerns farm labor. In agro-ecology farmers are equated with laborers, i.e. as van der Ploeg argues (2020), farmers are increasingly under the thumb of "external management" in the form of other actors in the supply chain, such as banks, food retailers, and machine and seed suppliers who place conditions on what farmers can and cannot do. This is of course an important perspective, but it obscures the fact that the farm sector in Europe, despite being dominated by family farms, still employs many people as employees. Indeed, the proportion of the paid labor input on Nordic farms (and on Swedish farms) is actually growing in relation to the unpaid labor input, i.e. the labor input of the farmer and their family members (see Figure 4). In other words, even as total labor input to farming (family and paid labor) is decreasing in absolute terms (Ambros and Granvik, 2020), in line with the decreasing number of farms, the contribution of existing paid workers per farm appears to be growing.

Furthermore, the number of migrant seasonal workers in agriculture in Europe (and the Global North in general) are growing (Refslund, 2016; Rye and Scott, 2018; Svensson et al., 2013), many working under precarious conditions. On its face, this potentially indicates that, even as the paid labor contribution to farming grows (see Figure 4), their working conditions are deteriorating. This topic, it will be argued below, is inadequately studied in Sweden. Also, there has still not been enough work joining concerns about farm labor with questions of agricultural sustainability. One key question is: does agro-ecology in general, and participation in alternative food networks in particular, lead to better work conditions for agricultural laborers? The few studies that exist (all outside Sweden), while not definitive, do not indicate improved labor conditions with increased orientation towards organic or agro-ecological production models (See for example, Cross et al., 2008; Shreck et al., 2006; Weiler et al., 2016). This topic too needs further research in and outside of Sweden.

An important question that relates to questions of farm scale, central to discussions of the survival of SFSCs, and agricultural labor concerns studies of agrarian structure, i.e. the distribution of farms according to different characteristics, in particular, but certainly not limited to farm size, coupled with a theoretical typology of farms, which together can provide comprehensive explanations of farm differentiation and change. Studies of the agrarian structure in Sweden from the 1990s, which, with one exception discussed below, are some of the last comprehensive studies of Sweden's agrarian structure (Djurfeldt and Gooch, 2002; Djurfeldt and Waldenström, 1999) found a notable stability in farm types, in particular family farms, during a tough decade economically for farmers when the overall number of farms declined, a trend which continues as seen in Figure 1. These studies demonstrated a number of strategies to deal with reproduction squeezes, from intensification and expansion to pluriactivity and down scaling. In this regard, far from being an off ramp from agriculture, part-time farming, or pluriactivity, was found to be a relatively stable livelihood strategy among farmers in the 1990s, partially with a life-cycle component, i.e. there was a tendency for older farmers (<40) to engage in pluriactivity. While providing important insights into farm change 20 to 30 years ago, these earlier studies identified lack of data as potential problem (see Djurfeldt and Gooch, p. 75).

Today there are new comprehensive databases that provide data on a number of characteristics of the statistical population of farms, both in Sweden and in Europe. Using such a database with respect to the Netherlands, van der Ploeg (2018) challenged conventional wisdom on the trends on increasing farm-size. Examining the period from 1980 to 2006, van der Ploeg found that amid a general trend towards greater farm size, it was small farms that exhibited more dynamic growth tendencies. Contrary to expectation, small farms serve as “the main engine for the growth of the agricultural sector as a whole” (Ibid, p. 517). Meanwhile, farm growth and contraction occurs in roughly equal measure in all farm size categories, from the small to the large. These “multiple and contradictory movements” (Ibid) suggest, as van der Ploeg argues, that structural or deterministic causes—for example that greater market participation on the part of farms will result in a decreasing number of farms, most of which are increasing in size—cannot sufficiently explain changes in agrarian structure. Instead, van der Ploeg argues, we should look at farmer agency to explain why farms grow or contract.

As van der Ploeg has flagged, research does indeed show that farmers’ agency, is an important dimension in understanding agrarian change and possibilities for sustainability. One way of understanding agency is by exploring identity, values and attitudes and how these are reflected in production decisions. This can be boiled down to the question of “what is a good farmer?”, i.e. how do farmers answer this question. Burton has addressed this question in research dealing with the UK and Germany (2004; 2008), arguing that “the connection between the farmer and the production oriented approach to agriculture goes far deeper than simple economic advantage or aesthetic preference” (2004, p. 210). There is, Burton argues, a culture of productivism, with which many farmers identify, and through which they are able to garner social status and pride in their local communities. In order to effect change towards sustainability, this culture would have to change. Sutherland, alone and with coauthors (2013; 2012), has taken this research further, showing how cultures of farming are in fact (slowly) evolving and fragmenting. This partly reflects both a growing confidence among organic farmers, at the same time that conventional farmers are gaining respect for organic farming (Sutherland, 2013), even if they are not ready themselves to convert. Two other important factors, among others, are likely to drive a change in attitudes—the increasing number of female farmers, and a coming generational turnover as older farmers reach retirement age (see Figure 5).

Another important question for agriculture is animal welfare. However, as Burton et al. (2012) argue, animal welfare tends to be a neglected question in the social sciences. The authors speculate that this is due to both a lack of interest on the part of social scientists themselves, but also due to a lack of appreciation of qualitative methods, which are much more common in the social sciences, on the part of natural scientists, who dominate in animal welfare studies. The consequence of this is that animal welfare studies, usually pursued by natural scientists, are often quantitative in nature, focusing on “cognitive (attitudinal) solutions of how to improve welfare through behavioral change” (Ibid, p. 175). This approach, the authors argue:

[...] suffers from problems common to quantitative research... [including] a neglect of the social and cultural construction of the variables studied, a focus on attitudes without considering how attitudes develop and a tendency to provide 'idealized' accounts of attitude and behavior, which, because they are rationalizations have an uncertain relation to actual situations. (Ibid)

As an extension of the argument of what makes a good farmer, Burton et al. argue that culture plays a significant role in shaping the relations between animals and humans (in particular stockpeople or animal keepers), and thus also shaping animal welfare. They also argue that it is more important than ever that social scientists engage on this question as "the industrialization of farming systems and establishment of factory-style management techniques is breaking down the traditional relationship between farmers and their livestock and treating animals as commodities in a production chain rather than as sentient beings" (Ibid, p. 175) with important implications for animal welfare and sustainability.

Summing up, this reflection has highlighted important theoretical questions or topics with relevance for the study of Swedish agriculture. What would a real or radical agricultural sustainability look like? Where does value capture take place in food supply chains and to whose benefit and with what implications for sustainability? In what ways can farmers achieve a measure of political and economic autonomy through their production decisions and what effect does this have on sustainability? How are on-farm gender and labor relations changing in Europe today, and what impact do gender and labor relations have on sustainability? How are farmer attitudes and identities changing and what do these changes entail for sustainability? Finally, how do social and cultural factors affect livestock farming in a time of industrialized livestock operations? The reviewed research will be presented in line with these questions and themes.

4 Agricultural sustainability

Sustainability is one of the most important topics in social science research on agriculture in Sweden today. This recent discussion in the Swedish literature can be defined by three “D’s”: definitions, dilemmas and development. More specifically this refers to how different actors (policymakers and farmers and other actors in the food supply chain) define and relate to sustainability (including related terms such as organic agriculture and agro-ecology), dilemmas on how to achieve it, and how sustainability is linked to rural development.

Sustainability definitions

Öhlund et al. (2015) provide both a useful overview of how agricultural sustainability is officially defined in Sweden and in Europe, and an informative and contextualized critique, based on a comparison of sustainable agricultural policy in Sweden and Poland, on how the EU Common Agricultural Policy (CAP) in some respects is failing to achieve sustainable agricultural development. The official sustainability definitions, reproduced in Table 1 below, include the definitions of the Food and Agricultural Organization (FAO) of the UN, the EU Commission (as sustainability, according to the authors is not defined in the CAP), Sweden and Poland. Proceeding from Table 1, one can say that—at the definitional level—Sweden stands out as officially pursuing the most comprehensive definition of sustainability, compared to these other organisations/countries, including the EU.

Swedish ambitions notwithstanding, Öhlund et al. (2015) contains a quite strong criticism of the CAP’s capacity to promote agricultural sustainability. As the authors point out (Ibid, p. 284), the official definitions of agricultural sustainability frame sustainability as “focused mainly on the maintenance or conservation of ecosystem features affected by agricultural production” and not on changing the agricultural systems themselves. In other words, “there is no transformative ambition or impetus for change towards a more sustainable agricultural production system.” (Ibid). Second, Öhlund et al. argue that the sustainability ambitions of the CAP are hampered by the fact that measures promoting environmental sustainability (looking at the CAP budget period 2007–2013) constituted only a comparatively small share of the overall CAP budget, with the lion share of agricultural support going to conventional farmers

practicing less environmentally sustainable industrialized agricultural methods. In other words, there is a certain inertia built into CAP planning and development that hinders progress on environmental sustainability.

Table 1: Reproduced in its entirety from Öhlund et al. (2015, p. 276).

ASPECTS OF SUSTAINABLE AGRICULTURE	FAO	EU	SWEDEN	POLAND
Not give rise to unacceptable pollution	X	X		X
Not overuse resources	X	X	X	
Imitate natural processes	X		X	
Maintain/ increase biodiversity		X	X	
Soil preservation			X	
Deliver ecosystem services			X	
Produce enough food	X		X	
Optimal/ efficient production			X	X
Provide employment, income	X		X	X
Education/ recreation		X	X	

Sellberg et al. (2020) propose a way forward for food system sustainability that bypasses this kind of inertia by proceeding from the local level (in this case Stockholm and its environs). In particular, they call for a transformation of food production systems to “create a fundamentally new system when ecological, economic, or social structures make the existing system untenable” (Folke et al. 2010, cited in Sellberg et al., 2020, p. 1). Based on the results of a workshop and later survey with regional experts and stakeholders, the authors outline a “cross-sectoral vision” (Ibid, pp. 7, 10) for a “radically” transformed food sector, involving: “(1) increased self-sufficiency and access to local food; (2) a vibrant and inclusive food sector and culture (3) a nutrient rich, less resource intensive diet and (4) agriculture contributing to environmental sustainability.” The authors report a high degree of consensus in their deliberations and survey, which they attribute both to fact that participants already work or advocate for sustainability, and “the relative absence of highly capitalized and specialized agriculture in the Stockholm region.”⁴ (Ibid, p. 9) The authors also sketched out the barriers and opportunities for realizing this plan in the Stockholm area. Barriers include a consolidated retail sector, lack of knowledge, aging farmers and international price competition, while opportunities included, among other things, increasing political interest in food security, increased municipal interest in sustainability, and increasing demand for sustainable food among consumers.

Eksvärd and Marquardt’s study (2018) on farmers’ reactions to the implementation of agri-environmental schemes emanating from the Rural Development Policy of the EU CAP well illustrate the point of Öhlund et al. (2015) that EU CAP does not proceed from a consideration of entire agriculture production systems, but rather from a checklist on conservation and ecosystem functioning. Farmers in the study

4 They define the Stockholm region as including Mälardalen and Östergötland.

for example described bureaucrats in the county agricultural board (who enforce agricultural regulations) as by and large subject experts in their specific areas of expertise, who at the same time do not possess “an overall understanding of the dynamic functioning of whole farming systems.” (Ibid, p. 197). Along the same lines, Eksvärd and Marquardt report that farmers’ own initiatives to improve sustainability are often underappreciated by the controlling authorities, i.e. there is an inherent mistrust of farmers built into policy implementation that denies them the possibility to conduct sustainability related innovations based on their own deep knowledge of their land and an appreciation of the whole farming system. At the same time, and this is the crux of the matter, farmers are dependent on the payouts from EU CAP for the survival of the farm—Eksvärd and Marquardt (Ibid, p. 198) write that “25–30% of their farm turnover presently comes from the total RDP agricultural support payments...”

Sandberg and Jakobsson (2018) also provide a useful example of how farmers relate to sustainability policy, in this case EU dictated tree-density rules in semi-forested pastures. This example shows EU policy in somewhat better light, but, in an important difference with Eksvärd and Marquardt’s case, because policy goals better align with farmer attitudes and preferences. Here the issue concerns the specific issue of keeping the landscape open and promoting biodiversity in woody pastures, and the more general issue of how agricultural and forestry policy, which are “compartmentalized” policy spheres with different goals and designed at different levels of administration, can be aligned. In 2007, the EU instituted a mandatory tree density limit of 50 trees per hectare, a limit which was later increased to 100 trees per hectare, to qualify for subsidy payments in maintaining woody pastures. While there were some complaints that the rules were instituted too fast, Sandberg and Jakobsson did not otherwise find tension between the farmers’ own plans and the new rules, but rather the “tree rules neither caused too much upset nor interfered significantly with how they handled and valued pasture trees” (Ibid, p. 231). One reason for this is that keeping woody pastures open, through cutting or felling trees, was already an “embedded practice of being a farmer in this area” (Ibid). Farmers cut trees, the authors report, to allow sunlight into the pasture to facilitate grazing, but also trees were valued highly as important and beautiful elements of the landscape: “recognition of the beauty and biological values of wood-pastures by neighbors, visitors and officials is an important driving force for farmers’ continuous management of the pastures.” (Ibid, p. 233). Overall, farmers are willing to follow these new rules, not least because they are dependent on the subsidy payments, but they do value the trees and cutting them is not something they do “unreservedly” (Ibid).

