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Bridging the Gap: Integrating the social dimension into farm sustainability assessments for holistic agricultural policy

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Abstract

This paper explores the integration of the social dimension in the assessment of farm-level sustainability. While the economic and environmental dimensions of sustainability have been widely addressed, the social aspect remains generally underdeveloped. Drawing on insights from indicator development through the Teagasc National Farm Survey (NFS) in Ireland, this study highlights critical social sustainability elements including farmer well-being, generational renewal, and community engagement. Findings to date reveal sectoral and regional disparities in challenges such as stress, work-life balance, and access to services, underscoring the need for tailored policy interventions. As indicator development is an iterative process, the paper recognises the need to expand the existing indicator set and calls for enhanced data collection and the co-design of new indicators to better capture the multidimensional nature of social sustainability. The integration of social insights into policy is imperative to gain a better understanding of the sustainability and resilience of agriculture. This is all the more relevant in order to facilitate a just transition for farm families in face of environmental challenges and the advancement of broader sustainability goals.

Keywords: Social Sustainability, Policy design, Indicators. JEL code: Q01, Q12, Q18.

1. Introduction

The growing recognition of sustainability's holistic nature is increasingly reflected in EU policy. In terms of agriculture, this is evident in the multidimensional objectives (economic, environmental and social) of the CAP (2023-27) and the broad ambitions of the European Green Deal and Farm to Fork Strategy. Similarly, the Strategic Dialogue on the Future of EU agriculture reinforces the importance of creating socially responsible, economically profitable, and environmentally sustainable agri-food systems. As does the recently published Vision for Agriculture and Food which highlights the importance of social sustainability by focusing on fair living and working conditions, engaging various stakeholders, and promoting tailored approaches to address diverse needs within the agri-food sector. To that end, some key issues include the persistent challenge of generational renewal and the need to prioritise support for women in farming and updating the animal welfare legislation. Globally, the UN Sustainable Development Goals (SDGs) have been pivotal in accentuating social sustainability, underscoring the importance of human well-being, equity, and social inclusion in sustainable development and shaping policies, frameworks, and innovations across sectors, including agriculture.

Social sustainability, at its core, revolves around addressing the needs of individuals and society in both present and future contexts. Balaman (2018) describes it as *“specifying and managing both positive and negative impacts of systems, processes, organisations, and activities on people and social life.”* For agriculture, this includes both internal factors such as farmer health, working conditions, and well-being, and external elements with implications for broader society such as animal welfare, generational renewal and rural viability. Insights on such matters can help us understand the social and institutional context to citizen actions, the broader economic and political incentives, and the limitations and possibilities for behavioural and other change. Such an understanding of the sustainability (and resilience) of agriculture is all the more critical in the context of a ‘just transition’ for farm families. Enhanced reporting requirements¹ and social conditionality² within the CAP, as well as more broadly the new *Corporate Sustainability Reporting Directive*,³ require greater accountability and transparency in how social factors are managed within agricultural systems, recognising that environmental and economic sustainability cannot be fully achieved without addressing social issues.

In agriculture, social sustainability measurement is critical for the design of appropriate policies to support the well-being of rural communities, promote equitable resource distribution, and maintain social cohesion in the face of ongoing challenges. The recent pilot project investigating the conversion of the EU Farm Accountancy Data Network (FADN) to the Farm Sustainability Data Network (FSDN)⁴ highlighted four broad focus areas for social sustainability measurement, namely: the social attractiveness of the farm sector, social inclusion, education, training and advice and other aspects including a range of factors that may impact the social conditions of farmers such as internet access, living conditions and access to public transport. Likewise, the DAFM Irish Food Vision 2030⁵ places an emphasis on social issues such as generational renewal, gender balance, diversity, education and training, health and safety, mental health and wellbeing and broader rural development.

¹ https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cmef_en

² Social conditionality in the CAP links farm subsidies to labour standards, ensuring that farms meet certain social conditions such as providing fair wages and safe working conditions.

