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**Exploring the Intersection of Economic Democracy,
and Environmental Sustainability**

– A case study of the Danish Agricultural Co-operative Andelsgaarde

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Abstract

This thesis examines the intersection of economic democracy and environmental sustainability in the agricultural sector, using the Danish agricultural co-operative Andelsgaarde as a case study. Employing the theoretical framework of economic democracy, as described by Dahl (1985), Archer (1995), and Malleson (2012), the study analyses Andelsgaarde's approach towards realising its environmental sustainability objectives within the co-operative model. A quasi-deductive research methodology is used to assess the alignment of Andelsgaarde's operations with the concepts of economic democracy, including democratic ownership and decision-making, participatory planning, objectives beyond profit, and radical realism. The findings reveal a significant alignment between Andelsgaarde's strategies and the concepts of economic democracy. Furthermore, the study suggests that these concepts may facilitate environmental sustainability. However, the conclusions emphasise the need for further research to validate these findings. Consequently, this thesis contributes to the accumulating body of research at the intersection of economic democracy, co-operatives, and environmental sustainability, advocating for additional studies to further understand these connections in different contexts.

Key words: economic democracy, co-operatives, environmental sustainability, Andelsgaarde, sustainable agriculture

Word count: 9.998

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1. Introduction and Research Question

Agriculture is a significant contributor to global greenhouse gas emissions, accounting for 22 percent of total emissions. In Denmark, one of the most intensely cultivated countries globally, farming is responsible for 33 percent of the country's greenhouse gas emissions. Additionally, the conventional large-scale farming sector maintains a strong presence in the agriculture industry, primarily due to significant economic barriers related to farmland acquisition. This creates a challenging environment for young or less affluent farmers with intentions to develop environmentally sustainable farming practices (Danmarks Statistik 2022; Halberg, 2020, pp. 7–8). These conditions have led to the emergence of bottom-up initiatives aimed at promoting environmentally sustainable agricultural practices through a variety of alternative economic means (Dragsted, 2021, p. 22; Halberg, 2020, pp. 8–9; Steen Nielsen, 2020a). The Danish agricultural co-operative ‘Andelsgaarde’ is an example of such an initiative. The co-operative was established in 2018 with the declared objective to buy farms and establish environmentally sustainable, and regenerative farming practices (Andelsgaarde, n.d.a).

This study employs the theoretical framework of economic democracy as outlined by Dahl (1985), Archer (1995), and Malleson (2012). The theoretical framework highlights the significance of democratic ownership and governance, along with equitable distribution of wealth and power, within enterprises and other economic entities, including co-operatives. This thesis examines the ways in which Andelsgaarde integrates its environmental sustainability goals with the co-operative model. Additionally, the analysis carried out in this study initiates a discussion on the potential utility of the concepts of economic democracy as instruments for realising environmental sustainability within agriculture.

The research question for this thesis is:

How and to what extent is the agricultural co-operative Andelsgaarde in line with the concepts of economic democracy in its objective to achieve an environmentally sustainable farming practice?

This study employs a quasi-deductive methodology, utilising the theoretical framework of economic democracy to derive hypotheses regarding an unexamined case in agricultural co-operatives. Empirical data obtained from official documents, along with an interview conducted with the co-operative's chairperson, were used for the analysis. The primary objective of this thesis is to contribute new perspectives on the intersection of agricultural co-operatives, economic democracy, and environmental sustainability.

The thesis begins by offering a contextualisation of Andelsgaarde, followed by a literature review. It then proceeds to present the theoretical framework of economic democracy and the methodology employed in this paper. The analysis section assesses Andelsgaarde's adherence to economic democracy concepts, which leads to a discussion reflecting on the findings and their implications. Lastly, the conclusion provides a summary of the main points addressed in this thesis.

2. Contextualising Andelsgaarde

This section presents a brief overview of the historical and current contexts that are relevant to this thesis and the study of the agricultural co-operative, Andelsgaarde. This includes the intersection of economy and democracy, the history of the co-operative movement, the connection between farming and environmental sustainability, and a short presentation of the subject of this study, Andelsgaarde.

2.1 Economy and Democracy

Global inequality is increasing both within and between countries (IMF, 2022). This has left an increasing number of people dissatisfied with the capitalist economy, which has failed to provide them with the economic prosperity and security promised by its proponents. Recurrent economic crises, the erosion of welfare services and social safety nets, as well as the climate crisis that threatens parts of humanity's survival, further contribute to this dissatisfaction (Dragsted, 2021, p. 22; Gibson-Graham et al., 2013, pp. 12+50). The movement against economic exploitation and inequality has manifested in various forms, such as the Occupy Wall Street movement, which emerged during the aftermath of the financial crisis. This movement aimed to draw attention to the economic disparity and exploitation faced by the 99 percent of the population, whose labour was being exploited while wealth remained unequally distributed (Dragsted, 2021, pp. 22-23; Gibson-Graham et al., 2013, p. 50). Other similar movements include Fridays for Future, Ende Gelände, and the Yellow Vests. What these movements have in common is that they challenge the prevailing economic system, which leaves significant portions of the population without control over their own lives and economy, thereby diminishing their democratic influence and power to implement the agendas they believe are important. These examples may be seen as a critique of the unequal distribution of wealth, power, and democratic influence within society (Dragsted, 2021, pp. 22–23; Halberg, 2020, p. 15).

2.2 The Co-operative Movement

A historical example of the aforementioned issues is the co-operative movement, which originated in the northern English town of Rochdale. In 1844, a group of weavers established a new type of enterprise: a co-operative purchasing association governed by democratic principles. The weavers in Rochdale were facing poor working conditions and low wages, and therefore decided to pool their limited resources into a co-operative. All customers in the purchasing co-operative became members and co-owners with an equal vote. In contrast to conventional businesses, any surplus from its operations would not go to a merchant but to the collective and its members. In this way, the co-operative members were able to achieve substantial cost savings and benefits. The co-operative movement has since grown into a global phenomenon, with co-operatives in various sectors, such as agriculture, finance, and housing (Dragsted, 2021, pp. 124-125; Nicolajsen, 2011; ICA, n.d.).

In a Danish context, the co-operative movement had a significant influence from the mid-1800s. Here, the movement took two directions: an urban co-operative movement primarily composed of purchasing associations, such as the one in Rochdale, and an agricultural co-operative movement. This section focuses on the latter. Here, independent farmers joined forces and established their own collectively owned dairies and slaughterhouses, with each member having an equal vote regardless of their contribution, while economic profits were distributed according to the amount of milk, pigs, and other products that were contributed to the co-operative. The aim of the agricultural co-operatives was to help small farmers mitigate competition while sharing new innovations and production resources among themselves (Halberg, 2020, pp. 72-73; Nicolajsen, 2011). At its peak, the co-operative movement accounted for a quarter of the Danish economy, but has since experienced a decline (Dragsted, 2021, p. 130; Sandborg, 2023).

2.3 Farming and Sustainability

Farming contributes to 22 percent of the global greenhouse gas emissions. In Denmark, where agriculture constitutes approximately two-thirds of the total land area, it accounts for 33 percent of the country's greenhouse gas emissions (Behrendt, 2019; Halberg, 2020, pp. 7–8; Hessellund-Andersen and Sørensen, 2017, p. 2). The Nature Agency of Denmark, therefore, advocates for a significant transformation of farmland that is currently being cultivated conventionally by the large-scale farming sector. In this thesis, such ‘conventional large-scale farming’ is characterised by “annual practices of ploughing, harrowing, fertilising, pesticide use, and drainage,” (Nature Agency of Denmark, n.d., cited by Steen Nielsen, 2020b). The Agency's proposal aims to (re)turn these lands into wetlands and natural habitats. This change would yield environmental benefits by enhancing biodiversity and promoting carbon sequestration in the soil. The climate and environmental impacts associated with conventional farming have led to increasing criticisms of the conventional farming sector. The perspective, thus, holds that a significant shift towards sustainable farming practices is crucial in mitigating the worst impacts of climate change, and biodiversity loss (IPCC, 2019; Steen Nielsen, 2020a, 2020b).