The literature reviewed so far with respect to agricultural sustainability is focused on environmental sustainability, with the exception of Sellberg et al. (2020), which presents a multi-dimensional view. In contrast, Rööös et al. (2019) examine (Swedish) farming from the perspective of social sustainability, which is a somewhat neglected dimension in sustainability debates (Boström, 2012). To highlight the social sustainability of farmers, Rööös et al. first conducted a survey among Swedish farmers to identify the social conditions that are most relevant for them, and then, based on the

survey results, they assessed different sustainability assessment tools (SATs) to determine the degree to which they take into account social factors important for farmers. The survey identified a number of factors related to farm work (decent working hours, does the work feel meaningful, possibility to take time off, possibility to hire labor when needed), but the main factor identified by farmers was the financial condition of the farm. While the financial condition of the farm, *sensu stricto*, would speak more to economic sustainability, the authors argue (2019, p. 275) that “it [is] difficult to separate economic and social sustainability.” The authors conclude that the RISE sustainability assessment tool, originally developed in Switzerland, best encapsulates the social sustainability factors seen as most important by Swedish farmers.

There is other important literature that queried what Swedish farmers and other actors in the food supply chain think about sustainability and the reasons for it. Along these lines, Fischer and Rööös (2018) in a study of how supermarkets and farmers relate to sustainability in meat production show how the Swedish food retail giant ICA considers sustainability to ultimately be the consumer’s responsibility, i.e. as they see it, they are giving the consumers choice between more and less sustainable food. At the same time, livestock farmers, as expressed in a survey included in the research, are mostly concerned, not with environmental sustainability, but with the economic survival of the farm. Fischer and Rööös (Ibid) provide empirical evidence of the obstacles to sustainability that Sellberg et al. (2020) outline, in particular the consolidation in the Swedish food retail sector that could but does not take a larger responsibility in promoting environmental sustainability, and a price squeeze on farmers (in this case livestock farmers) which keeps them focused on economic survival. Interestingly, Fischer and Rööös found that farmers “only to a very limited extent expressed frustration with the effects of the increasing power concentration towards retailers” (2018, 52), but instead are critical of the environmental regulation of farming, something echoed in Eksvärd and Marquardt and a number of articles to be discussed below.

Other studies with a similar focus report similar sentiments on the part of farmers. In a 2015 interview study with both conventional and organic farmers, Saunders finds (2015, p. 402) that a stubborn productivism prevails among conventional farmers who view “environmental actions... [as not having] direct productive value.” Along the same lines, Öhlund et al. (2017) report that Swedish farmers complain that Swedish environmental regulations are already the most extensive in Europe, which farmers argue (Eriksson, 2016) makes Swedish agricultural products less competitive, i.e. more expensive, compared to other European products operating under less strict regulations. For these reasons, many farmers oppose such policies. Beyond resistance to policy, Juhola et al. (2017, p. 35) show that farmers in Sweden and Finland “do not consider climate change of an immediate concern.” The farmers (in this study) actually had a good understanding of the likely effects of climate change on agriculture in the Nordic countries—increased precipitation, increase incidence of drought, longer growing season, more weeds, among other things—though they reported not having seen any of these effects yet. However, dovetailing with the results of Fischer and Rööös (2018), discussed above, Juhola et al. (2017, p. 35) report that farmers are “feeling more affected by the challenges of policies and

financial markets, rather than by a changing climate and increased weather variation.”⁵

While more specifically dealing with farm vulnerability to possible, though rare (one hopes), external shocks, Eriksson et al. (2020) found, with a few exceptions, that farmers had attitudes that were similar to what Juhola et al. found with respect to climate change. With a focus on Swedish food security, Eriksson et al. looked more specifically at the potential vulnerability of Swedish farms to sudden and long-term electricity outages and/or an inability to import necessary imports, such as diesel fuel, chemical plant protection or synthetic fertilizer, due to an unexpected closing of the border. As they report, farmers stated that such disruptions would more or less immediately cause wide-spread and significant disruptions to production. However, as the authors write (2020, p. 114), “in spite of a high degree of consensus about what the main vulnerabilities are, and a general view that the vulnerability is considerable, few farmers have taken any actions to mitigate these vulnerabilities.” Eriksson et al. (2020) is one of the few recent articles to address the important topic of food security in Sweden, a topic which is growing salience in the public discourse, not least because of fears in 2020 that pandemic-related border closures might impact agriculture.

Despite many conventional farmers not seeing the need for adoption of practices that promote environmental sustainability as defined by the CAP regulatory framework, meaningful reflection and dialogue on the part of farmers is a red thread in the recent literature, regardless of production orientation. This is particularly evident in Saunders’ (2015) study mentioned above. Thus Saunders encountered reflection on advantages, disadvantages and consequences of different farming practices, conventional and organic, among all farmers, even those who are the most stubbornly productivist, prompting the apt title for the study, “complex shades of green,” i.e. the division between organic and conventional agriculture can be presented in too stark terms, masking considerable variation and complexity in farming practices, intentions and attitudes. The reflection and dialogue of farmers, Saunders (Ibid, 402) argues, is grounded in the fact that, “all of the farmers who participated in the study [conventional and organic] emphasized that innovation and adaptation were vital farmer attributes in the face of constant change.”

On the theme of how farmers reflect about sustainability, Asplund (2018) provides a helpful analysis of how (Swedish) farmers take in and evaluate information on climate change, showing that beyond assessing the validity of the information, they also evaluate the credibility of the source. Moreover, she argues, that farmers tend to favor “experiential” knowledge over “theoretical” knowledge. For these reasons, farmers discount some of the claims about climate change, i.e. because the claims falls outside

⁵ In separate research with some of the same authors, and the exact same interview sample of farmers, considerable reflection was found among farmers in Sweden and Finland on possible necessary adaptations to future climate change and the trade-offs and potential maladaptions that might result, i.e. adaptations that entail negative consequences for one’s own farm, or transfer those consequences somewhere else, or deplete common pool resources in some way (Neset et al., 2019). Also, in terms of potential negative consequences of climate change adaptations, while there was considerable and wide-ranging reflection on the matter, there was a tendency for the questioned farmers to highlight consequences that affect costs on their own farm most (Ibid).

their current experience (as per Juhola et al. 2017 above), and because they distrust the source. The broader point is that climate communication is complicated—it needs to be both factually correct, and, importantly it needs to “feel” correct (Carolton et al. 2015, cited in Asplund 2018) for the audience, in this case farmers.

Summing up, many farmers appear to oppose or at least have serious objections to policy aimed to promote environmental sustainability. This opposition is grounded in farmers’ concerns for the economic viability of the farm under conditions of tough global competition, and also in a relative lack of concern about climate change, even if they understand what it can entail. (It is important to note that various findings as reported by the cited papers were not based on a comprehensive and representative survey of farmers, but rather are qualitative explorations of farmers’ attitudes and experiences on these questions. That being said, the concurrence of multiple, separate studies on this question indicates that these attitudes are widely shared.) Further, sustainability as it is envisaged in policy has been criticized in the recent literature as being both too weak and too strong. On the one hand, sustainability is watered down in the process of agreeing policies. Öhlund et al. for example argue that the compromising nature of CAP is problematic in that it places relatively modest sustainability demands on top of significant support for “the large-scale high input model” (2015, p. 284). On the other hand, as Eksvärd and Marquardt showed (2018), sustainability policies in place—for example CAP financed Agri-Environmental Schemes—are applied too rigidly without taking a holistic view of the farmers’ production system. It is little wonder that there is a movement afoot to redefine a “real” sustainability in food production in more local terms (Sellberg et al., 2020). In a recent article, Gunnar Rundgren (2016), the prominent Swedish advocate of organic agriculture, provides an eloquently argued exemplar of this point of view.

However, the reviewed research also shows us that we need to keep in mind that ambitious projects to advance sustainability belie the complex considerations regarding sustainability on the part of different actors in the food chain, not least farmers, many of whom, as noted, remain unconvinced of the reasons that motivate policy on sustainability. Sellberg et al. bypassed the more explicitly political disagreements by not involving many farmers in their workshop discussions, which is a potential danger in the search for “real” sustainability. This is not to deny the importance of Sellberg et al.’s original approach involving locally focused envisioning workshops with food and social innovators and other food chain actors. In the long run however, the broader political disagreements and differences of opinions on these questions will have to be reckoned with.

Agricultural sustainability dilemmas

Another important strand of research on agricultural sustainability in Sweden focuses on the “how” of achieving it, and the challenges and difficult trade-offs faced by actors seeking greater sustainability in food production. In charting the diverging paths of two ambitious sustainability initiatives in the Stockholm region, Von Oelreich and Milestad (2017) for example provide a detailed description in the Swedish context of the scaling-up dilemma for alternative food networks. One of these initiatives, Ekolådan, an organic fruit and vegetable scheme based in a rural area south of Stockholm, is more ambitiously, perhaps even radically, sustainable, eschewing sustainability labels as corrupted by the dominant food regime, and seeking to have full transparency over all parts of the production and distribution of the organic fruits and vegetables that they sell to ensure sustainability. In holding fast to these principles, Ekolådan has, the authors report, “consolidated its niche within a niche,” but it has done this “on a modest scale and with no growth in the second half of its existence” (Ibid, p. 1142). This is in line with the warning of Matecena and Curvo (2020, p. 421) who said that alternative food networks who, in a desire to stay true to their principles, do not compromise in some way with mainstream supply chains risk “marginalization.”

In contrast, the other initiative, Upplandsbonden, a cooperative owned by organic livestock farmers in the Uppsala region (north of Stockholm), sacrificed some control of the distribution of its products, a sacrifice which included much of its organic meat products being distributed through mainstream channels under a different label. Cooperative members thus sacrificed both control over marketing and distribution, and their own branding, in order to ensure a wider distribution of their products, which in turn allowed for greater production volumes on the part of cooperative members, and—the authors suppose—more profitability. While more organic food is being produced and distributed, prevailing mainstream (capitalist) actors in the local food supply chain also benefit, which in this case reinforces the very system these initiatives where in theory supposed to challenge.

Chongtham et al. (2017) examined the trade-offs involved in crop rotation decisions among Swedish organic farms, taking into account varying periods of time since organic conversion. Though the question of farm scale was not investigated here, the authors found decision-making dilemmas that roughly resemble the up-scaling problematic profiled above. In particular, many farmers forsake strict organic principles in designing and following crop rotations “for short term economic benefits” (Ibid, p. 25). This took the form of arable focused organic farmers maximizing the cultivation of cereals, because of the better prices they generally fetch, over the regular cultivation of leys and/or legumes, despite the increase risk for pests and disease that this simplified “flexible” rotation entailed. Though they provide multifunctional benefits, leys confer little economic advantage, and many organic farmers instead use externally sourced “Biofer” fertilizer (Ibid, p. 19) to add nutrients to the soil. Similarly, some organic dairy farmers were shown to be purchasing conventionally produced animal feed instead of growing their own (organic) feed, also to maximize the cultivation of cereals to enhance farm profitability. Those that had spent the most time as organic

farmers tended to be the most “flexible” in their rotations. Many such farmers “lacked crop sequence plans” instead making decisions from year to year based on a variety of factors, including price and weather conditions. There were of course exceptions, with some long-term organic farmers sticking to strictly defined organic rotations. Meanwhile, newly converted organic farmers tended to adhere more strictly to diverse rotations. An implication of these results is that the more time after conversion to organic, the greater the tendency an organic farm will seek ways to increase farm profitability in ways that make the farms resemble their conventional colleagues.