³ https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

⁴ <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12951-Conversion-to-a-Farm-Sustainability-Data-Network-FSDN- en>

⁵ <https://www.gov.ie/en/publication/c73a3-food-vision-2030-a-world-leader-in-sustainable-food-systems/>

2. An introduction to the literature

There is now an emerging literature in social sustainability measurement in agriculture, within which it is broadly acknowledged it is less developed relative to economic and environmental dimensions. Several papers highlight the limitations posed by data availability and measurement challenges (Lebacqz et al., 2012; Latruffe et al. 2016, Janker et al., 2019). Robling et al. (2023) identifies particular gaps in measuring work-life balance, isolation, and animal welfare and calls for improved data collection systems and co-ordinated efforts to develop more comprehensive, accurate, and accessible datasets for sustainability assessments. Likewise, Latruffe et al. (2016) provide a review of sustainability metrics in agriculture and call for the development of new indicators, particularly for social themes and innovation.

Htitch et al. (2024) emphasises the importance of improvements in societal wellbeing and reductions in environmental damage for sustainable development in the development of a composite indicator which they describe as a just transition score (JTS). The authors contend that previous indices often relied on economic proxies, which can obscure the true sustainability of wellbeing. The JTS highlights the potential for countries to achieve sustainable social progress by balancing improvements in wellbeing with reductions in environmental impacts. It suggests that countries with lower income levels can still achieve sustainable outcomes by improving social wellbeing without significantly increasing environmental impacts. Conversely, wealthier countries need to focus on reducing their environmental impacts while maintaining high levels of social progress.

In exploring measurement challenges, Hale et al. (2019) argues for a performative approach to social sustainability indicators, suggesting that these indicators should focus on their potential impact on audiences rather than just representing practices. The authors categorise social sustainability in to three orientations:

1. Instrumentalist Bridge Sustainability: Focuses on behaviour change to achieve environmental goals.
2. Maintenance Sustainability: Aims to preserve socio-cultural patterns amidst change.
3. Value-Focused Development Sustainability: Addresses poverty and inequity through justice.

Janker and Mann (2020) identify two major problems in operationalizing the social dimension of sustainability:

1. Scope: The range of social actors addressed varies widely. A systematic evaluation of all actors related to farming is needed.
2. Standards: Human rights and work conditions are commonly used as minimum standards, but life quality and societal impact require more context-specific and locally embedded approaches.

The paper calls for a comprehensive social science framework to better define and operationalize the social dimension in sustainability assessments.

Lebacqz et al. (2012) further suggests that the selection of indicators should involve stakeholder participation to address the interactions between the environmental, economic, and social dimensions. This is reiterated by Chopin et al. (2021) who conclude that farm sustainability assessments should adopt a broader view of sustainability, include governance/institutional dimensions, and use impact indicators. Active stakeholder involvement is crucial for effective assessment and enhances the relevance and uptake of results.

3. Methodology

A suite of farm-level sustainability indicators across economic, environmental and social dimensions have been under development in an Irish context through the NFS for over a decade (Dillon et al, 2016). In addition to the socio-demographic data reported annually through the Teagasc NFS⁶ and Sustainability⁷ reports, a series of special surveys have been undertaken in recent years to report a broad range of issues relating to social sustainability. Expanding on the internal and external classification of social sustainability, and following consultation with stakeholders, Brennan et al. (2020), using data from the NFS categorises social sustainability into dimensions reflecting farmer, animal and community wellbeing, and identifies relevant indicators for each dimension. Farmer wellbeing incorporates elements relating to quality of life (i.e. working hours, stress etc.), animal wellbeing consolidates herd level welfare data, while community wellbeing examines indicators measuring multifunctionality, service accessibility and heritage and culture (including generational renewal). Furthermore, Brennan et al. (2022a) combine self-reported stressors and statistical analysis to identify the prevalence of farm related stress and describe the attributes of those impacted. Findings corroborate the literature identifying poor weather, workload, and financial pressures as key stressors, as well as the increased probability of dairy farmers experiencing stress compared to operators of other farm systems. These findings demonstrate that occupational stressors impacting farmer wellbeing are multi-faceted, influenced by both internal and external pressures, and vary by enterprise type and demographic factors. The findings highlight variance in the levels of stress reported by farmers by age and farm system, and consequently, the need to develop targeted supports that take consideration of differences within the population of farmers and farm enterprises.