Furthermore, in Denmark, 0,6 percent of the population possesses 62 percent of the country's farmland (Halberg, 2020, p. 26; Hansen, 2019). The unequal access and ownership of farmland may be attributed to several factors, including high economic barriers associated with land acquisition. High land prices, significant debt burdens, and low-profit margins make it challenging for young or less affluent farmers to establish themselves in the sector. Therefore, the conventional large-scale farming sector constitutes a significant portion of the Danish agriculture industry as they hold the majority of ownership (Danmarks Statistik, 2022, p. 5; Abrahamsen, 2015).

2.4 Andelsgaarde

The Danish agricultural co-operative Andelsgaarde presents an example of a bottom-up initiative aimed at tackling the issues of climate-damaging agricultural

practices, and the unequal ownership of and accessibility to farmland. The co-operative was founded in 2018. In 2019, Andelsgaarde acquired its first farm, and as of today, Andelsgaarde owns and operates three farms and is currently seeking to acquire a fourth one. The co-operative has seen a growth in membership each year since its foundation, and currently has over 2,700 members as of 2022. Each member pays a membership fee of 150 DKK per month to help support the operation of the farms, the work of the organisation, and the acquisition of new farms. Furthermore, the membership fee contributes to allocating up to 50 percent of the farmland for nature restoration (Andelsgaarde, 2019, 2020, 2021, 2022a, 2023, n.d.a).

Andelsgaarde has a declared goal to “buy, rebuild and lease farms to cultivate land regeneratively in a modern and sustainable way. We are doing our part to reduce the climate and biodiversity crisis and to produce more healthy food, while also giving nature more space,” (Andelsgaarde, n.d.a). Therefore, the primary objective of Andelsgaarde is to transform and cultivate Danish farmland according to the ‘regenerative’ farming principles (Andelsgaarde, n.d.a). The regenerative farming principles may be defined as; “farming that is both productive and sustainable; farming that does no harm but, more than that, farming that rebuilds soils, landscapes and communities,” (Dent and Boincean, 2021, p. x).

The continued growth in membership, coupled with the acquisition of three farms within a span of five years, contributes to the characterisation of Andelsgaarde's operations as 'successful' in this thesis.

3. Literature Review

This section provides a brief overview of the existing literature that explores the intersection of economic democracy, co-operatives, and environmental sustainability.

3.1 Economic Democracy as a Tool for Change

A literature review of economic democracy theory reveals a predominant application of the theoretical framework on case studies concerning worker co-operatives. Additionally, the majority of case studies emphasise social and economic matters rather than environmental concerns. However, there are still case studies that explore the intersection of economic democracy and environmental sustainability.

An example that showcases the frequently employed application of the economic democracy theory can be found in a research article that investigates the potential of co-operatives to create wealth in urban areas through shared ownership structures. This study, which focuses on worker co-operatives in the United States, proposes that co-operative development could help mitigate the negative consequences of rising income inequality, particularly in post-industrial cities. Moreover, the findings suggest that co-operatives may have the capacity to stimulate job creation, encourage economic growth, and bring together various communities in support of economic solidarity (Luviene et al., 2010, pp. 26-27).

Bianchi and Vieta (2019) provide an example that highlights how community co-operatives in Italy are being used to pursue the Sustainable Development Goals (SDGs). These co-operatives are utilised to self-organise local services, regenerate community assets, and produce goods for community development projects. The study illustrates how community co-operatives are promoting equitable economic development, renewable energy supplies, infrastructure regeneration, and the support of services to communities in need. Overall, the paper demonstrates how

individuals and communities are employing the co-operative model to achieve the SDGs and address public sector withdrawal, and market failures (Bianchi and Vieta, 2019).

3.2 Agricultural Co-operatives and Environmental Sustainability

Candemir et al. (2021) conducted a literature review on the relationship between agricultural co-operatives and farm sustainability, which revealed several noteworthy findings. The review indicated that agricultural co-operatives, as a result of their democratic ownership and self-governance, may have a broader range of actions than privately owned firms. By pooling their investments and establishing a stronger market position, co-operatives and their members may be better positioned to determine their own incentives and objectives. Since democratic ownership frequently encompasses various purposes, including social, economic, and ecological goals, being a co-operative increases the likelihood of investing in environmentally sustainable farming initiatives. However, it is essential to consider that democratic decision-making processes and ownership might not always result in sustainable food productions. For instance, in a European context, there are several cases where co-operatives have grown to such an extent that they have attained a near-monopoly status, lost their democratic functions, and cannot be considered environmentally sustainable. In addition, the review shows how most of the studies on farming co-operatives have been conducted in the global south, and there appears to be a considerable gap of literature on agricultural co-operatives in the global north (Candemir et al., 2021, pp. 1120–1126).

By analysing nine different Norwegian agricultural co-operatives, Devik (2013, p. 105) demonstrates how a growing agricultural co-operative movement in Norway may potentially realise an ecological and economically resilient agricultural system. According to Devik (2013), the potential advantage of the co-operative model resides in its integrated approach towards sustainability, embracing both the economic and ecological dimensions, as well as the close relationship between producers and consumers that facilitates a deeper understanding of the

environmental, social, and economic costs of farming. Additionally, the financial contributions from consumers and members can help reduce the vulnerability of co-operative farmers to fluctuations in demand and production. Moreover, the extra capital may reduce the farms' debt, resulting in more efficient farming practices and decreased fixed costs (Devik, 2013, pp. 105-107).

3.3 A Literature Gap

While numerous studies address the social and economic aspects of co-operatives, there is a scarcity of research examining their environmental implications, particularly in the global north. Some studies emphasise the potential of democratic ownership in fostering environmentally sustainable farming practices, but their range is limited. As a result, further exploration is necessary to better understand the relationship between agricultural co-operatives, economic democracy, and environmental sustainability within the context of the global north. Therefore, this study aims to examine Andelsgaarde, a Danish agricultural co-operative, which has not been previously explored within the framework of economic democracy.

4. Theory

In this thesis, the theoretical framework of economic democracy proposed by Dahl (1985), Archer (1995), and Malleson (2012) is employed to examine the agricultural co-operative *Andelsgaard*. Dahl (1985) and Archer (1995) are recognised as early advocates of economic democracy, whereas Malleson (2012) builds on Dahl's (1985) and Archer's (1995) ideas by advocating for a contemporary form of economic democracy that emphasises democratic control of the major economic institutions such as workplaces, the market system, and finance (Malleson, 2012, p. 14). Additionally, Malleson (2012) includes aspects of climate change and sustainability into the conceptualisation of economic democracy.

The theory of economic democracy may be described as normative as it seeks to provide a vision and guideline for a different way of organising and distributing economic resources based on principles of participation, equality, and democratic decision-making (Archer, 1995, pp. 1-2; Malleson, 2012, p. 139).