Finally, Aggestam et al. (2017) looked at the intention to scale up among 341 participating farmers in (Swedish) short food chains and found that most had the intention of scaling-up (2017, p. 68). There was an echo, however, of the diverging paths between Ekolådan and Upplands Bonden in the results, as organic SFSC farmers in the survey evinced a lesser desire to scale up compared to conventional farmers participating in the survey (Ibid, p. 70). Aggestam et al. (Ibid) detail an additional, more operational dilemma facing short food supply producers trying to decide if they should scale up or not. While a larger scale does result in greater production volumes (as in Upplandsbonden), it decreases the ability to connect with and respond to the local community and engaged consumers who together are also essential participants in SFSCs (see also Rytönen et al., 2018). Aggestam et al. (2017) present some preliminary solutions to the conventionalization and up-scaling dilemma. Among other things, they call for “hybrid” and innovative forms of cooperation between small and large scale farms within alternative food networks to leverage the benefits of small-scale and large-scale production. Acknowledging a lack of distribution channels that are not entangled in the dominant food regime, the authors warn however that “if regional tools for sustainable scaling-up are not in place, the likelihood is that local food systems and SFSC producers will be obliged to conform to the existing system” (Ibid, p. 70).

As these examples indicate, upscaling local and/or sustainable farming initiatives remains a serious challenge for alternative farm networks in Sweden. Moreover, these Swedish cases exemplify different contradictions in the relationship between alternative farming initiatives seeking to establish their own autonomous production systems and distribution channels and the mainstream economy with its globalized food supply chains. Ekolådan has sacrificed growth to remain true to its principles, but this appears to be a rare example, and other initiatives have sought to market food in mainstream channels.

As Waldenström (2018) argues, the concepts of the bioeconomy and ecoeconomy can be useful for understanding what kind of agricultural sustainability is developing. Many of the case studies referred to in this report, for example Ekolådan and Upplandsbonden, profiled above, or Jämtlandic goat cheese and Västerbotten alternative food networks, described below, belong to greater or lesser degrees to the ecoeconomic paradigm, i.e. they reflect different community embedded attempts on the part of farmers and food processors to take control over the whole food chain, albeit with some compromises, so that the food produced is environmentally sustainable and the value produced stays—to the extent possible—local. It is important to follow such networks to see how they continue to develop.

What is missing from recent research on Swedish agriculture, however, is studies of how the bioeconomy is developing and how this affects agriculture. This is a notable gap in that actors immersed in the bioeconomic paradigm, such as e.g. the international dairy cooperative Arla and the grain processor and trader Lantmännen, also exert significant influence over the developments in the Swedish agricultural sector. There is a dialectical element to these paradigms, which, as theory suggests, should result in the development of syntheses reflecting aspects of both paradigms (Levidow, 2015). The conventionalization of organic, as studied in Chongtham et al. (2017), would be such a synthesis. Large-scale conventional farmers seeking ways to increase on-farm value capture, through creating farm shops or directing some production toward alternative food networks, which Waldenström refers to (2018), also represent an important synthesis. Such hybrids or syntheses are also understudied in Sweden for the time being. We know that officially the number of organic farmers is increasing (see Figure 2). There are no official statistics on the number of AFNs and SFSCs in Sweden, but anecdotally we can say that it is likely that such networks are proliferating. However, we do not know how many organic farms are trending away from organic standards, and how many conventional farms are trending towards farm practices that can be defined as more agro-ecological (as defined above). In a similar vein, SFSCs represent some of the principles of agro-ecology as defined above. However, being local does not automatically mean it is environmentally sustainable. Moreover, conflict and competition within alternative networks, which have been studied in Finland (Ehrnström-Fuentes and Leipämaa-Leskinen, 2019), have not been studied in Sweden, though it is certainly a phenomenon in Sweden as well. More survey work is needed to tease out the significance and reach of these different and contradictory tendencies.

Agricultural sustainability, policy and rural development

A number of studies take up questions of agricultural policy and regulation, often in relation to various dimensions of sustainability and with respect to local development. Waldenström et al. (2016) for example study the Common Agricultural Policy, specifically the question of the potential for CAP's Rural Development Policy (RDP) to encourage more agricultural production of bio-fuels in a manner that is environmentally sustainable, economically competitive, and that supports rural development. First it is important to point out that, while non-food-based biofuels, such as those produced from agricultural residues (straw, manure) or perennial crops appear to promise the least negative impact (i.e. least emissions), definitively determining the environmental sustainability of biofuels production is challenging because the impacts on emissions and biodiversity, including indirect effects, are difficult at the present moment to anticipate. However, it is possible, the authors argue, to be somewhat more

hopeful about the economic viability and broader impacts on rural development of different kinds of biofuel production. Here however the authors argue that, due to path dependency, Swedish policy preferences for large-scale solutions in the energy sector, and risk aversion on the part of farmers, the current situation, in which farmers mainly provide feed-stock to large-scale bio-energy processors is unlikely to change.

Large-scale solutions have developed in part, because municipalities, utilizing large scale systems, are one of the primary consumers of biofuels in Sweden today, in this case biogas. Also, the authors argue, the scale of biofuel processing reflects an urban bias in innovation and development with respect to biofuels. However, technology does currently exist for smaller-scale solutions which would allow farmers, not only to grow the feedstock, but to process and produce bio-energy on the farm, in turn, it is hoped, spurring follow-on positive impacts on rural (i.e. not urban) development in general. However, the policy and infrastructural context is not set up to support such initiatives. Also, it is important to point out, farmers' own preferences and appetite for risk play a role. Engaging in smaller-scale, on-farm biofuels processing has higher "entrepreneurial thresholds," (Ibid, p. 1472) compared to the status quo of providing raw bio-materials to large-scale bio energy processors. Plus, as the authors argue "farmers and others in their social network attribute noneconomic values to certain landscapes" (Ibid, p. 1471), and farmers might not like the changes to the landscape brought on by increased cultivation of biofuel crops. To move beyond "the present Swedish policy gap between municipal and individual household levels," (Ibid p. 1478) the authors call for Swedish authorities to avail themselves of existing RDP "measures supporting knowledge transfer, information actions and advisory services, for cooperation and setting up producer groups and innovation..." (Ibid), though they warn that without more favorable "tariffs and support structures" (Ibid) such efforts may come to naught.

Swedish municipalities are in focus for another important policy related critique in the recent literature, in this case concerning the phenomenon of "soil-sealing," i.e. the loss of agricultural land to residential or commercial development. At the European level, 252 ha of agricultural land are estimated to be lost to soil-sealing every day (Granvik et al., 2015, p. 192), while in Sweden, the corresponding figure is 600 ha per year (Öhlund et al., 2020, p. 2). Soil sealing occurs all over Sweden, including the agriculturally fertile and intensively farmed plains of southern Sweden (Skåne). The responsibility for land use zoning is decentralized in Sweden, with Sweden's 290 municipalities taking the lead. Many municipalities have professed in surveys that preserving agricultural land is important, and yet the process continues, in many cases despite stated municipal policies on the preservation of agricultural land. As Öhlund et al. (2020, p. 9) write: "when buildings are planned on agricultural land, the municipalities tend to find arguments to justify why it is not very important to preserve exactly that particular agricultural land." One of the main drivers for soil sealing, in Europe in general (Ploeg et al., 2015, p. 157), and in Sweden specifically, is a price differential whereby the value of residential land is "far higher" (Öhlund et al., 2020, p. 9) than agricultural land. Another reason, more specific to Sweden, is that agricultural land is only accorded the status of "national significance" (nationell betydelse) in Swedish legislation, in

particular the Environmental Code, but not the higher category “national interest” (riksintresse), which would give regional administrations in Sweden, and the national government, more possibility to interfere in local (municipal) decisions regarding the use of agricultural land (Slätmo, 2017a, 6). However, in practice, as Granvik et al. argue (2015, p. 201), it is not clear that municipalities even live up to the demands that follow from agricultural land being considered of “national significance.” In this regard, Slätmo (2017a) questions the appropriateness of the EU principle of subsidiarity, that decisions should be taken at the most appropriate level, which is used to justify the municipal planning monopoly in Sweden today.

Wästfelt and Zhang (2018, 2016) detail a relevant case in this regards, showing how soil sealing could potentially foreclose the development of more environmentally sustainable SFSCs in peri-urban areas. In particular, they show how the city of Gothenburg currently leases out city owned land on the periphery of the city to farmers for affordable rates, though the long-term plan is to re-zone the land for residential use (i.e. to seal the soil in this area). The affordable leases have contributed to the development of alternative farming models whose production is oriented towards nearby urban consumers, thereby supporting the creation of SFSCs, but in the long term the city of Gothenburg would benefit from the improved tax base that more significant residential development in the area would entail. Another threat to the alternative farming models in this peri-urban agricultural area is the influx of rich urbanites who want to experience a bucolic rural idyll but still live close to the city and who are buying agricultural land to convert to horse farms. The question looking forward is: can Gothenburg avoid the temptation to improve its tax base and instead protect and encourage locally oriented farm production in its hinterland? That the city of Gothenburg retains ownership over high quality farmland on its outskirts is a situation that developed more by accident, than as a result of policy preferences, but this example still shows that cities can have powerful policy related impacts on agricultural sustainability within and beyond their borders. The role of cities in promoting alternative and potentially more environmentally sustainable agriculture in a broader region where conventional farming takes place is understudied, as much of the related literature on the role of cities in food production is focused on the otherwise important topic of hydroponic farming and urban gardening (cf Sellberg et al. 2020).

Another case to be reviewed here—the development of artisanal goat cheese in Jämtland, studied by Eriksson and Bull (2017) and Rytönen (2016)—can be considered somewhat of a success in terms of EU regional development policy, though, like with Waldenström above, we also see implicit preferences for larger scale solutions and other contradictions. In terms of “success,” EU funding was central for the development of an organization, Eldrimmer, which was the organizational spark for much of the development in artisanal cheese making in the region. While not denying this successful development, Eriksson and Bull (2017) detail, in a micro-history of two particular local cheeses, Vit Caprin and Källarlagrad Getost, some of the contradictions that have accompanied these developments. Vit Caprin, the authors show, needed a story that would transform it from a garden variety “white cheese” to something special (Vit

Caprin), before it could be experienced and perceived as “authentic” by consumers. Källarlagrad Getost, produced using unpasteurized milk and with a taste that changes from batch to batch because it is so sensitive to the way it is stored, did not have the same difficulty in proving itself to be “authentic,” but it does challenge prevailing regulations and, it must be said, notions on hygiene in dairy production, which among other things call for the use of only pasteurized milk in production. In both cases, French goat cheese making traditions have played a role in their development (hence the Swedish–French name “Vit Kaprin”). However, they also reflect the unique local history and traditions of Jämtland, and are perceived as local by consumers.

Despite this, these cheeses are not seen as relevant for protected geographical status within the EU. There are two Swedish cheeses that do enjoy protected status, but both are mass-produced, non-regional cheeses that received this status, the authors argue, because the EU pushed hard for every member state to have at least one product that would enjoy this status in order to increase support for the initiative among all members states (Ibid, p. 213–214). In other words, protected geographical status within the EU is not, in this case, a policy for protecting local and unique food producing traditions from global competition, as it is often described, but “a mechanism by which particular power relations can be reinforced ... thereby affirming the position of industrial dairies and [re-trenching] dependency between dairy farmers and dairies.” (Ibid, p. 214). More broadly, Eriksson and Bull show, as Aggestam et al. (2017) and von Oelrich and Milestad (2017) above, how alternative food networks “do not have automatic access to established commodity chains,” (Eriksson and Bull, 2017, p. 216) and are instead forced to develop their own commodity chains to survive.

Finally, there have been various reports on what can legitimately be called a success story in Swedish sustainability policy—the effective implementation of the most restrictive animal antibiotic policies in Europe. As things stand today, Sweden administers the least amount of antibiotics in agriculture in the EU (Fischer et al., 2019; LRF, 2019; Öhlund et al., 2017). Begeman et al. (2018), who compare the much more restrictive Swedish policy on antibiotics with the more liberal policy of the UK, credit “the consensus-oriented debate [in Sweden] between scientific knowledges and non-scientific knowledges on agricultural antibiotic use and intensive farming” (Ibid, p. 778) for Sweden’s successful attempt to significantly reduce antibiotic use. This is in contrast with the UK where the debate has long been framed as an expert, technical issue and where widespread prophylactic antibiotic use in livestock farming continues, though recently mandatory reductions have been proposed (albeit still not to the level of Sweden). Fischer et al. (2019) in a study of the attitudes of Swedish dairy farmers reach broadly similar conclusions though focusing more on how structural change—the introduction of stricter antibiotic regulation—“can be important for behavioral changes” (2019, p. 2735). In other words, Swedish farmers, the authors found, have internalized the regulatory changes into their culture of farming, and this helps to maintain Sweden’s low antibiotic use. To be clear, this particular example is not a success of EU policy, as antibiotic use varies significantly within the EU, but it rather demonstrates that “political culture matters” (Begemann et al., 2018, p. 779) in agricultural policy, and that structural change can beget behavioral change (Fischer et al. 2019).