The broad and diverse nature of social sustainability poses a particular challenge in its assessment, as does its subjective and sometimes sensitive nature. Asai and Antón (2024) provides a comprehensive overview of the current state of the art in integrating social sustainability in agricultural assessment, based on experiences from several OECD countries, including Ireland. It highlights how progress has been made through the incorporation of social questions into farm-level surveys and sectoral data collection initiatives and provides a framework for analysing social issues in agriculture by focusing on well-being at the individual, community, and societal levels. This includes factors such as income, job quality, safety, health, education, and social connections. It also identifies significant data gaps that hinder comprehensive analysis of social issues in agriculture and contends that improved data collection systems could enable better-targeted interventions to address issues of concern.

Efforts are ongoing to explore the feasibility of collecting new types of data to take account of a broader range of social issues. As such consideration is being given to initiative such as stakeholder co-design and pilot data collection to test potential and regularise the collection of such data through farm surveys.

Indicator development in the National Farm Survey

With reference to existing international frameworks, such as the OECD Better Life Index⁸ and the Eurostat Quality of Life Indicators,⁹ Brennan et al. (2022b) develop a Farmer Sustainability Index (FSI) in an Irish context, drawing from NFS socio-demographic and economic variables from 2018. The composite index is designed to measure social sustainability on farms by focusing on three

⁶ <https://www.teagasc.ie/publications/2024/teagasc-national-farm-survey-2023.php>

⁷ <https://www.teagasc.ie/publications/2023/national-farm-survey---2022-sustainability-report.php>

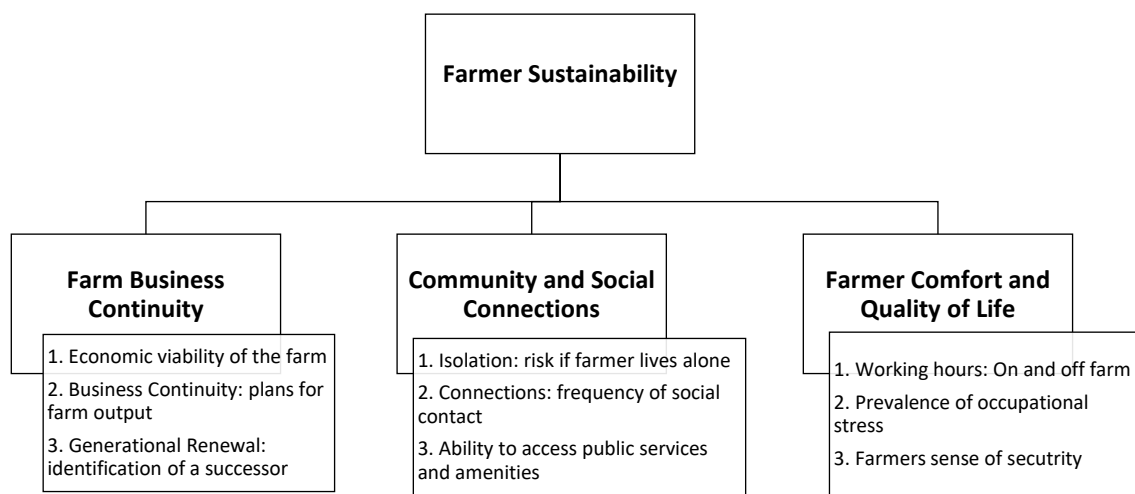
⁸ <https://www.oecdbetterlifeindex.org/#/11111111111>

⁹ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Quality_of_life_indicators

dimensions: *farm business continuity, community and social connections, and farmer comfort and quality of life*, as detailed in Figure 1.