4.1 Economic Democracy and Co-operatives

According to Dahl (1985), Archer (1995), and Malleson (2012) fundamental parts of the economy are structured in a non-democratic way. They argue that without a fully democratised economy, there can be no true democracy. Against this background, they demand a fair distribution of wealth, as wealth provides power and the ability to pursue one's own objectives. The argument suggests that the concentration of wealth under private ownership, as seen in capitalism, results in the centralisation of power, consequently leaving the majority of the population powerless (Dahl, 1985, pp. 148-149; Archer, 1995, pp. 15-16; Malleson, 2012, pp. 6-7). This implies that the existence of significant inequalities in political resources – from factors such as ownership and control of economic enterprises, which can lead to differences in income, wealth, information, access to political leaders, and ultimately influence over the political agenda – among citizens in a democratic

country should be a cause for concern for anyone who values political equality and democracy (Dahl, 1985, p. 53; Archer, 1995, pp. 26-27; Malleson, 2012, pp. 8-9).

In order to achieve the aim of economic democracy, Dahl (1985, pp.141-142), Archer (1995, pp. 103-105) and Malleson (2012, pp. 56-57) suggest the implementation of democratic enterprises or co-operatives, which offer democratic control and joint ownership of enterprises. Dahl (1985, p. 91) defines co-operatives as "a system of economic enterprises collectively owned and democratically governed by all the people who work in them." This structure allows for equal voting rights and control of revenues and allocation of surplus among workers or members, thereby combining democratic governance with collective ownership (Dahl, 1985, pp. 91-92). Despite Dahl's (1985) definition of co-operatives as governed by those who work in them, it can be argued that individuals outside the immediate workforce can also participate in their governance (Archer, 1995, p. 39; Malleson, 2012, p. 14).

4.2 Key Concepts

This section outlines five key concepts of economic democracy, as described by Dahl (1985), Archer (1995) and Malleson (2012). These include democratic ownership and decision-making, participatory planning, objectives beyond profit, and the notion of radical realism. The concepts have been derived through an examination of the three authors' works, allowing for the identification and categorisation of shared themes into five distinct concepts. It is important to note that the theoretical framework of economic democracy is not a static concept, and its objectives and features may vary depending on the specific interpretations of the authors. This suggests that the concepts of economic democracy are subject to diverse perspectives and definitions, which can lead to variations in its understanding and application. However, these key concepts provide a useful starting point for understanding the foundational principles and aims of economic democracy.

4.2.1 Democratic Ownership

Democratic ownership, also known as worker ownership or collective ownership, is a fundamental concept within economic democracy. It refers to an enterprise model where members or workers have ownership of an enterprise. While the majority of economic democracy theories focus on worker-owned enterprises, it may be noted that co-operatives can be owned by individuals who are not workers themselves. Various forms of democratic ownership exist, such as co-operatives, employee stock ownership plans, and worker-managed firms. In this thesis, the primary focus is on co-operatives (Dahl, 1985, pp. 4-6; Archer, 1995, p. 156; Malleson, 2012, p. 58).

The concept of democratic ownership is founded on the recognition that ownership equates to influence and power. Private ownership, which dominates capitalist economies, makes it challenging for those with limited resources and small-scale ownership to exert any influence over the economy and, therefore, society. When individuals or organisations pool their economic resources together, they can achieve a more substantial collective influence. This can potentially offer a co-operative – or another democratically structured enterprises – a competitive edge over non-collectively owned counterparts. Thus, democratic ownership enables co-operatives to compete with private companies and state-owned enterprises. However, while the benefits of self-ownership and self-governance may be considerable, they are often considered secondary to the underlying values of democracy and justice within the theory of economic democracy (Dahl, 1985, p. 93; Archer, 1995, p. 161; Malleson, 2012, pp. 22+104+108).

4.2.2 Democratic Decision-Making

Democratic decision-making is a fundamental concept of economic democracy, which emphasises the importance of giving all stakeholders in an enterprise an equal voice in the decision-making processes. This results in a more democratic and equitable decision-making process. Direct democracy, representative democracy,

and consensus-based decision-making are some of the forms that democratic decision-making can take (Dahl, 1985, p. 54-55+93; Archer, 1995, pp. 26-27; Malleson, 2012, pp. 10+21-22).

Dahl's (1985, pp. 59-60) links the criteria of the democratic process in a state – or other democratic institutions – to those within a democratic firm or co-operative. These criteria include equal votes, effective participation, enlightened understanding, final control of the agenda by the demos, and inclusiveness. According to Dahl, these criteria for democratic governance should be met in co-operatives in the same way as they should be met in state governance. Equality of voice is, therefore, a crucial aspect of economic democracy, whereby each member or worker is entitled to one vote in a co-operative. In this manner, it is the collective decision of the members to determine how resources should be managed and distributed within the enterprise. Additionally, it is up to the members to decide what goods or services should be produced and how (Dahl, 1985, pp. 90-92; Archer, 1995, p. 91; Malleson, 2012, pp. 21-22).

4.2.3 Participatory Planning

Participatory planning involves the active participation of all stakeholders in the planning process of an enterprise. The aim of participatory planning is to strive for the inclusion of all perspectives and needs, potentially resulting in decision-making processes and outcomes that are more democratic, equitable, and just. Additionally, this approach aims to redistribute wealth and power fairly through democratic ownership and decision-making (Archer, 1995, p. 39; Malleson, 2012, p. 296). Dahl (1970, cited by Archer, 1995, p. 27) formulates this as: “Everyone who is affected by the decisions of a government should have the right to participate in that government.” Government in this quote means any association, not just the state (Archer, 1995, p. 27).

In the context of enterprises, producers may organise themselves into self-managing bodies – or worker co-operatives – that represent the interests of workers, while

citizens typically organise themselves into community bodies – or consumer co-operatives – that represent the interests of consumers. These two sets of organisations may communicate with each other to coordinate production and distribution of produce (Archer, 1995, p. 27; Malleon, pp. 296-300). According to Malleon (2012, p. 138), this is a response to the democratic failure of the market system, where the individuals with the greatest wealth have the greatest influence on production and distribution of goods. Therefore, the ones with the most money get the most ‘votes’ in a market system (Malleon, pp. 138-140+298). The concept of participatory planning, thus, advocates for a society in which the production and distribution of goods and services are determined democratically, rather than solely by market forces. Participatory planning, therefore, seeks to address the power imbalance by ensuring that all stakeholders, regardless of their wealth, have an equal say in the decision-making process of enterprises (Dahl, 1985, pp. 8-9; Archer, 1995, p. 27).

Additionally, the concept may aim to address the underrepresentation of certain groups in the decision-making processes within enterprises, including racialised minorities, women, the disabled, and the unemployed, who are often devoid of economic power and, consequently, political influence (Malleon, 2012, pp. 47+210).

4.2.4 Beyond Profit

Dahl (1985, pp. 109-110) and Archer (1995, pp. 118-120) argue that economic outcomes produced by firms should benefit society as a whole, rather than the profit of a small group of individuals. Malleon (2012) links this argument to matters of social justice, environmental degradation, and climate change, arguing that conventional profit-oriented firms prioritise maximising profits at the cost of reduced wages, decreased unionisation, and inadequate environmental protection. By contrast, within this theoretical framework, co-operatives prioritise the welfare of their members and communities. They utilise their capital to generate positive externalities, such as sustainable production and social stability, in addition to

pursuing profit. This distinction sets them apart from private firms that prioritise financial gains over collective benefits (Dahl, 1985, pp. 120-121; Malleon, 2012, p. 118). Therefore, according to Malleon (2012), the imperative to grow and sustain shareholder profits within capitalist firms has a wide range of negative consequences. These include climate change, overstepping planetary boundaries, and the degradation of farmland, which significantly weakens societies' ability to provide essential services and meet the social needs of their citizens (Malleon, 2012, p. 116).