In summary, we see that agricultural policy is implemented at various levels, is characterized by different contradictions, and achieves varying degrees of success. Municipalities, with their planning monopoly in Sweden, have a lot of potential authority, which could in theory be used to push agriculture in a more sustainable direction, and yet many municipalities appear surprisingly powerless to prevent commercial exploitation of agricultural land. At the national level, we see a sustainability success story that started with discussion and consensus among experts and stakeholders on the need to limit antibiotic use in farming, which then resulted in strict policies on antibiotics that have later been internalized by farmers themselves. Finally, there are various examples of EU seed funding playing an essential role in the start-up of sustainable farming initiatives in Sweden, e.g. Eldrimmer, Ekolådan and Upplandsbonden. However, because of path-dependencies and implicit policy biases, the policy infrastructure remains geared towards larger, industrial scale solutions with regards to agricultural sustainability and rural development.

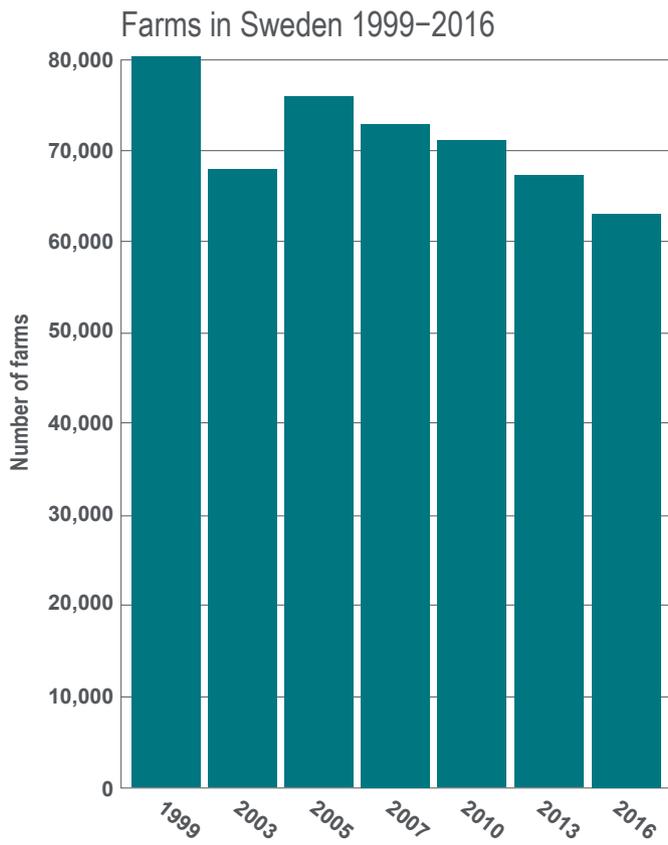


Figure 1: Total number of farms in Sweden 1999–2016.
Source: Swedish Board of Agriculture.

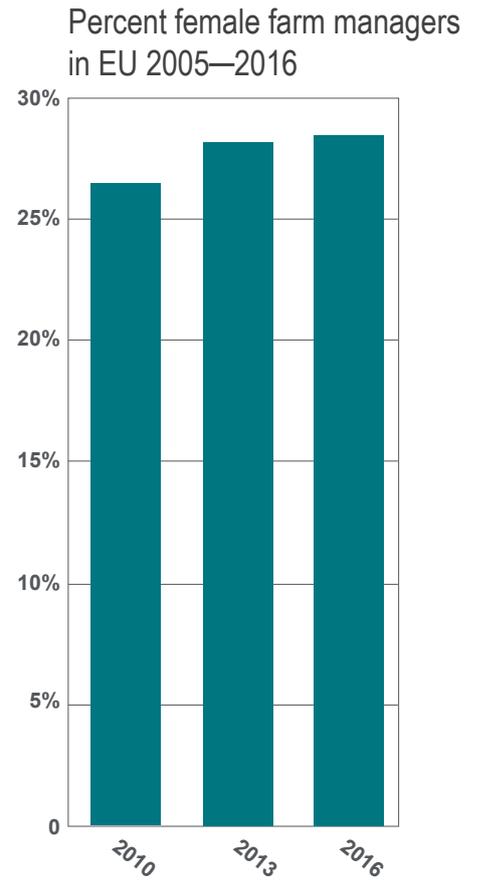


Figure 3: Percent female farm managers in EU 2005–2016.
Source: Eurostat

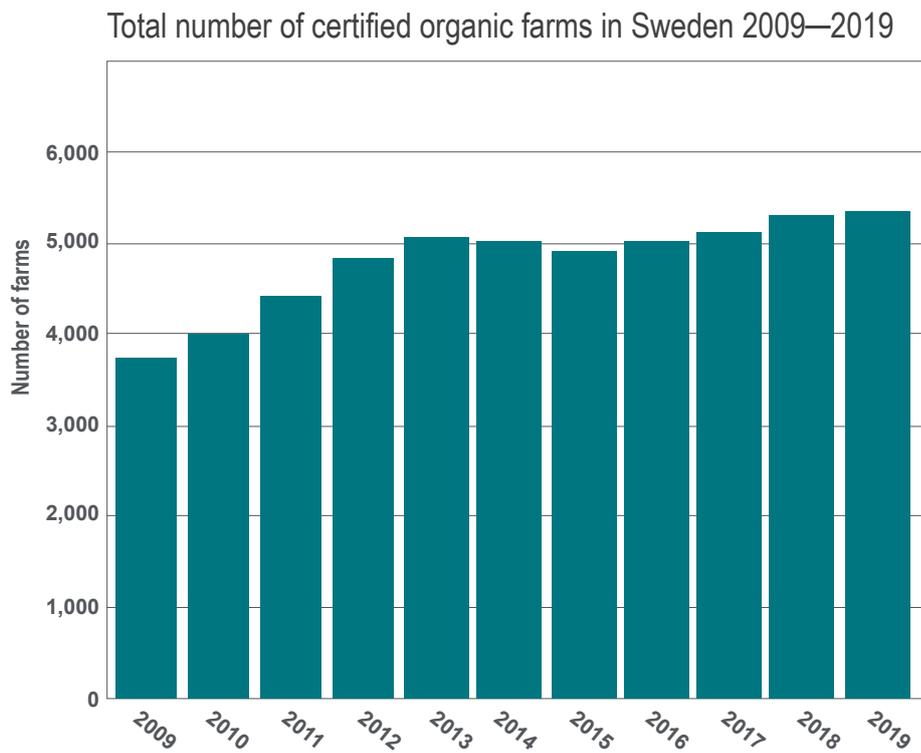


Figure 2: Total number of certified organic farms in Sweden 2009–2019.
Source: Swedish Board of Agriculture.

Average Annual Work Units (AWU) Nordic Farms, 2004–2018 (FADN)

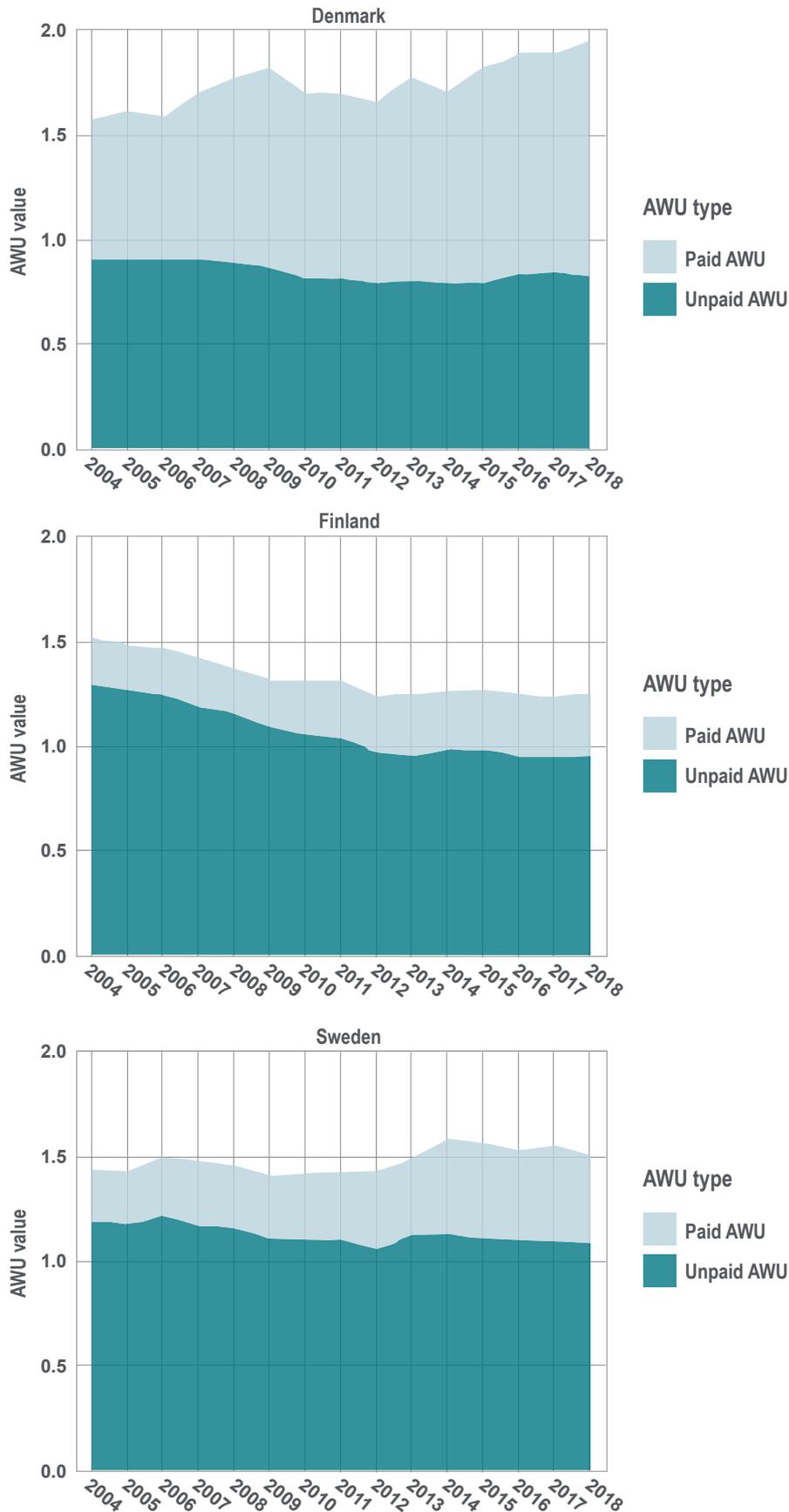


Figure 4: Average Annual Working Units (AWU) for both paid labor and unpaid labor (i.e. family labor) in Nordic EU countries, 2004–2018. Note FADN is survey data from a subset of the population of farms. The subset is defined to capture commercially oriented farms with at least 15,000 Euro income. Thus the population of the subset in Sweden is roughly 29,000 farms out of a total of over 60,000 farms. Many part time farms are thus per definition excluded from FADN. Differences in population is the likely explanation for why Ambros and Granvik (2020) report a declining total labor input on northern European farms, including Sweden, while FADN, as seen here, reports an increasing labor input at least for Sweden and Denmark. In other words, both the paid labor input and the total labor input on commercial Swedish farms appears to be increasing.