Data analysis indicates that farmers, particularly those in the cattle and sheep sectors, as well as those aged over 60 years, face significant social sustainability challenges. The research highlights how social isolation, economic vulnerability, and mental health concerns disproportionately affect older farmers and those in regions with poorer infrastructure. However, the paper also raises the context specific nature of sustainability assessment and, for example, the inherent trade-offs across dimensions e.g. between economic sustainability on the one hand, and social sustainability on the other.

Fig. 1: Farmer Sustainability Composite Index



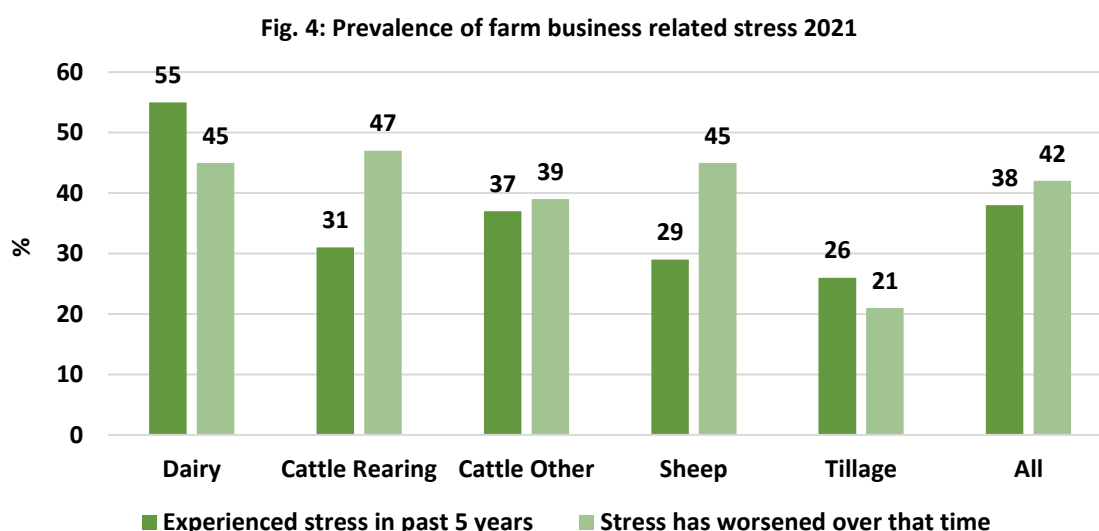
Source: Adapted from Brennan et al. (2022b)

That is to say that dairy farms performed well in terms of economic viability but that dairy farmers themselves suffered proportionately more from stress and poor work-life balance due to their workload. In contrast, sheep farmers scored better on work-life balance but displayed greater levels of economic vulnerability. Regional differences were also evident, with farmers in the South-West and Border regions facing lower social sustainability scores due to poor access to services and economic vulnerability.

The study emphasises the growing recognition that without addressing social sustainability, broader sustainability goals in agriculture may remain incomplete. Integrating these social indicators into agricultural policy frameworks, is crucial to enhancing the wellbeing of farmers and ensuring the long-term viability of rural areas. Furthermore, Brennan et al. (2022b) draws on Vallance et al.'s (2011) trifold conceptualisation of social sustainability and, specifically, the concept of maintenance sustainability that '*speaks to the traditions, practices, preferences and places people would like to see maintained (sustained).*' Other recent papers exploring farmer mental health and wellbeing in an Irish context include Hammersley et al. (2021, 2022) and Rose et al. (2024).

Farmer Wellbeing

The increased recognition of the need for appropriate provisions around farmer mental health and wellbeing allowed for the collection of additional data on the incidence of stress on farms through the NFS in the past number of years. Figure 4 illustrates that almost 4 in 10 farmers reported experiencing stress relating to their farm business over the period 2017 to 2021. Across farm systems, the prevalence of stress was highest on dairy farms with more than 1 in 2 dairy farmers indicating that running their farm business was a source of stress. This compares to between 1 in 4 and 1 in 3 across other systems.