4.2.5 Radical Realism

Economic democracy theorists argue for a slow and pragmatic transition towards a more just and democratic society. This approach is based on the concept of 'radical realism', which combines 'radical' goals with 'realistic' means (Dahl and Lindblom, 1953, cited by Malleon, 2012, p. 19; Archer, 1995, p. 61). A realistic solution within the existing framework of society is, therefore, preferable to a distant utopia, as small changes can accumulate into significant transformations over time (Unger, 2000, cited by Malleon, 2012, p. 19). Radical realism is, thus reformist, requiring the support of the majority of the population in a democratic society for legitimate change (Malleon, 2012, p. 20). While economic democracy may not fully solve the unequal distribution of money and power, it is a significant improvement over the current status quo and a move towards a more equal and democratic society and economy (Dahl, 1985, p. 140). Archer (1995) describes realism as 'feasibility': "By possible or feasible I mean a state of affairs which could exist in some major part of the developed world within the lifetime of a child already conceived, without our having to make implausible or far-fetched assumptions about society, human beings, and the economy," (Nove, 1983 cited by Archer, 1995, p. 61). Within the framework of economic democracy, this implies that the fundamental elements of society, such as market and state systems, should not be dismantled. Instead, solutions should be sought within the bounds of the existing system (Archer, 1995, p. 61; Malleon, 2012, p. 19).

5. Methodology

This paper presents an in-depth qualitative case study of Andelsgaarde focusing on its democratic and economic structures, and environmental objectives (Teorell and Svensson, 2020, p. 99). The study utilises the theoretical framework of economic democracy as outlined by Dahl (1985), Archer (1995), and Malleson (2012). The primary aim of this thesis is to expand the accumulating literature on the intersection of economic democracy, agricultural co-operatives, and environmental sustainability. Furthermore, it investigates how democratically owned and operated enterprises, like co-operatives, might contribute to attaining environmental objectives.

The thesis employs a quasi-deductive research design, combining deductive and inductive approaches. It starts deductively, using the theoretical framework of economic democracy to guide the formulation of testable hypotheses – in this study: concepts – related to the theory. The analysis of Andelsgaarde is then used to examine the hypotheses derived from the theoretical framework. If a significant alignment is found, it affirms the theory's relevance in understanding the co-operative's operations. The aim of this process is to assess the suitability of economic democracy concepts in comprehending the operations of the Andelsgaarde co-operative (Dubois and Gadde, 2002; Robinson, 2001).

In the discussion section, inductive approaches are used to compare the findings from the analysis of Andelsgaarde with the initial concepts derived from the theoretical framework. By engaging in a dialogue with the theoretical framework, research findings, and the limitations of the methodology, the discussion part of the study aims to contribute to a deeper understanding of the role of economic democracy in agricultural co-operatives and their impacts on environmental sustainability objectives (Dubois and Gadde, 2002; Robinson, 2001).

Overall, the quasi-deductive research design allows for a systematic and structured approach to investigate the case of Andelsgaarde while incorporating empirical

findings to develop additional theoretical explorations (Dubois and Gadde, 2002; Robinson, 2001).

5.1 Materials

The empirical data of this thesis consist of official documents, the co-operative's website, and an interview with its chairperson. The official documents and website provide a structural overview of the co-operative basic organisation, while the interview offers insights into motivations and incentives of the organisation of the co-operative. These complementary sources aim to give a comprehensive understanding of the co-operative's functioning and organisation. The methodology and materials employed in this study are designed specifically to assess the co-operative's stated objectives, focusing on evaluating the extent to which these objectives are in line with the concepts of economic democracy, rather than investigating its actual outcomes.

5.1.1 Official Documents and Website

The co-operative's website and official documents, such as the statutes, annual reports, and financial reports, are publicly available on the organisation's website (Andelsgaarde, n.d.a). The documents employed in this study undergo a qualitative systematic text analysis aimed at clarifying their content and highlighting the most relevant information within the selected texts, in accordance with the theoretical framework. Using a targeted approach, only relevant official documents fitting the theoretical conceptualisation of key concepts were included in this study (Esaiasson et al., 2012, pp. 233–234).

A table of documents and sources applied in this study can be found in the appendix section of this paper.

5.1.2 Interview

The study incorporates an interview with Rasmus Willig, the chairperson and co-founder of Andelsgaarde (Andelsgaarde, n.d.a). Willig serves as a key informant, offering valuable insights into the workings of the initiative (Teorell and Svensson, 2020, p. 89). The interview was conducted using a semi-structured approach, where a set of thematically organised questions were prepared beforehand to ensure that all questions and topics were addressed. During the interview, additional follow-up questions were asked to clarify the informant's responses (Teorell and Svensson, 2020, p. 89).

The interview questions can be found in the appendix section of this paper.

5.2 Limitations

The study recognises several methodological limitations that should be considered when interpreting its results:

First, generalisability: The single case study research design does not allow for generalisable conclusions applicable to all Danish agricultural co-operatives. However, the study may still provide valuable insights and contribute to the understanding of similar social, economic, and environmental initiatives (Stake, 2009; Teorell and Svensson, 2020, p. 150; Tickner, 2005). Second, risk of theory confirmation: The quasi-deductive research design may inadvertently lead to confirmation bias, where the researcher focuses on evidence supporting their preconceived theoretical framework – here economic democracy – while overlooking contradicting evidence (Dubois and Gadde, 2002). Third, potential influence of other factors: This study examines the co-operatives implementation of environmentally sustainable farming practices within the context of economic democracy. However, it is important to acknowledge that there could be other factors, beyond the scope of this study, that enable or contribute to the ‘successful’ implementation of these practices (Esaiasson et al., 2012, p. 76; Dubois and Gadde,

2002). Fourth, focus on objectives rather than outcomes: The study's focus on Andelsgaarde's objectives, rather than its actual outcomes, limits the ability to assess the co-operative's actual success in implementing democratic governance, ownership, or regenerative farming practices. Fifth, source diversity: The selected material for this study primarily consists of official documents provided by Andelsgaarde and an interview with the co-operative's chairperson. Ideally, the study would have incorporated more diverse sources, especially given the focus on a democratic co-operative seeking a democratic structure (Rienecker and Jørgensen, 2017, pp. 256–262). Additionally, it should be noted that the analysis presented in this study is limited to the information that is available in the provided documents and interview, and may not fully reflect the entirety of the co-operative's operations and decision-making processes.

Despite these limitations, the study can still provide insights into the structure, objectives, and motivations behind the Andelsgaarde co-operative, contributing to the understanding of agricultural co-operatives and economic democracy within the context of environmental sustainability objectives. The findings of this study, thus, offer a foundation for further research on similar social, economic, and environmental initiatives, potentially leading to a broader understanding of the role of the concepts of economic democracy in addressing environmental challenges (Stake, 2009; Tickner, 2005).

6. Analysis

This section examines the agricultural co-operative *Andelsgaarde* through the lens of the framework of economic democracy. The analysis considers the key concepts of economic democracy as outlined in this thesis. Additionally, it is worth noting that there is some degree of overlap among the conceptualisations, and the presented concepts act as a framework and guideline rather than strict prescriptions. Therefore, ‘aligning’ with these concepts involves striving towards or aiming for these ideas or concepts, rather than necessarily completely embodying them (Malleon, 2012, p. 19).