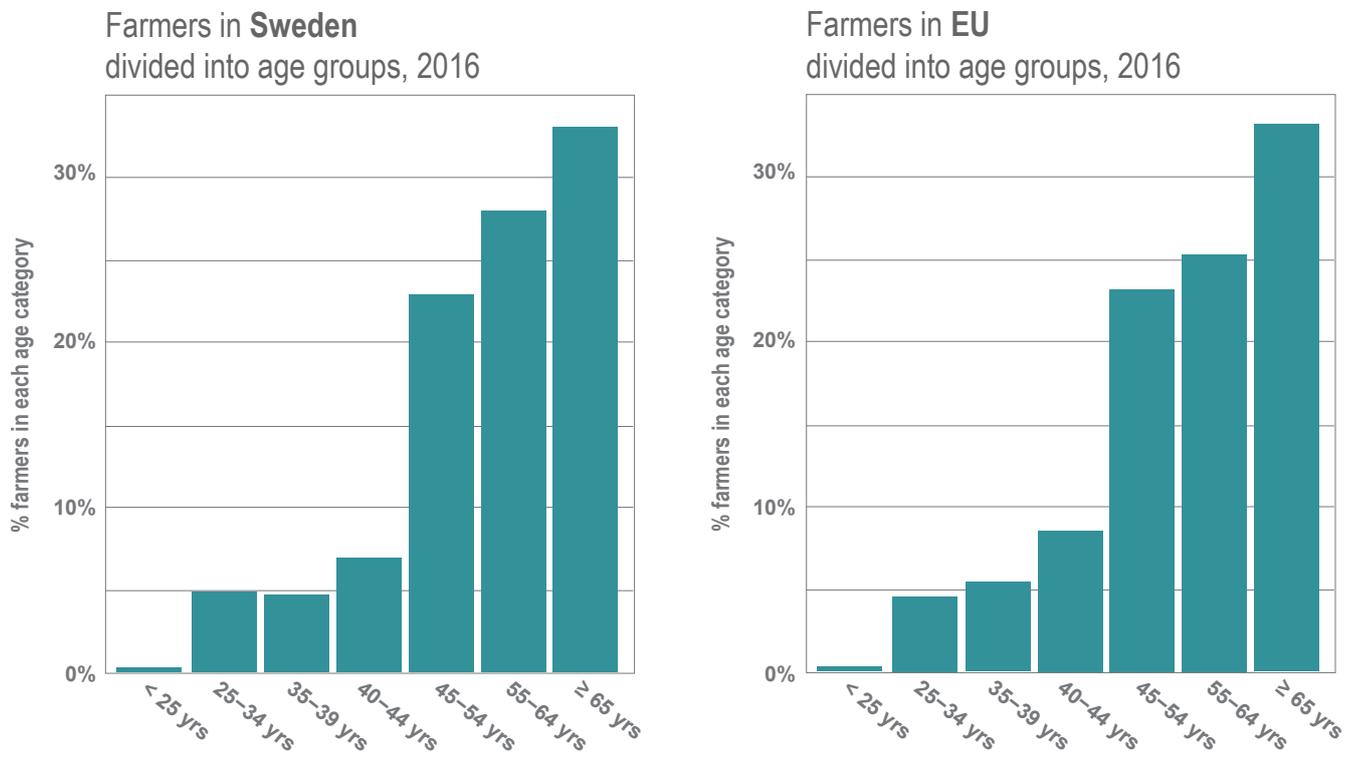


Figure 5: Percent Swedish and EU farmers in different age groups 2016. Source: Eurostat.

5 Equality and fair treatment

The question of equality has also been an important theme in social science research on Swedish farming. This touches by far mostly on questions of gender. In this regard, recent research on the increasing number of female farmers in Sweden in the face of a stubborn gendered division of labor in agriculture, map out both persistent inequalities and progress on overcoming them. There has also been recent research highlighting farm labor in agriculture that show a mix of conditions for the most vulnerable workers, ranging from exploitative to relatively satisfactory, though, as will be argued below, the question of labor is understudied.

Gender

On the subject of the number of female farmers, there are two contrasting, but ultimately complementary research efforts that together provide an overview of women's participation in the agricultural branch in the 20th and 21st century. Hedlund et al. (2017), using Swedish register data—which are uniquely comprehensive in quantitative social science research—chart in detail the exit of women from the agricultural sector from the 1960s to the 1980s, while Andersson and Lidestav (2014) map out, also based on unusually rich quantitative data, the increasing role of women in the agricultural sector in more recent years, what can perhaps be called an incipient “feminization” of farming. Based on statistics from an extensive survey conducted in 2009 by the Federation of Swedish Farmers (LRF), they state (Ibid, p. 193) that 62% of the respondents' farms were managed by a man, 8.5% managed by a woman and 29.5% managed jointly. Out of the total number of farm managers, 71% were male and 29% were female.

There remain however substantial differences between male-managed and female-managed farms in Sweden as shown by Andersson and Lidestav (2014) and Andersson and Lundqvist (2016), which together provide the most detailed overview of the place of women in Swedish farming today. Andersson and Lidestav (2014), show that the average female operated farm has 15 ha arable land, while the average male operated farm has 36 ha arable land, a difference that was statistically significant (The average female operated farm also had less forest than the average male operated farm, but this difference was not statistically significant.) This is based on, as mentioned, a large and

extensive private survey from 2009. The same study also revealed substantial differences between production specializations. The proportion of male run farms with oilseed or cereal production was 5.9 and 3 times, respectively, the proportion of female run farms with these as specializations, while the proportion of female-managed farms specializing on horses or health, was 3.3 and 7.5 times, respectively, more than male-run farms. Finally, 56% of male operated farms required an outside source of income to remain in operation, while 72% of female operated farms required an outside source of income, a difference that was statistically significant.

Dairy farming is the form of specialization in Sweden most associated with farming being the sole occupation for the farmer (Andersson and Lidestav, p. 195), and here there are also important gender differences. According to Andersson and Lundqvist (2016), dairy accounted for 66% of total sales on female operated dairy farms, while the corresponding figure for male led farms was 34%. This is based on a separate dataset—a stratified sample of 1,000 “commercial” farms, which are included in the EU’s Farmer Accounting Data Network (FADN) (Andersson and Lundqvist 2016, pp. 315–316). Dairy farming is, all else equal, more labor intensive than cereal farming, which potentially indicates a link between gender and labor in contemporary farming (Ibid, pp. 320–321) that it would be important to follow up.

The differences indicated by Andersson and Lundqvist (2016) and Anderson and Lidestav (2014) reflect in many respects the obstacles women face in becoming farmers, a structure of alterity which recent studies, both in Sweden and abroad, have highlighted. The most substantial obstacle is equal access to land. Land is important, because, as Andersson and Lidestav (2014) show, the amount of land that a farm has is positively correlated with whether or not the farm can generate enough income to justify farming being the sole occupation. Most farmers do not acquire land on the open market, but rather inherit it, prompting Shortall to argue that the chief cause of gender inequality in agriculture in Europe is that “women in the EU rarely inherit land” (2015, p. 722). While conditions are improving in Sweden, inheritance of farmland is still subject to persistent gender norms whereby men inherit land in preference to female siblings or relatives. As Flygare writes (1999), it is difficult for women to compete with male relatives when it is time to pass down land to the next generation. This is in contrast with forestry where female inheritance of land (in Sweden) occurs in a somewhat more equal fashion (Lidestav, 2010).

In a related argument, Shortall (2015), analyzing the EU level, and Holmquist (2011), studying Sweden, argue that the regulatory and subsidy regimes, with their preference for large-scale farm units, are also complicit in preserving gender inequality in farming, i.e. men with their larger farms derive more benefit from EU subsidies than women, and this serves to perpetuate inequality. Another obstacle for female farmers, discussed more in the recent international literature, is that male farmers and male representatives of companies that provide various services to farms tend to take female farmers less seriously. This is clearly illustrated in Shortall et al. (2020), which showed how different actors discriminated against women, particularly at the sensitive stage of inheritance.

Female owned and/or operated farms in many respects are different from male

farms, as has partly been shown above. A related question however is if female farms, in being different, are managed differently? Only one recent study could be identified that addressed this issue directly with respect to Swedish farming. Citing a concept developed by Marsden and Smith (2005), Stenbacka (2017) found that women sought to pursue “ecological entrepreneurship,” i.e. to combine business interests with farming activities that are multifunctional and perceived as more environmentally sustainable. There is also some potential evidence on this question from the Swedish forestry branch. Umaerus et al. (2019) and Nordlund and Westin (2011) indicate that female forest owners express a preference for “non-traditional” values, in particular with respect to conservation and biodiversity, but, as Umaerus et al. state (Ibid), the extent to which these preferences are translated into specific, more sustainable practices needs to be investigated. Lidestav (2010), in a study of inheritance in forestry, similarly reports that female forest owners express alternative values, seeing the land not only as property or assets, but also in terms of the generation-spanning cultural heritage that should be preserved.

An indirect observation from Holmquist (2011) somewhat contradicts the view that female farmers choose alternative, more environmentally friendly production models. Holmquist notes that in contrast to older farmers, the younger farmers in her interview sample—including some younger female farmers—tended to approach farming with a more entrepreneurial spirit, emphasizing that it “is necessary to think in terms of profitability, production efficiency, control of costs, benchmarking of suppliers and customers, core competencies, etc...”⁶ (Holmquist, 2011, p. 45). Holmquist’s conclusions are based on a relatively small sample of farmers, which, it must be said, is something that characterizes much of the research on this topic (with the important exception of Andersson’s work with coauthors). Case studies with small interview samples provide an important level of detail on farming motivations, however because of the small sample size, it is difficult to make definitive assessments. This question, therefore, requires more research.

Despite the increasing numbers of female farmers today, recent research also shows how the concept of gendered division of labor continues to help us understand farm development and farm life today in Sweden (Andersson, 2017). Buchanan et al. (2016) found a gendered division of labor in Sami reindeer herding in the north of Sweden. They argue that on the one hand women make significant contributions that deserve greater recognition, while the masculinization of reindeer herding might actually be making men’s livelihoods more vulnerable, because male reindeer herders, who have their career path staked out for them, do not pursue educational opportunities that might offer greater economic opportunities. Finally, Cassel and Petterson (2015) found farm tourism in Sweden to be a highly gendered form of pluriactivity that, on the one hand conform to prevailing gendered divisions of farm labor, but, on the other hand, also give women who live on farms the possibility to develop their own

6 “[...] man som bonde idag måste tänka i termer av lönsamhet, produktionseffektivitet, kostnadskontroll, benchmarking av leverantörer och kunder, kärnkompetens, etc.”

businesses. This is entrepreneurship that developed initially to the side of farming, but is increasingly being seen as an important business branch in its own right. Judging from these texts, we can say that gendered divisions of labor in Swedish farming, are, on the one hand, often to the detriment of women, while, on the other hand, men are not always advantaged in the process either. Importantly, women are sometimes able to find opportunities for advancement in ways that potentially challenge the dominant and masculine image of farming as primarily for agricultural production.

Labor

A number of studies touched on the question of farm labor, by workers and the farmers themselves. Themes in the reviewed literature connected to farm labor include the reasons for occupational injuries in farming, how digitalization is affecting the nature of farm work, and the recruitment of seasonal migrant labor and newly arrived immigrants for agricultural jobs. Occupational injuries are an important topic because agriculture as a branch tends to be one of the most dangerous branches of the economy in the Global North (Svennefelt and Lundqvist, 2020). Accidents occur on all kinds of farms, but 70% of all workplace farm accidents in Sweden occurred on farms with animals, according to a survey in 2013 (Pinzke et al., 2018). This is a matter of concern for the relevant regulatory authorities and various measures and programs have been implemented to reduce injuries in agriculture. While awareness has increased, and the overall number of workplace accidents have decreased since the 2000s, the accident rate, i.e. normalized for the number of farms and farm employees, has not declined (Pinzke et al., 2018; Svennefelt and Lundqvist, 2020). Similarly, Pinzke (2016) found that the frequency of complaints about musculoskeletal problems among dairy farmers in the southern Swedish region of Skåne had not decreased between 2002 and 2013. Among various recommendations for decreasing the number and rate of on-farm accidents, Lindahl et al. state that gentler handling of animals decreases animal stress, and they further recommend “[reducing] the time the handler has to spend in close proximity to animals during adverse procedures and to minimize animal fear and stress by proper handling techniques and appropriate design of handling facilities” (2015, p. 31). In short, farming remains a dangerous profession, relative to others, for farmers and workers alike.

In a pilot study, Lunner-Kolstrup et al. (2018) examined what farmers and workers think about new digital and smart farm technologies, in this case GPS technology on farm machines and Automated Milking Systems (AMS). Overall, this research showed that there are many challenges in installing and getting the necessary experience with these systems. Also, the AMS has a significant impact on work routines, with the task of milking cows being “[replaced] with monitoring, controlling and observing the cows” (Ibid, p. 222). The authors report that the constant monitoring involved with the AMS added mental strain on workers and also increased working hours. With that being said, respondents were by and large positive about the new technologies:

“all informants considered technical and computerised development a necessity for future profitability, survival, and expansion of the farms.” (Ibid). Also, with respect to on-farm work place accidents, Pinzke (2016, p. 7) found that male dairy farmers using an AMS reported less shoulder pain, while female farmers using AMS reported less lower back pain. Lunner-Kolstrup et al. is one of the few articles that could be found that directly addresses the impact of digitalization on farming (one other article that is reviewed below in the section on animal welfare also takes up AMS, but not as the main focus of the article). Smart or digital farming—its promise and problems—is an emerging research field and it is important that there is more research on this topic with respect to Sweden.

The importance of the third topic of research on farm work – the recruitment of migrant and immigrant workers—was visibly demonstrated in the spring of 2020, when the Swedish Federation of Farmers (Lantbrukarnas Riksförbund, 2020) stated that the harvest would be threatened if some 8,000 migrant laborers were not allowed into the country due to Coronavirus-related border closures. Meanwhile, migrant labor is not an extensively studied question in Sweden—only three published studies that directly treat the question of migrant labor in Swedish farming (Refslund and Thörnquist, 2016; Stenbacka, 2019; Svensson et al., 2015) were found. There have been, of course, many studies on migrant workers in berry picking in the north of Sweden. These berry picking studies will receive some mention here, as they potentially help to understand the situation of migrant workers in Swedish farming, but berry picking, as important as it is, ultimately falls outside the remit of this report.