6.1 Democratic Ownership

Andelsgaarde considers its members farm owners, thereby establishing a collective ownership structure. Although the individual farms operate as independent businesses, members are considered owners of both the farms and the organisation, without possessing any ownership or rights to the agricultural production or produce. In the event of a member leaving the co-operative they are not entitled to a share in the assets of the organisation. In addition, *Andelsgaarde*'s primary objective is not to generate share capital for its members. Consequently, the co-operative's members do not receive any surplus from the agricultural production or share capital of ownership (Andelsgaarde, 2022a, n.d.a; Willig, 2023).

The co-operative offers membership, and thus farm ownership, to a wide range of individuals, associations, organisations, companies, public authorities, institutions, and foundations, who are willing and able to contribute to the association's objectives and pay the fee of 150 DKK per month, which is determined during the general assembly. In addition, there is a commitment period of membership of one year (Andelsgaarde, 2023, n.d.a; Willig, 2023). According to Willig (2023), the monthly fee was originally modelled after the cost of a fitness membership, as over 800,000 Danes pay around 150 DKK per month for such memberships.

Andelsgaarde aims to complement this fee structure by offering farm ownership at the same price, thereby addressing the climate and biodiversity crises within an affordable pricing. This is compared to the traditional co-operative model where members typically pay between 10,000 DKK to 100,000 DKK for a share or ownership (Andelsgaarde, n.d.a; Willig, 2023). Willie (2023) argues that this model of ownership supports the co-operative's financial sustainability. This implies that "we cannot have significant debt and that any surplus must be invested in acquisitions or new leasing agreements with the goal of converting more land to organic, biodynamic, or other sustainable agriculture," (Andelsgaarde, n.d.a). Through the pooled economic resources provided by its members, Andelsgaarde allocates land for nature regeneration. As the co-operative's primary objective is environmental sustainability, profit-making is not their central aim. This enables them to prioritise environmentally sustainable agricultural practices, even if they come at higher costs (Andelsgaarde, 2022b, n.d.a).

In conclusion, Andelsgaarde aligns with the concept of democratic ownership, as it regards its members as farm owners.

6.2 Democratic Decision-Making

Andelsgaarde operates on the basis of democratic decision-making, allowing every member to have a say in how the co-operative should be managed and operated. Each member is entitled to vote at the general assembly, which convenes between six to eight times per year and functions under the principle of one-member-one-vote. Decisions within the general assembly are made using a simple majority voting system, in which over half of the votes are required for approval, and members indicate their vote by raising their hand. All members are provided with the opportunity to propose agenda items, thereby ensuring that the agenda remains predominantly under the control of the members. On the general assembly, a board is elected consisting of five to nine members, which is vested with the highest authority in the organisation. The board is an unpaid body responsible for making major decisions, while the daily affairs of the organisation are overseen by a salaried

association director. Andelsgaarde's decision-making process incorporates elements of both direct and representative democracy. The decision-making process is described in their bylaws, which can be changed if 2/3 of the members at the general assembly vote for it (Andelsgaarde, 2022a, n.d.a).

The farms encompassed by the co-operative are managed by individuals who operate them as private businesses and pay rent to the organisation. These tenant farmers, along with their respective farms, share the goal of implementing regenerative farming practices, but they retain the freedom to cultivate their land according to their preferences within the bounds of regenerative agriculture practices (Andelsgaarde, 2021, n.d.a; Willig, 2023). The decision-making processes between the co-operative and tenant farmers are not entirely clear from the available empirical data.

In summary, Andelsgaarde aligns with the concept of democratic decision-making as it follows a one-member-one-vote decision-making process. Due to the methodology applied in this study, it remains challenging to assess the extent of effective participation, enlightened understanding, and inclusiveness within Andelsgaarde's decision-making processes.

6.3 Participatory Planning

Andelsgaarde facilitates active member participation in various planning processes within the co-operative. Members are granted voting rights at the general assembly, have the opportunity to be involved in farm-related activities, and are presented with the opportunity to join voluntary groups dedicated to promoting biodiversity, nature regeneration, etc. (Andelsgaarde, n.d.a).

Additionally, Andelsgaarde's members can be regarded as both producers and consumers as membership grants access to the farm's produce and in an indirect manner, farm owners may be classified as producers. By collectively owning and managing farms, members of Andelsgaarde participate in the planning process,

determining what should be produced and consequently, the products available for consumption. The monthly fee of 150 DKK from each member may be a relatively small amount, but when collected from its more than 2.700 members, it constitutes a significant sum. Before joining the co-operative, these individuals may have had no direct power to influence production on a farm. Nevertheless, by pooling resources and promoting democratic ownership and decision-making, they have fostered a collective wealth and power, which is redistributed among its members via democratic decision-making processes. This can be described as a redistribution of wealth and power that gives the members of Andelsgaarde the means to pursue their own objectives: in this case environmental sustainability. Despite their limited economic and political power, members of Andelsgaarde gain agency within the co-operative, enabling them to influence production and distribution of produce within the market system (Archer, 1995, p. 39; Malleson, 2012, p. 296). This observation corresponds with Malleson's (2012, p. 138) writings on the democratic shortcomings inherent in the market system: The collaborative efforts of Andelsgaarde members, facilitated through the pooling of resources, enable them to exert influence on the production and processing of agricultural goods at a small-scale level. By participating in a co-operative that advocates for regenerative farming practices, individuals who are dissatisfied with the contemporary food production system can not only express their preferences through purchasing as consumers, but also become farm owners and producers, actively contributing to the production of more environmentally sustainable food products (Andelsgaarde, n.d.a; Malleson, 2012, pp. 138-140+298). Given the potential impact of climate change and biodiversity loss on citizens' lives and livelihoods, it may be described as in the interest of the members of Andelsgaarde to be able to exercise power over the agricultural system.

According to Willig (2023), more than 50 percent of the members of Andelsgaarde are women, including the organisation's board, which contrasts with the conventional large-scale farming sector, where women account for only six percent of landowners (Danmarks Statistik, 2022, p. 1; Willig, 2023). Moreover, a relatively significant proportion of its members, compared to the general population, are

scientists or researchers, indicating higher educational attainment. Additionally, members are mostly from the capital region (Willig, 2023). Thus, it appears that the co-operative has made moves towards a more diverse gender representation in farming, with a significantly higher presence of women in the co-operative compared to the conventional farming sector. However, the co-operative's members may have a bias towards highly educated individuals, which may raise concerns about its capacity to represent and support underrepresented groups such as people with low or no education or income. The empirical data does not allow an assessment of the representation of racialised minorities, people with disabilities, and the unemployed within the Andelsgaarde co-operative.

In summary, Andelsgaarde is in line with the concept of participatory planning through active member involvement in the co-operative's planning processes. Although Andelsgaarde achieves a significant presence of women in the co-operative, it may be seen as lacking diversity and representation, as it is primarily composed of individuals with high education and income levels.

6.4 Beyond Profit

Andelsgaarde is primarily driven by the ambition to address the imminent crisis in agriculture as well as climate and biodiversity concerns. As stated by the co-operative: "Agriculture is in crisis – and so is the climate and biodiversity. So now is the time to act and together secure a sustainable future for our children. That is why we have created Andelsgaarde," (Andelsgaarde, n.d.a).

Given this objective, the co-operative has made a decision to adopt regenerative farming practices as the cornerstone of its operations (Andelsgaarde, n.d.a). The regenerative farming model is utilised and chosen with the intention of cultivating the soil to withstand the upcoming climate change, including rougher storms and harsher weather: "As evidenced by the recent occurrence of four-month droughts during the high season, the inability to grow vegetables under these conditions is apparent. (...) This serves as a warning of the impending difficulty of growing food

in the near future,” (Willig, 2023). This decision encompasses, among other things, setting aside 50 percent of the farmland for nature conservation, establishing biodiversity forests, lakes, or wetland areas to sequester CO₂ and increase biodiversity (Andelsgaarde, n.d.a). As Willig (2023) notes, vegetable production and market gardening account for only half to one hectare on each farm. The remaining land on their farms is dedicated to agroforestry, a practice that combines elements of vegetable production and biodiversity conservation. Thus, from a purely economic standpoint, this approach might be considered ‘unproductive’ (Willig, 2023).

In addition, Andelsgaarde has an emphasis on social equity and inclusiveness. According to the co-operative, this is achieved by ensuring that the member fee remains low, which should enable a larger and more diverse group of people to join and participate in the organisation. Furthermore, the co-operative has a relatively strong focus on community building and educational initiatives. Thus, membership offers opportunities for attending talks and workshops, learning about horticultural practices, and joining volunteer workdays, construction groups, and community meals (Andelsgaarde, n.d.a, n.d.b). Andelsgaarde also underscores the objective of the co-operative's educational efforts, as stated by Willig (2023), "on what regenerative agriculture is, what are its climate benefits, why it is important that we all own the land and develop regenerative agriculture, which aims to capture more CO₂ than it emits and increase biodiversity." Therefore, a relatively large portion of the co-operative's funds is dedicated to experimenting, school gardens, and campaigns promoting the benefits of regenerative farming, as well as educating people on how to cultivate their own vegetables (Willig, 2023). Furthermore, Willig (2023) characterises the co-operative's economic model as a communication tool, citing a scientific report that suggests it would require only 150 DKK per adult per month to make Denmark completely fossil-fuel-free. The implication of this communication is that the transformation towards a sustainable society is relatively inexpensive and straightforward if collective efforts are combined. This can be seen as a key aspect of the co-operative's drive to expand and increase its reach. Internally, the goal may be described as to educate members to become an effective

volunteer workforce and to provide them with experience and knowledge, as part of the social and cultural benefits offered by the co-operative. Externally, the information campaigns and public visibility may reflect the co-operative's imperative to attract new members, and promote knowledge and values related to regenerative farming (Andelsgaarde, 2023).

Andelsgaarde, thus, aligns with the concept of objectives beyond profit, prioritising environmental sustainability over economic profit. Additionally, Andelsgaarde's emphasis on environmental sustainability reflects its dedication to the well-being of the broader society, particularly considering climate change and biodiversity loss.

6.5 Radical Realism

With the primary aim of a sustainable farming practice, Andelsgaarde has come to the conclusion that "we all need to be nature- or farm owners, otherwise we are simply not going to make it," (Willig, 2023). When compared to the conventional large-scale farming sector, the concept of regenerative farming – where more than 50 percent of the farmland is dedicated to nature restoration – may be perceived as 'utopian' or 'radical'. Recognising the urgency of implementing regenerative farming practices due to the climate crisis and biodiversity loss, Andelsgaarde's founders decided to adopt the co-operative model (Andelsgaarde, n.d.a). This approach, as outlined below, can be seen as a realistic and feasible pathway to accumulate sufficient capital and achieve the economic independence necessary for the co-operative to fulfil its goal of environmentally sustainable farming practices.

According to the co-operative, the strategy of adding the monthly member fee to the organisation's earnings serves two primary purposes. First, the fee reduces the debt burden associated with farm purchases, thus alleviating the considerable debt commonly seen in the agricultural sector (Danmarks Statistik, 2022; Andelsgaarde, n.d.a). Second, Andelsgaarde becomes equipped with the necessary financial resources to implement relatively cost-heavy regenerative farming practices.

Therefore, despite starting without equity capital, the organisation has successfully built up an equity capital and is able to buy additional farms at a steady pace (Andelsgaarde, 2022a, n.d.a; Willig, 2023; Abrahamsen, S., 2015).

According to Willig (2023), the agricultural sector is currently under economic pressure to engage in a production system that is harmful to the environment. This is, according to Willig (2023), due to a historical strategy in Denmark that focuses on animal products over plant-based products. Moreover, the economic surplus of the conventional large-scale agriculture is very narrow and highly dependent on state and EU subsidies. As a result, farmers are forced to choose production forms that generate the highest economic profits, despite the potential environmentally damaging side effects (Danmarks Statistik, 2022, Willig, 2023). In this context Willig (2023) states: "All farms, or on average, owe 20 million DKK per farm. So that means that if you want to do something that is sustainable, i.e., far more expensive, you have to have an economy where you have no debt and where you can constantly put money into nature restoration (...) Otherwise, you quickly start to think about what is economically profitable, and not what is good for nature and CO2 emissions." Andelsgaarde, by pooling resources, secures an economic advantage that facilitates the acquisition of new farms without accruing substantial debt. This aligns with Candemir et al. (2021) and Devik (2013), which suggest that co-operatives, through combined investments and improved market positioning, are in a better position to dictate their own incentives.

Returning to the concept of feasibility (as outlined by Nove, 1993, cited by Archer, 1995, p. 61), Andelsgaarde's approach operates within feasible and realistic boundaries. While Andelsgaarde may have radical objectives, they pursue them within the existing framework of contemporary society and economy. This approach situates Andelsgaarde within the historical context of the early co-operative movement, in which citizens dissatisfied with their lives and livelihoods pooled their resources into co-operatives (ICA, n.d.; Nicolajsen, 2011). However, as demonstrated earlier, the motivation for joining Andelsgaarde does not stem from poor working conditions or low wages. Rather, the incentive to participate

arises from a dissatisfaction with the conventional large-scale agricultural sector's negative impact on climate and biodiversity (Andelsgaarde, n.d.a).

The co-operative's approach, thus, aligns with the concept of radical realism and feasibility. Despite its 'radical' aim to promote environmental sustainability in the agricultural sector, Andelsgaarde is taking a 'realistic' and 'feasible' approach by initially focusing on small-scale implementations within existing market and state systems.

7. Discussion

This section explores the theory of economic democracy in connection to the findings of this study. Next, the potential benefits of rethinking the co-operative model for the objectives of environmental sustainability are examined, as well as the challenges that may arise during implementation. Finally, the section reflects on the potential impact of this study's findings on future research at the intersection of economic democracy and environmental sustainability.

7.1 Economic Democracy and Environmental Sustainability

The analysis conducted in this study suggests that Andelsgaarde largely aligns with the key concepts of economic democracy – democratic ownership, democratic decision-making, participatory planning, objectives beyond profit, and radical realism – in its objective to achieve an environmentally sustainable farming practice. Consequently, the theoretical framework of economic democracy offers a useful lens through which to understand the operations and organisational strategies of Andelsgaarde. In this study, Andelsgaarde is indicating a nexus between economic democracy and environmental sustainability. However, it is crucial to note that these findings should be considered within the context of the study's limitations. Nevertheless, the study provides an intriguing framework for exploring the concepts of economic democracy and their potential utility in facilitating environmental sustainability, particularly within agriculture, as exemplified by Andelsgaarde.

"[Andelsgaarde] is actually a new ownership model that we have created, where we have revitalised the old co-operative model: Instead of paying DKK 5,000 or DKK 10,000 for a share, for example, we pay just DKK 150 a month, but we still have one vote each at the annual general meeting, just like the old co-operative model. The DKK 150 per month enables us to set aside funds to purchase a new farm or more land. This is the scalable strength of our new model," (Andelsgaarde, 2021).