In a book length report and literature review issued in 2015, Svensson et al. provide an overview of what is known about migrant labor in Swedish farming, based on available statistical data and interviews with representatives from various branch organizations or authorities with some knowledge and insight on the topic. The picture that emerged is that migrant labor in Swedish farming is growing and that it is concentrated in horticulture, though livestock and dairy farming are seeing more and more migrant laborers as well. A public report in 2008 (cited in Svensson et al., 2015) estimated that 50% of the migrant workers in vegetable and fruit production and in farming came from Poland, though it is now believed that the number of Polish workers in farming is decreasing due to improving economic conditions in Poland, something also found with respect to Polish workers in Danish agriculture (Refslund, 2016). Based on the data from 2008, the authors (Svensson et al., 2015, p. 19) made a careful and caveated estimate that there are roughly “2,000 foreign born seasonally employed workers in the green economy, of which the majority are in farming and vegetable and fruit production.” As mentioned above, LRF stated in 2020 that there was a potential shortfall of 8,000 migrant workers, of which 5,000 were in vegetable and fruit production⁷ (see Lantbrukarnas Riksförbund, 2020). Actually, LRF estimated that 8,000 workers in horticulture were migrant workers, but that 3,000 could be found from existing sources of labor. Keeping in mind the caveats of Svensson et al,

⁷ The other 3,000 were in forestry.

this is indicative of an increase in the number of migrant workers coming to Sweden to work in the farm sector.⁸ This apparent increase underscores the importance of studying this trend.

Svensson et al. (2015) otherwise provide a substantial overview of the international literature on working conditions for migrant farm workers. Mostly extrapolating from the international situation, but also based on snapshot analyses of conditions in Sweden, they argue that there is reason to believe that migrant workers in Swedish agriculture work under unacceptable conditions, in particular with respect to: “substandard housing and insufficient hygiene, increased risk for accidents, exposure to dangerous chemicals, ergonomic problems, risk for threats and violence, discrimination, harassment, long work hours and low wages, and insufficient support from society in particular concerning health care and legal assistance” (Ibid, p. 68). They also point out, however, based on interviews with representatives from regulatory authorities and branch organizations that most employers in Sweden want to do right by migrant workers (Ibid, p. 62). The problem, as the authors argue, is that there has been very little research on this question in Sweden (with an emphasis on farming), so we do not actually know what the situation is in Sweden.

Stenbacka (2019) aligns with the view that most employers try to treat migrant, seasonal employees well. In looking at recruitment of migrant workers from the farmer (employer) perspective, Stenbacka mapped out a “moral economy” that has arisen to regulate relations between employer and employee, above and beyond the regulations governing recruitment and work place relations. Most of the interviewed farmers, Stenbacka shows, evinced an ethic of care for their employees, which manifested in part as a “collective responsibility” (Ibid, p. 270), i.e. “...cooperation among farmers or networking to ensure that a worker earns enough to live on, or to find a job for the worker’s partner, if need be” (Ibid, p. 271). This ethic of care has developed out of close, “side-by-side” (Ibid) relationships that were simultaneously personal and professional (reflecting both mutual concern for and interest in the farm work and the more hierarchical employer-employee relationship), and which tended to transcend private and public spheres in line with the farm being both a home and a workplace. While this offers somewhat of a positive assessment of the situation for migrant workers in agriculture, Stenbacka cautions that the relations between employers and employees “remain problematic” (Ibid, p. 272) – caring on the part of farmers could be uneven, and was not devoid of power asymmetries or “social and economic divides” (Ibid).

In the broader European literature on agricultural migrant labor, berry picking has become the canonical example for migrant labor in Swedish agriculture (see Rye and Scott, 2018). In and of itself this is not so surprising, and it is important that migrant berry pickers receive attention, both in the media and in research. What is potentially instructive here is that early scandals in which some migrant berry pickers, mostly from Thailand, were rather flagrantly cheated out of their wages have resulted in

⁸ These estimates do not include migrants who come to Sweden to work in forestry or berry picking, which are also numerous.

action on the part of Swedish unions and authorities to regulate the situation more closely. Importantly, these actions were in part prompted by strikes on the part of berry pickers, which helped them receive sympathetic media coverage (Eriksson et al., 2019; Hedberg, 2013). There have since been some, albeit uneven, policy successes, but there remain significant challenges to regulating labor recruitment that takes place beyond the purview of Swedish authorities (Axelsson and Hedberg, 2018). Mešic (2016), however, demonstrated a paradoxical situation where EU citizens, in this case Bulgarian Roma berry pickers, who in theory should enjoy strong EU labor protections, fare worse than the “third country” migrant berry pickers, because their ability to move freely within the union makes it easier for unscrupulous recruiters to maintain informal and unfair working conditions.

In some ways the experience of berry pickers is instructive for understanding the situation of migrant laborers in Swedish farming, but in others ways perhaps not. On the one hand, berry picking and horticulture represent, as Refslund and Thörnquist argue (2016), segmented labor markets, where only migrants are willing to accept the precarious, physically demanding and poorly remunerated work. Contributing factors to this segmentation, according to Refslund and Thörnquist, are low union representation among the migrant workers in these sectors, and the spatially scattered nature of the work, which makes it hard for workers to connect with each other if they wanted to organize for improving their working conditions. On the other hand, Stenbacka shows that conditions for migrant workers can in theory be better when they work “side by side” with farmers, i.e. their employer. The implication that follows from this is that the kind, size and production orientation of the farm (or hiring organization) plays a role in determining how decent the working conditions are for migrants, as not all farm operations involve the kind of “side-by-side” work that Stenbacka found.

Another important perspective that is understudied concerns the employment prospects of newly arrived Swedes in rural areas. To what extent are they finding employment in the agricultural sector and what is their experience of this? Two studies that touched on this topic found that farmers prioritize technical skills in hiring workers (Barth, 2018), and that this might be a hinder for employing newly arrived Swedes, presumably lacking such skills (Alacron Ferrari, 2020). Another barrier for hiring newly arrived Swedes, as reported by Barth (2018), was that some farmers expressed misgivings about their ability to manage workers across cultural and language differences. Barth (*ibid*, p. 136) concludes that: “additional research is needed that addresses the employment and challenges and barriers in the agricultural sector, when governments’ social and political aims are to help new arrivals find gainful employment and to manage rural depopulation.”

Ultimately, as noted by various studies mentioned above, both the question of migrant labor and the employment prospects in the agricultural sector of newly arrived Swedes require more research. All the studies reviewed here focused on employers, i.e. farmers, or representative of unions and government authorities and not the migrant workers themselves. There are practical reasons for this. Language can be barrier for researchers, and it can be difficult to approach migrant workers, in such a way that

they feel secure enough to give their honest opinion about their working conditions. Also migrant farm workers work long hours, so even finding the time for an interview can be challenging (Rye and Andrzejewska, 2010, p. 45). That being said, migrant and immigrant perspectives in Swedish farming (as somewhat narrowly defined in this report), are at present completely lacking, and it is important that future research focuses on the migrant or immigrant perspective in Swedish agriculture.

More broadly, questions of gender equality and labor conditions are, without a doubt, important questions in their own right. However, one aspect that is striking in the reviewed literature is that questions of equality and decent work conditions in Swedish agriculture and questions of Swedish agricultural sustainability are rarely taken up in the same context. The literature reviewed above dealing with sustainability primarily, with some exceptions (see for example Rööös et al. 2019), adheres to a definition of sustainability that emphasizes the environmental dimension. Meanwhile, questions of equality and decent working conditions are clearly and prominently included in the Sustainable Development Goals, which arguably constitute the most important operationalized definition of sustainability today. To a certain degree this is more a matter of framing, and the point is that the lack of discussion of fair and decent working conditions in the debate on sustainable Swedish agriculture makes that discussion all the poorer.

6 Agrarian change

Another important theme in the literature concerns agrarian change. Agrarian change touches on the persistence of family farming in Sweden, which in turn relates to a range of questions including land tenure and farm succession and how gender and farm geographies intersect to affect production orientation and, more generally, chances for farm survival. Andersson and Lundqvist with data from 2008 reported “the resilience of family farming and the stability of agrarian structures over the past two decades,” (2016, p. 322), including the persistence of one-person and part-time farms, a persistence first reported on by Djurfeldt and Gooch (2002) almost 20 years ago. Broadly then, we can characterize developments in Sweden’s agrarian structure as *plus ça change*, though we should keep in mind the notable increases in the number of female farmers and potential implications, discussed above. Another important trend that Andersson and Lundqvist noted was an increasing number of farms relying on hired labor (Ibid, p. 323), within a context of course in which family labor remains clearly dominant (see also Figure 4). These are important results, based on innovative use of a comprehensive and detailed pan-European survey of farmers—the Farmer Data Accountancy Network (FADN), which, albeit with some limitations, allow fruitful research in changing agrarian structure in Sweden (and Europe). It can be noted, however, that this particular study is based on FADN data from 2008, and it is high time for an update, perhaps informed by similar sorts of databases as were used in van der Ploeg (2018), referred to above, with respect to the Netherlands.

Even if the agrarian structure in Sweden is relatively stable—up to 2008 at least—there are long term trends in Sweden, and elsewhere in Northern Europe and the Baltic region towards an increase in the proportion of large farms and a decrease in the proportion of small farms, among all farms (Ambros and Granvik, 2020). Sweden is no exception in this regard, though, as Ambros and Granvik report (Ibid), these trends are somewhat less pronounced in Sweden compared to other areas in Northern Europe.

Slätmo, in a recent chapter (2017b), highlighted an issue that both relates to the question of an increasing proportion of large farms and has significant implications for the resilience of family farming—the possibility of corporate ownership of farmland. Corporate ownership of farmland has been significantly restricted in Sweden since 1947 by the Swedish Land Acquisition Act. However, a proposal to allow corporations greater possibility to own farmland in Sweden was floated in an public inquiry on the future of farming, released in 2015 (SOU, 2015). In looking at how farmers considered this question, Slätmo shows that the question of corporatization was somewhat more complex

than expected. While resistance to the proposal to allow greater access to farmland on the part of corporations was quite strong among farmers, as expected, Slätmo noted that some farmers still saw opportunities for increased involvement of financial and corporate actors in the farm sector. This particular proposal has not advanced in part due to the strong response from Sweden's family farmers, but it was again floated as a possibility in the Swedish National Food Strategy launched by the government in 2017 to promote Swedish food production (Näringsdepartementet, 2017). In other words, the question of corporate ownership of farmland is not going away.

Another land tenure category with a potential relevance for agriculture are commons. In an analysis with a long time perspective in the village of Ängersjö in the middle of Sweden, Sandström et al. (2017) remind us of the importance of commons, a land tenure category out of the middle ages, that still exist in many areas of Sweden either literally or in "analogous" or symbolic form, the latter often connecting to the more social purpose of "[binding] people together" (Ibid, p. 510). While commons are perhaps less relevant for agriculture today in Sweden, they are still, as the authors show, important for other kinds of resource access and use (in particular fishing), and their very mutability over the centuries does not preclude a future relevance for agriculture.

If corporate ownership of farmland were to be deregulated it would probably entail greater market influence over farm sale and transfer. As things stand now however, the process of farm transfer or succession, as shown in recent studies on this topic (Grubbström et al., 2014; Grubbström and Eriksson, 2018; Joosse and Grubbström, 2017), is as much an emotional and social process as it is an economic one. These studies highlight, among other things, the growing importance of lease relations for farm succession with various implications. Retiring farmers are often reluctant to sell the land outright for a variety of economic, practical and emotional reasons (Grubbström and Eriksson 2018, pp. 714–716). For example, farmers often want to preserve the possibility for as long as possible that the children will become farmers on the same land, and the EU Single Farm Payment has become "the base on which land rents are negotiated" (Ibid, p. 714), meaning higher lease rates.⁹ Together these considerations increase the incentives for aging farmers to hold on to land ownership and lease out land to other farmers. Keeping ownership of the land is also often connected, according to the authors, to the farmer or the farm family keeping the farm house which is of enormous practical and emotional value. On the other hand, despite increasing lease rates, the possibility to lease in farmland still gives younger farmers a relatively affordable way of entering the farming profession, especially as farmland prices are considered overpriced in Sweden.¹⁰ The implication of these results is that greater possibilities for older farmers to lease out farmland can make the farm succession process take longer time, leading to a lack of investment in the land and its facilities (Ibid, p. 714). Meanwhile, there is less and less farm succession within

9 The effect of the EU single farm payments on the prevalence of lease and lease rates is also a theme in Wästfelt (2014), a compendium on lease relations in Sweden.