As outlined in this quote, Andelsgaarde exemplifies a re-thinking of the co-operative model. Notably, they have set the entrance fee at a relatively low level, a strategic decision intended to broaden participation. This decision aligns with the concepts of economic democracy, as it extends the opportunity to become farm owners to a wide array of citizens and engage in the co-operative's planning process. By lowering the admission barrier, Andelsgaarde seeks to promote a more inclusive, and democratic economic framework. In this case, Andelsgaarde has successfully pooled resources among its members, enabling them to pursue sustainable agricultural objectives within a framework of democratic ownership and decision-making (Andelsgaarde, 2021, n.d.a). Furthermore, the co-operative's efforts exemplify how feasible and realistic means can be employed within the boundaries of the market and the state system to accomplish radical objectives. Thus, Andelsgaarde have successfully implemented a regenerative farming practice in which approximately 50 percent of the land is designated for nature regeneration, even though it may be considered 'unproductive' in strictly economic terms (Dahl, 1985, p. 140; Archer, 1995, p. 61; Andelsgaarde, n.d.a). On this note, the case of Andelsgaarde, along with its re-thinking of the co-operatives model, may present an approach that can be replicated in sectors beyond agriculture. By applying the co-operative model – as exemplified by Andelsgaarde – to different sectors, similar benefits and outcomes may be realised, fostering environmental sustainability in a broader context. If citizens within these sectors aim for greater environmental sustainability, adopting a similar co-operative approach could potentially be a viable strategy for achieving these objectives.

Returning to the fundamental ideas of economic democracy, where money equals power and the ability to pursue one's own objectives, the democratisation of enterprises, as exemplified by Andelsgaarde, empowers members of the co-operative to pursue their goals of environmentally sustainable farming practices (Dahl, 1985, pp. 148-149; Archer, 1995, pp. 15-16; Malleson, 2012, pp. 6–7). Similar to the weavers of Rochdale who were discontent with their working conditions and wages, the members of Andelsgaarde are dissatisfied with the

prevailing conditions in the conventional large-scale agricultural sector. As a result, they have formed a co-operative to collectively gain power and influence in the agricultural sector, which they may not have been able to achieve individually outside of the co-operative. While the objectives of enterprises governed by economic democracy concepts may vary, the literature review highlights that democratic enterprises do not inherently prioritise environmental sustainability (Bianchi and Vieta, 2019; Candemir et al., 2021; Luvienne et al., 2010). Therefore, it's crucial to make the distinction that while economic democracy and environmental sustainability can correlate, one does not necessarily cause the other. This suggests that the concepts of economic democracy could potentially be utilised as a means to achieve environmental sustainability, although this relationship is not guaranteed. Thus, the alignment between economic democracy and environmental sustainability isn't inherent. Rather, it is facilitated by the members' shared commitment to sustainability, which may not be universally present in other economically democratic organisations. In contrast, economically democratic organisations whose members prioritise short-term economic gain over sustainability might make collective decisions that are less environmentally sustainable. This highlights the potential tension between economic democracy and environmental sustainability. Therefore, the relationship between economic democracy and environmental sustainability is conditional and complex, supporting further investigation and research.

The members of *Andelsgaard*, as described in this study, are generally better off in terms of income and education (Willig, 2023). This situation could influence their emphasis on environmental goals. Therefore, other co-operatives that also follow economic democracy concepts, but have members with less income, might have different priorities. For instance, such groups might put more emphasis on increasing their profits and sharing wealth among their members, rather than focusing primarily on environmental sustainability. This understanding underscores the importance of collective goals among members, suggesting that the success of a co-operative in achieving environmental sustainability is intimately tied to the shared aspirations and commitments of its members. Therefore, to achieve success

in environmental sustainability objectives, it's crucial that these goals are commonly held by the members. Furthermore, these objectives should be realistically attainable, aligning with the capabilities and resources of the members. In the case of Andelsgaarde, the co-operative's members align in their pursuit of sustainable farming. Notably, each member contributes a monthly fee of 150 DKK to the co-operative, despite not expecting any direct financial returns (Andelsgaarde, n.d.a.). Consequently, the model's success in this context does not necessarily guarantee similar success in other settings, especially where members may not have comparable income levels or educational backgrounds.

7.2 Challenges for the Implementation of Co-operatives

As previously stated, the primary focus of this study's analysis has been intentions rather than the actual outcomes of the co-operative Andelsgaarde. However, the analysis did reveal several findings that cast doubt on the effectiveness and successfulness of Andelsgaarde's co-operative model. For a more nuanced understanding of the co-operative and its potential as a tool for environmental sustainability, it is crucial to acknowledge these possible challenges. Due to the limited scope of this paper, not all limitations will be mentioned or discussed in detail.

Firstly, the economic sustainability of Andelsgaarde could pose a challenge. As members do not receive direct financial benefits from membership, their participation is primarily motivated by a commitment to supporting regenerative farming practices (Andelsgaarde, n.d.a.). However, this reliance on the goodwill of members potentially exposes the co-operative to instability. If members' incentives, financial resources, or values change or no longer align with those of the co-operative, there could be a risk of membership loss, thereby threatening the co-operative's economic sustainability (Andelsgaarde, 2023, n.d.a).

Secondly, the co-operative's primary revenue stems from members' contributions and the sale of its produce. Nonetheless, a substantial portion of the organisation's

workforce consists of volunteers, and the co-operative also benefits from external funding (Andelsgaarde, 2023, 2022a, 2021). According to Andelsgaarde (2023), this external funding and volunteer labour has enabled the organisation to keep costs lower than other comparable entities or farms. Over the years, Andelsgaarde has received funding from various sources. The financial report for 2023 reveals that grants and awards constituted 11,2 percent of the co-operative's total income for the year 2022, with a comparable percentage of 19,8 percent in the previous year (2021). Therefore, the replicability of this model may be limited due to potential constraints in funding, which could pose challenges in establishing numerous similar co-operatives.

Thirdly, contextual factors in which the co-operative operates must be considered. As outlined in the theory section, co-operatives function within a state-provided legislative framework and are subject to market system forces (Dahl, 1985, pp. 63-64; Malleson, 2012, p.74). In the case of Andelsgaarde, the co-operative's operations are influenced by legal regulations in two main areas. Environmental regulations, for instance, prescribe the conditions under which the co-operative can farm its land, including limits on the amount of land that can be set aside for forestry and nature restoration. Furthermore, while the Danish law of agriculture permits co-operatives to purchase farms, standardised procedures for such transactions are not yet established, leading to an additional administrative burden for the organisation. Equally, like other non-democratic enterprises, the co-operative is dependent on the market system for purchasing necessary production items and selling their produce (Willig, 2023).

7.3 Further Research

In order to explore how co-operatives and other democratic enterprises utilise the concepts of economic democracy to pursue environmental sustainability, it would be beneficial to conduct further case studies on comparable initiatives and organisations. This would help address the limitations of methodology as outlined in this paper.

This paper highlights how Andelsgaarde has utilised economic democracy concepts to promote sustainable farming. However, for a more comprehensive perspective, it would be advantageous to investigate similar initiatives, examining their common features as well as distinct characteristics. Future studies could explore the applicability of the Andelsgaarde model in diverse socio-cultural and economic contexts. This would shed light on the universality and adaptability of this model, and whether its success depends on specific contextual factors. Another direction for future research would be comparing co-operatives that have differing priorities. This comparison could provide insights into how economic democracy might be shaped by the primary goals of the co-operative, whether they be environmental sustainability, profit-sharing, or social welfare. It would also be interesting for future studies to examine the long-term sustainability of the Andelsgaarde model. By tracking such co-operatives over an extended period, studies could identify key factors that contribute to their endurance or factors that cause their decline. This research would shed additional light on the role of economic democracy as a tool for achieving environmental sustainability and help identify any potential challenges that may arise during implementation. Additionally, further research would particularly benefit from examining the actual outcomes rather than solely focusing on the stated objectives. It could also incorporate a wider range of empirical data, such as interviews with other co-operative members and stakeholders (Rienecker and Jørgensen, 2017, pp. 256–262; Esaiasson et al., 2012, p. 76).

Lastly, more research is needed to explore how economic democracy might encourage sustainable practices in industries and sectors beyond agriculture. This could include investigating how democratic decision-making and shared ownership may potentially affect environmental sustainability in areas like energy production, waste reduction, and resource conservation.

8. Conclusions

This thesis seeks to examine how and to what extent Andelsgaarde, a Danish agricultural co-operative, aligns with the key concepts of economic democracy in its pursuit of environmentally sustainable farming practices. The exploration was grounded in a theoretical framework derived from the works of Dahl (1985), Archer (1995), and Malleson (2012), and the findings suggest that Andelsgaarde's operations largely align to the concepts of economic democracy including: democratic ownership, democratic decision-making, participatory planning, objectives beyond profit, and radical realism. Consequently, the theoretical framework of economic democracy offers a useful lens through which to understand the operations and organisational strategies of Andelsgaarde.

The study identifies a link between economic democracy and environmental sustainability, as shown by the case study of Andelsgaarde. Andelsgaarde's pooling of resources, democratic ownership and decision-making empower its members to pursue their shared objectives of sustainable farming, thereby illustrating how economic democracy can potentially facilitate environmental sustainability. However, the study also acknowledges that the correlation between economic democracy and environmental sustainability is not automatic. While democratic enterprises like Andelsgaarde may enable their members to pursue their shared objectives, these objectives may not necessarily align with environmental sustainability. Therefore, the effectiveness of economic democracy as a tool for achieving environmental sustainability may largely depend on the shared goals and available resources of the co-operative's members.

Further, the study highlights the approach of Andelsgaarde in rethinking the co-operative model. By setting a relatively low membership fee, the co-operative broadens participation, allowing more citizens to engage in the democratic process and to influence the direction of the co-operative. This inclusivity aligns with the concepts of economic democracy and sets an example for other sectors aiming to achieve environmental sustainability. Nevertheless, the study also recognises

several challenges that may impact the successful implementation and replication of this model. These include the co-operative's reliance on members' contributions and goodwill, the potential instability due to shifting member values, and the reliance on external funding and volunteer labour. Furthermore, the regulatory environment and market forces also impose constraints on the operation of co-operatives like Andelsgaarde.

However, this study has limitations and weaknesses. First, the thesis's methodology results in restricted generalisability, implying that the findings may not be applicable to all agricultural organisations or contexts beyond Andelsgaarde. Different co-operatives or democratic enterprises may employ different strategies and face distinct challenges, which might not be captured in this analysis of Andelsgaarde. Second, there is a risk of theory imposition, potentially leading to a biased analysis (Dubois and Gadde, 2002; Stake, 2009; Tickner, 2005). These limitations suggest the need for further research at the intersection of economic democracy and environmental sustainability. Employing multiple case studies and a more extensive empirical dataset, while maintaining a similar theoretical framework, could generate valuable insights into the potential of applying economic democracy concepts to attain environmental sustainability (Dubois and Gadde, 2002; Robinson, 2001).

In conclusion, this thesis has examined the potential of economic democracy as a pathway to attain environmental sustainability in the agricultural sector. The case study of Andelsgaarde serves as an illustration of how the concepts of economic democracy can empower individuals to pursue their goals of environmental sustainability in farming practices.

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10. Appendix

10.1 Table of Documents and Sources

Type	Title	Language	Year	Link
Financial report	<i>Bilag B Årsrapport 2022, Foreningen Andelsgaard de</i>	Danish	2023	https://www.andelsgaarde.dk/wp-content/uploads/2023/04/Bilag-B-Aarsrapport-2022-Foreningen-Andelsgaarde.pdf
Annual report	<i>Bilag A Forpersonens beretning for 2022, Foreningen Andelsgaard de</i>	Danish	2023	https://www.andelsgaarde.dk/wp-content/uploads/2023/03/Bilag-A-Forpersonens-beretning-2022-FA.pdf
Annual report	<i>Bilag A Forpersonens beretning 2021</i>	Danish	2022	https://www.andelsgaarde.dk/wp-content/uploads/2022/04/Bilag-A-Forpersonens-beretning-2021.pdf
Statues	<i>Vedtægter Foreningen Andelsgaard de</i>	Danish	2022	https://www.andelsgaarde.dk/wp-content/uploads/2022/10/Vedtægter-Foreningen-Andelsgaarde-26-april-2022.pdf
Annual report	<i>Bilag A Forpersonens beretning 2020</i>	Danish	2021	https://www.andelsgaarde.dk/wp-content/uploads/2021/04/Bilag-A-Forpersonens-beretning-2020-.pdf
Annual report	<i>Bilag A Forpersonens beretning 2019</i>	Danish	2020	https://www.andelsgaarde.dk/wp-content/uploads/2020/03/Bilag-A-Formandens-beretning-2019.pdf
Annual report	<i>Bilag A Formanden</i>	Danish	2019	https://www.andelsgaarde.dk/wp-content/uploads/2019/03/Bilag-A-Formandens-beretning-2019.pdf

	<i>s beretning 2018</i>			content/uploads/2019/04/Bilag-A-Formandens-beretning.pdf
Website	<i>About Us</i>	English	n.d.	https://www.andelsgaarde.dk/en/about-us/
Website	<i>Front Page</i>	English	n.d.	https://www.andelsgaarde.dk/en/

10.2 Interview Questions for the Chairperson of Andelsgaarde

Date: 8 March 2023

Interviewer: Pernille Nordentoft Tørslev

Interviewee: Rasmus Willig, co-founder, and chairperson of Andelsgaarde

Language: Danish

Note: The interview was divided into six categories, serving as a framework for a semi-structured interview. The interview was conducted before the final theoretical framework was established and was therefore intended as a broad introduction to the co-operative, its structure, incentives, and objectives.

I. Introduction

What is the main objective of the co-operative Andelsgaarde?

What are your values and ideologies?

What are your thoughts on sustainability (environmental, social, and economic)?

II. Structure

How is your co-operative structured, and why?

Why have you chosen this specific model?

How does your organisation position itself within the surrounding society?

III. Economy

How is your economy structured, and why?

How does the economic structures of society influence your way of organising?

Does your organisation generate a profit? If yes, how do you spend it?

How dependent are you on volunteer work?

IV. Membership

Who are your members (what is the demography of your members)?

What are the benefits of membership?

V. Decision-Making

How do you make decisions within the co-operative?

Which actors have influence in the decision-making process?

How do you ensure that knowledge about agriculture and economics is implemented in the initiative?

How are work assignments distributed within the co-operative?

VI. Various

How do you see your model scaling up?

What are the potential challenges for your co-operative?

Do you know of any other similar organisations that you think would be interesting to examine in this context?