10 Grubbström and Eriksson's (2018, p. 715) respondents argue that "it is difficult, or even impossible, to turn a farm bought at market price into a profitable business."

families, and a corresponding increase of farm transfer, upon retirement, to non-family members. Grubbström and Eriksson (2018) show how the relationship between the outgoing and incoming farmers, who are not related, is still important, above and beyond economic considerations. In similar vein, Joosse and Grubbström (2017) show that farm transfer outside the family does not automatically result in discontinuity in practice, as frequently assumed, just as farm transfer within the family does not automatically result in continuity of practice.

On the theme of continuity of practice when taking over the farm, Grubbström et al. (2014) studied young prospective farmers facing a future succession process, and uncovered a difficult and gendered balancing act between desires on the part of young prospective farmers for renewing the farm when they take over and keeping things as they are out of respect for older family members. While traditional attitudes on gender still prevail in many respects, they found that young female prospective farmers have a greater tendency to shun the traditional farm wife role, and instead “they see themselves as business owners and capable of running small-scale or larger farms.” (Grubbström et al., p. 159). While largely in agreement with the conclusions of Anderson and Lundqvist (2016) on unequal access to farmland between men and women, Grubbström et al. perhaps offer hope of a more equitable distribution of farmland between men and women in the future. Another important finding of this work was that young farmers reject the image of the solitary and stoic farmer, and rather say that they will seek a business model that allows denser social relations through networking and cooperation with neighbors and others. Stenbacka and Bygdell (2018) found an analogous attitude among already established farmers whose desire for long distance travel and curiosity about the world are redefining what it means to live in rural areas.

The geographical context, or expressed differently, the territoriality, in which farming takes place has an important impact on tenure relations and on how farms develop and change. This is evident in peri-urban areas, as demonstrated by Wästfelt and Zhang (2018, 2016) who show how the city of Gothenburg (Sweden’s second city) has, as mentioned above, inadvertently created conditions for sustainable agriculture with short food supply chains on public land on the outskirts of the city by continuing to lease the land to farmers for affordable rates, thereby for the moment, holding back on developing the land for what would be profitable (for Gothenburg and developers) residential or urban use. Similar to the case of farm succession above, this case shows how the possibility to lease in land gives farmers economic space to develop the farm. Dubois and Carson (2019) mapped out farm development trajectories in Sweden’s sparsely populated Västerbotten county, showing that the geographic context shapes farm development trajectories, with a more typical restructuring processes involving scaling up of operations, particularly in dairy farming located near the urban center of Umeå, while a variety of different farms persist further in the periphery.

In a deeper exploration of geographic peripherality and farming, Dubois (2019, 2018), drawing on economic geography, shows how proximity is a relational concept as farms in peripheral areas in Västerbotten engage in “translocal” networks for the development of alternative food networks that might involve relations that are distant as the crow flies, but still near and impactful in social terms. Eriksson and Bull (2017),

profiled above, and Rytkönen (2016) similarly show the importance of translocality in producing a unique mix of foreign and local influences in the development of artisanal cheeses in Jämtland—another relatively sparsely populated area. This is important because establishing SFSCs is usually seen as requiring proximity to a larger urban center (such as Gothenburg in the example above from Wästfelt and Zhang) or being in a popular tourist region. While many SFSCs or similar alternatives are indeed located in proximity to urban or tourist areas in Sweden (Waldenström, 2018), and farms are disappearing at a greater rate in peripheral areas in the north of Sweden, Dubois shows that peripherality in itself does not automatically mean there are no farm development prospects. This is important to follow up if we want to preserve farming in the periphery.

This is also important theoretically. Geographic context—as shown above—certainly has an impact on farm development trajectories. However, farming can also persist, as Dubois shows, even in unfavorable geographic circumstances. This is also a theme in Slätmo (2016), who explores the different ways that farmers in two farming communities, one in Sweden and the other in Norway, persist under the shadow of conversion to urban land use or government policies restricting what farmers can do on their land. Slätmo highlights farmer agency for explaining persistence. For Dubois the possibility of developing supporting translocal ties that stretch definitions of proximity is also important. Dubois and Carson also note that in some cases the manner of persistence do not appear to follow a pattern—there is “no single style of upland [meaning peripheral] farming” (Dubois and Carson, 2019, p. 50) An overall conclusion that can be made about geography and agrarian change is that geography, at least as traditionally defined as the local socio-environment and distance to markets, is important in shaping farm development prospects, but not determinative.

7 Farmer identities and values

Farmer attitudes have already been touched on in the section on sustainability, and the section on agrarian change highlighted how farmer agency is important for shaping agrarian trajectories. This section will take up this discussion in more detail, focusing on research that address farmer attitudes and visions more broadly, and how this affects the choices and decisions that they make. This is investigated in different ways in numerous studies reviewed here (Aggestam et al. 2017; Eksvärd and Marquardt 2018; Grubbström et al. 2014; Hallgren et al. 2020; Saunders 2015; Slätmo 2016, 2017; Stenbacka 2017; Öhlund et al. 2017). Addressing the question “what is a good farmer” is a useful way to explore farmer’s attitudes, preferences and visions. This question both highlights the importance of farmer professional autonomy and helps to embed farmer self-concepts into a broader, but evolving culture of farming, which in turn helps to see how farmers’ self-concept can shape production decisions. Examining how policies and circumstances are in alignment or conflict with different answers to the question of what is a good farmer further helps to understand how farmers navigate dilemmas or pressures that they face, either from the market or from regulations.

The first thing to say about the question “what is a good farmer” is that, as Saunders (2015) has shown, the dominant productivist culture is evolving and fragmenting in Sweden. More specifically, Saunders demonstrated, in line with Sutherland and others (2013; 2012), that organic farmers in Sweden are breaking in some ways with productivist culture, and identifying a broader set of concerns related to environmental protection as being important to being a good farmer. Öhlund et al. (2017) also charted quite distinct attitudes about farming and animal welfare (detailed below) between organic and conventional pig farmers in Sweden. There is, it has to be said, still significant overlap in how organic and conventional farmers in Sweden answer the question of what a good farmer is. Fischer et al. (2019, p. 2733) show, based on a sample of conventional and organic dairy farmers, that “taking care of one’s cows and having a productive farm... can be seen as central for how they conceptualized being a good farmer.” Similarly Saunders demonstrates that both groups cite the importance of hard work and running a farm that is economically viable as part of being a good farmer. Meanwhile, Saunders also shows that conventional farmers, despite maintaining what can be called a traditional productivist mindset, are quite reflexive in their practice. In other words, their attitudes are not carved in stone, and while the productivist mindset remains strong, this is a dynamic field.

There has also been a fragmentation of and polarization around the farmer image in

the Swedish mass media (Hallgren, et al., 2020; Olausson, 2018), which can be attributed to the relatively recent publication of different critical reports that point out the impact of livestock farming on methane emissions, a far more potent greenhouse gas than carbon dioxide. Hallgren et al. (2020) discuss what impact this fragmented discourse can have on the notion of being a good farmer. In particular, they note that a binary construction of farming has evolved in the media landscape. In this binary construction, farmers are either presented as “environmental heroes” or “environmental villains.” In the first example, farmers are presented as “a prerequisite for the management of a biodiverse landscape that is socially valued and appreciated” and “as place-based agents whose practices are constitutive for the place.” (Ibid, pp. 265–266). In the latter case, it is the meat industry or the cows themselves that are identified as climate villains, while the connection to farmers is usually implicit. The farmers, however, tend to respond to these negative depictions as if they were directly implicated, and it increases pressure on farmers, and probably, as the authors argue “engenders misgivings in pursuing farming” (Ibid, 271; see also Fischer et al. 2019, 2732). More broadly, the authors argue that the binary construction “offer[s] limited space for recognition of varied or nuanced ecocultural identities” which makes it more difficult for farmers to get recognition for the positive environmental work that they do.

Eksvärd and Marquardt’s (2018) research, already discussed above, is important in this regard, because it shows the conflict that arises when agri-environmental schemes (AES) designed to promote sustainable farm practices ignore the farmers’ own values and autonomy, and instead seek to, as Burton et al. (2008, 33) phrase it “[purchase] environmental behavior,” using farmer financial dependence on the EU farm payments as leverage. What is unique about Eksvärd and Marquardt (2018) is that their sample included many organic farmers, i.e. farmers who are presumably already inclined towards implementing sustainable farm practices. All farmers in their sample appeared to express some level of “stress and frustration” (Ibid, p. 206) at the loss of autonomy that the zealous AES enforcement on the part of the regulatory authorities entailed. Moreover, while the studied farmers conscientiously complied with the complicated regulations, the authors note that this did not result in a “major sustainability transition process happening on these farms as a result of the RDP” (Ibid), i.e. the regulations are achieving their narrowly defined results, but are not effecting a more significant sector wide transition towards sustainability. In calling for a reevaluation of “power asymmetries” in policy enforcement, their results are in line with Burton et al. (2008, p. 32) who argue that “AESs must recognize that farmers also need to preserve a way of life, a sense and a value for their professions.”

Various studies in this review pointed to a broader set of values related to farming as a profession and identity that motivate farmer action beyond cold profit calculation. As one dairy farmer cited in Fischer et al. (2019, p. 2729) succinctly put it “...no one makes money. You don’t do this for the sake of the money.” Grubbström et al. (2014, 160) similarly write about young people considering the farming profession: “Profit is not the sole driver for getting young people into the farming business. Interest and motivation are key drivers for investments and development.” Aggestam et al. (2017, p. 69) write that “attitude is an important driver during the decision making process,”

when deciding on if/how to scale up involvement in short-food supply chains. Consultation within the farmer's "close community" was also found to be important among the sample of farmers investigated by Aggestam et al. (Ibid). This "close community" mirrors a process of "social negotiation" found by Joose and Grubbström (2017, p. 171) to be important in helping to "interpret market or political challenges" on the part of new farmers. In her investigation of the values that motivated women to take up farming, Stenbacka also highlights the possibility to create and work within communities, as an important motivator. As other reasons for choosing to be farmers, the farmers in her sample also cited work-life balance and being able to work from home, "being in the rural physical environment," (2017, p. 121), and, importantly, the possibility, discussed above, to combine business interests with farming activities that are multifunctional and sustainable. Finally, an important value that motivates farmers beyond concerns about the economic viability of the farm is preserving a particular kind of agricultural landscape (see for example Hallgren, et al., 2020; Sandberg and Jakobsson, 2018; Waldenström et al., 2016).

With a comment that touches on many of the above points, Slätmo writes (2016, p. 179) that "all farmers interviewed [in her study of Swedish and Norwegian farmers] shared the characteristic that their farming mainly stemmed from non-financial motives—an interest in working with soil and animals, a curiosity to try different land management methods and/or sense of responsibility to keep the land farmed." The broader implication of all this is that "when human agency is included, there is no continuous predetermined direction of land use change taking place" Slätmo (Ibid, p. 172).

As a final note on this, it would appear that the question of (Swedish) farmer values and attitudes will soon be put to a test if current promises to both increase environmental conditionality of CAP farm support (Collantes, 2020) and decrease the overall amount of single farm payments are followed through, which appears to be the case at the time of writing (Knoxborn, 2020). Unless policy makers are willing to take farmer visions and professional identities into account, there will probably be even more "stress and frustration" (Eksvärd and Marquardt 2018, p. 206) among Sweden's farmers going forward. As reported above, Saunders (2015) concluded that there is an ongoing fragmentation of attitudes among Swedish farmers on what it means to be a good farmer. This in theory makes it more difficult to craft policy that takes farmer visions and professional identities into account, if the regulatory authorities were to be so inclined. That being said, a greater diversity in attitudes about what it means to be a good farmer is probably a good thing. In either case, how the farmer "habitus" is changing or fragmenting today is an avenue of differentiation that should be closely followed in the coming years.

8 Animal welfare

There have been a number of recent studies focusing on animal welfare in Swedish agriculture, which can be divided up into those that take a farmer perspective and those that do not. Those taking a farmer perspective are certainly critical, but they ultimately evince a sympathetic perspective on the challenges farmers face in managing conflicting goals with respect to animal welfare and sustainability and in dealing with various control systems. In contrast, those studies (reviewed here) with animal welfare as a theme that do not proceed from a farmer perspective focus on the deconstruction of the marketing of meat and milk products, particularly products that are supposed to have been produced with higher regard for the environment or animal welfare. These latter studies show how marketing of or discourses on meat products are buttressed by and in turn buttress traditional or idyllic narratives on the family, gender and rural areas, and they open up for a critique of “ethical” consumption of meat and dairy products. More broadly, it can be said that—at least with respect to recent studies with an animal welfare component—not taking a farmer perspective opens up for a more thorough critique of livestock farming, questioning if it is possible to produce meat ethically.

Öhlund et al.’s (2017) research comparing animal welfare practices and thoughts on sustainable farming between conventional and organic pig farmers in Sweden detail the different perspectives that arise on animal welfare and the sustainability of livestock farming based on production orientation. In terms of animal welfare, for example “the organic farmers talked about natural behavior, while the conventional farmers focused on the absence of diseases and high feed conversion” (Ibid, p. 702). In other words, organic farmers pursued farming practices adapted to “pigs’ instincts and needs” (Ibid, p. 699)—i.e. more time outdoors and longer lactation periods for piglets—even above and beyond Sweden’s ambitious regulations with respect to animal welfare. Meanwhile, the conventional farmers in their sample criticized the ambitious Swedish animal welfare standards as making livestock farming in Sweden more expensive, though, somewhat contradictorily, they also praised the high hygienic standards of Swedish production and the low antibiotic use, which aligns with Fischer et al. (2019), discussed above and in this section. Meanwhile, conventional farmers focused on resource effectiveness while organic farmers emphasized “...positive contributions to the agri-eco system [from organic pig farming]...” (Ibid, p. 702). The authors conclude with a matter of fact statement, that on its surface appears almost commonsensical, but actually has important consequences for sustainable transformation of agriculture: “...

when raising animals, one also has to take animal welfare into account if a practice is to be called sustainable” (Ibid, p. 704).

Bergeå et al. (2016) explore the question of why cow longevity does not improve on Swedish farms, despite the considerable research showing the many different factors affecting longevity and a long-term genetic trend towards increased longevity. They find an explanation for this discrepancy in the relation between decision making and attitudes of Swedish farmers and the control and management systems for monitoring cow health and productivity. The authors had an expectation that, given all the attention on and discussion about cow longevity, that this would be a farmer concern as well. However, this turned out not to be the case. When asked about longevity, farmers tended instead to talk about the various reasons cows are culled, which, despite diverse reasoning, are for the most part closely related to how productive the cows are. Ultimately, farmers felt that they did not have the “decision space” (Ibid, p. 32) to affect cow longevity. There are several reasons for this. One reason is that farmers have to report the reason they cull cows, “which makes culling reason a key verbalized concept compared to longevity” (Ibid). Also, more generally, “longevity is not easily detected at the farm level, because it is seldom presented in the management data provided to farmers by the milk-recording system or by their farm-management systems” (Ibid). There is in another words a disconnect between the policy and research discussion on cow longevity, and the reality on the farm, as defined by farmer attitudes and priorities and the metrics and demands of farm management systems. One obstacle to overcoming this disconnect is that it would appear, as shown by Bergeå et al, that dairy management systems subtly affect what farmers think is important and the decisions that they make.

In a recent study on the culture of antibiotic use on Swedish dairy farms, Fischer et al. (2019), already touched on above, confirm the importance of Burton et al.’s arguments, also mentioned above, about the role of culture and other structural factors in shaping how farmers relate to animals, which in turn has manifold implications for how the farm is run. Moreover, this study shows how Swedish farmers navigate contradictions between economic pressures or incentives to effectivize dairy farming, and the responsibility to treat the dairy cows well. On the one hand, “all the farmers in different ways expressed strong emotional ties and sense of responsibility for treating their cows well” (Ibid, p. 2729). On the other hand, there were stronger emotional attachments, the authors found, to more productive cows, and “[the] labor burden, economic constraints or social constraints” (Ibid, p. 2731) do occasionally stand in the way of proper animal welfare, particularly in relation to taking care of sick animals. Like Lunner-Kolstrup et al. (2018), discussed above, Fischer et al. also explore the impact of digitalization and automation on dairy farming, in this case finding that farmers who employed automatic milking systems (AMS) lost neither an emotional connection to the cows, nor the ability to assess cow health by visual inspection.

In terms of studies that do not proceed from the farmer perspective, Pettitt and Bull (2018) and Linne (2016) investigate how meat and dairy products are marketed to consumers. Pettitt and Bull studied how “high-welfare” chicken—i.e. free range chicken—is visually presented and marketed in supermarkets. In contrast to other

kinds of meat, chicken is marketed with a “specificity” with respect to “animals, places and people,” (2018, p. 1639). These images connect to traditional and heteronormative ideas about family farming on the one hand, thereby bolstering a particular image of the rural, while on the other hand also obscuring the industrialized conditions that underlie even free range production. Studying social media, Linne (2016) similarly deconstructs the use of milk cows in the marketing of the main Swedish dairy companies. He argues that social media marketing campaigns present Swedish dairy production in an “idyllic image..., [that] suggests that the treatment of animals in dairy production is morally unproblematic” (2016, p. 723). Like Petitt and Bull, Linne also examines the marketing of products ostensibly adhering to higher standards of production, in this case organic milk, showing how the marketing message and social media itself, in turn, give space for consumers to present their milk consumption in ethical terms.

Olausson (2018) had a similar point of departure as Petitt and Bull and Linne, i.e. critically reviewing discourses on meat production and consumption, but looking more at how “livestock production is justified and legitimized by people in everyday life” (Ibid, p. 28) via social media. In particular, she examined arguments in favor of livestock production found in Facebook responses to articles on livestock farming’s impact on the climate. Proponents tended, among other things, to naturalize the presence of cows as a part of nature and helping to produce open-landscapes, while minimizing livestock animals’ impact on climate change through an “ontologization” of the impact as just “cow farts” (Ibid, p. 35). There is also considerable “what-about-ism” comparing Sweden’s relatively—in global terms—good reputation with respect to environmental regulations and animal welfare with countries that are less diligent in pursuing ambitious environmental policy. The latter was part of a general tendency to frame comments in favor of livestock production in terms of national ideology, which in turn was one contributing factor, among others, towards a growing polarization in debates on this question in social media.

Though a relatively neglected topic, the studies reviewed show the importance of animal welfare as studied from a social science perspective. Among other things, it touches on or relates to so many other questions that are important for agriculture: from sustainability and digitalization to fundamental questions about what a good farmer is.

9 Concluding reflections

In conclusion, I offer three reflections on the reviewed research and the significance of social science study of agriculture more broadly. The first reflection proceeds from a simple question that motivates many social science studies: what is changing? The recent literature has revealed a number of tendencies, some new, some not so new. For example farm labor is changing. There are new ways to mobilize volunteer labor for small-scale farms with alternative business models and higher ambitions for environmental sustainability (Wästfelt and Zhang, 2016). At the same time, an increase in the significance of wage labor in farming is taking place (this report), and there is an increase in the number of seasonal migrant labors (Svenson et al. 2015; this report). These shifting labor trends, as noted above, have not been adequately investigated. Also, new digital tools are changing the nature of farm work (Lunner-Kolstrup et al., 2018), but again we do not know the wider significance of this development yet. The potential deregulation of corporate farmland ownership (Slätmo, 2017b)—something that, as discussed above, is lurking in the future—would offer new ways to mobilize farm land in production, for better or worse. Being near (Wästfelt and Zhang, 2018) or far (Dubois and Carson, 2019) to a city affects farm growth and development, but IT technologies are offering new ways for farmers to communicate and cooperate with consumers and with other producers with less regard for physical distance (Dubois, 2018), and thus in some cases escaping what many perceive as a less favorable geography. There are more female farm managers (Andersson and Lidestav, 2014; Andersson and Lundqvist, 2016), and farmers have new ideas about what a good farmer is (Saunders, 2015) and thus new goals, for example minimizing the environmental impact of farming.

When considering change, it is natural to ask what has not changed. The recent research shows many farmers still have a productivist mindset (Saunders, 2015), remain skeptical of the need to make climate related (Juhola et al., 2017) or food security related (Eriksson et al., 2020) adaptations, and instead are focused on the economic viability of the farm (Fischer and Rööös, 2018). It is important to note in this regard that farmers face tough economic competition and a cost-price squeeze, i.e. there are important external conditions reinforcing the culture of productivism. As with so many other social phenomena, there is continuity and change in Swedish agriculture. It is difficult to assess the balance between continuity and change based on the reviewed literature but there are hints in the reviewed literature indicating that Swedish farms, while decreasing in number, are becoming more diverse, in terms of identities, demography,

and production systems. The extent of this diversification and if and how it will affect agricultural sustainability and rural development must continue to be studied.

A second point, related to diversity, is that the reviewed research draws out the fundamental hybrid nature of farm life, work and production. In various ways, farms are shown in the reviewed research to be situated between and constituted in varying degrees by opposites—the local and the global, what is seen as masculine and feminine and standard definitions of home and work, and, more practically, conventional production orientations versus alternative and organic orientations. In other words, the different activities that farmers are engaged in involve “boundary-stretching” (Cassel and Petterson, 2015) or “oscillating” (Stenbacka and Bygdell, 2018) between the opposites noted above such that the farms that they run in many cases cannot neatly be considered to be one or the other, i.e. local or global, organic or conventional, but in some sense both. An implication of this is that it problematizes the categories and typologies we use to understand the reality of farming. For example, Saunders (2015) and others showed us that the differences between conventional and organic production orientations are not so clear cut, but involve “complex shades of green.” Dubois (2018) and Eriksson and Bull (2017) showed us how globalization and the internet have shaped the development paths of small-scale food initiatives, even in quite remote places, such that the word “local” fails to capture the nature of these initiatives. Gender research is particularly strong in highlighting hybridity and its implications. As Flygare writes (2011) “several of the agricultural categories coined by the 20th century evaporate when subjected to a fairly simple gender analysis.”

“Boundary-stretching” activities do not only problematize sociological typologies, but they can also lead to a transformation process that we would otherwise miss if we were not sensitive to hybridity. This comes out well in Cassel and Petterson’s (2015) study of female farm entrepreneurs, whose on-farm tourism businesses—run in parallel to the husband’s farm activities—are one of the clearest examples of boundary-stretching hybridity reviewed here. Boundary-pushing, as Cassel and Petterson show, is complicated and contradictory. For example farm wives often perform “archetypical” (Ibid, p. 149) female roles in their capacity as farm tourism entrepreneurs, i.e. they reinforce traditional narratives about the role and place of the farmwife. However, as these tourism activities become more prominent, and the income they generate more important for farm survival, they “challenge the notion of farming as an agricultural production activity” (Ibid). There is the question of how to categorize such a farm, discussed in the preceding paragraph, but there is also the matter of a change process that we would miss without an appreciation for and attention to hybridity.

A broader implication of hybridity concerns metrics and indicators. Defining and tracking agricultural sustainability is often predicated on metrics or indicators based on standard categories (i.e. organic/conventional, male/female). If the categories are unstable, one can question the reliability of the metrics from which they are derived. This is not to argue against the use of metrics and indicators in monitoring sustainability. What it does mean however is that we need to be reflexive about the use of metrics and indicators, and we must interpret them critically, having in mind that they fix reality in a certain way. Qualitative social science in other words plays an

important role in contextualizing and clarifying what certain statistics mean and what effect they have in a particular context.

The third and final reflection concerns agricultural sustainability, which is certainly the most important topic for the near future—farming must reduce its negative environmental and climatic impact while continuing to maintain if not increase current production levels. The reviewed research shows how social science can help us understand and meet this challenge. One way is to highlight the definitional struggles over agricultural sustainability that take place in the policy arena and among different actors in the food supply chain, showing for example where political or bureaucratic compromises or particular business models either accomplish or erode genuine sustainability. A related approach is to focus attention on who captures the surplus value from farming or food production, and how the manner in which value is captured affects both the envisioning and realization of agricultural sustainability. In this regard, there has been a wealth of recent research, reviewed above, on small-scale, alternative agricultural production models in Sweden, organized to avoid the evident compromises to sustainability involved in current agricultural regulations and dominating business models. This is important research, but this report also notes a gap in that more prominent and potentially more impactful bioeconomic actors (such as for example Lantmännen and Arla), and their production methods, motives and impact on the agricultural sector, have been understudied in Sweden. Finally much of the literature reviewed here that touches on agricultural sustainability emphasizes environmental sustainability. This is obviously important, but sustainability, as defined by the Sustainable Development Goals, is also about equality and decent working conditions. Equality and decent working conditions—in terms of gender and labor—have certainly been extensively studied recently, as discussed above. However with some exceptions (Röös et al. 2019) discussions of equality and decent working conditions have not directly been connected to broader discourses on sustainability. Looking forward, the social sciences can make an important impact by explicitly framing questions of equality and decent working conditions as aspects of agricultural sustainability.

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