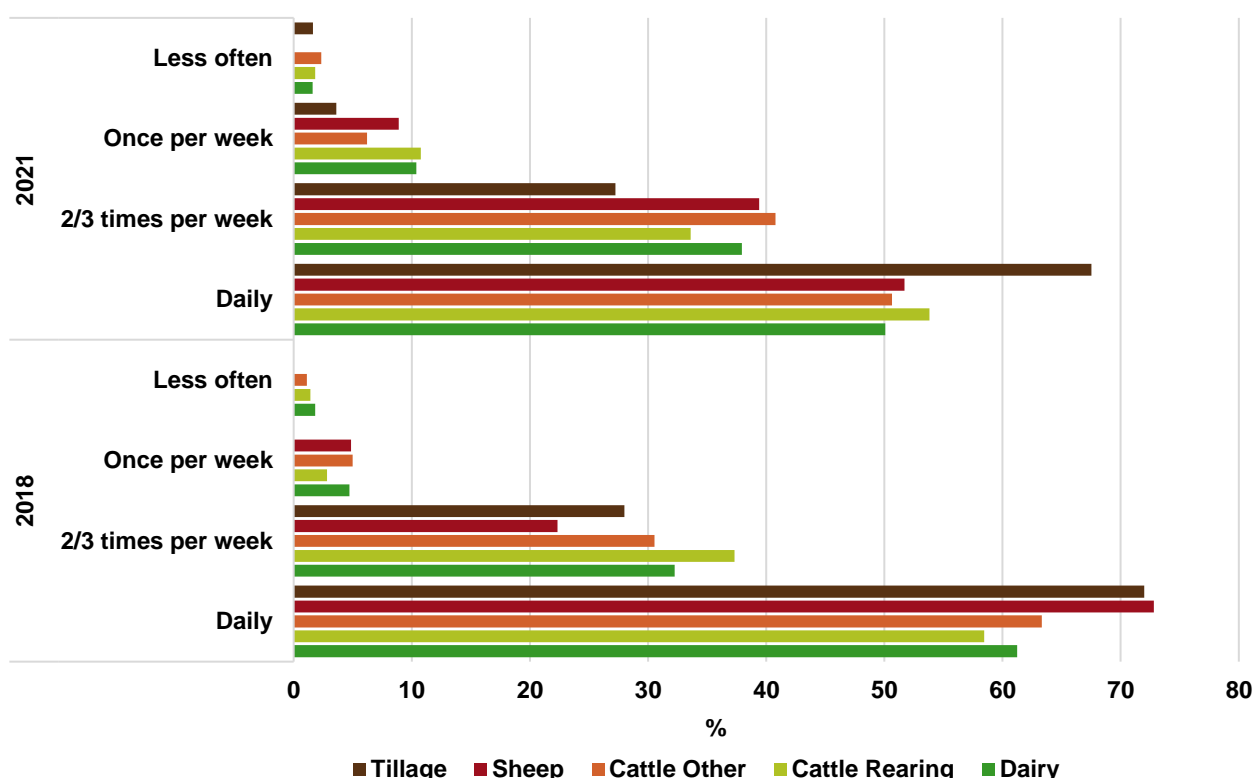
Source: Teagasc National Farm Survey

All farmers reported a significant deterioration in their stress levels over recent years. Identified farm stressors include weather, workload and financial concerns. See Brennan et al. (2022a) for an in-depth examination.

Social engagement

Data insights on farmer social contact in recent years (Fig. 5) illustrate the impact of Covid-19 in reducing daily interaction with people outside of their household. This was the case across all farm systems, and on Sheep farms in particular, the proportion going from almost three quarters in 2018 to just over half in 2021. The older age profile of those farmers serves as some explanation. Tillage farmers were less impacted, on average. As a consequence, an increase in the proportion of farmers with less social contact across farm systems was evident.

Fig. 5: Frequency of farmer social contact outside of household, % by farm system 2018 & 2021



Source: Teagasc National Farm Survey

Social data insights from the National Farm Survey

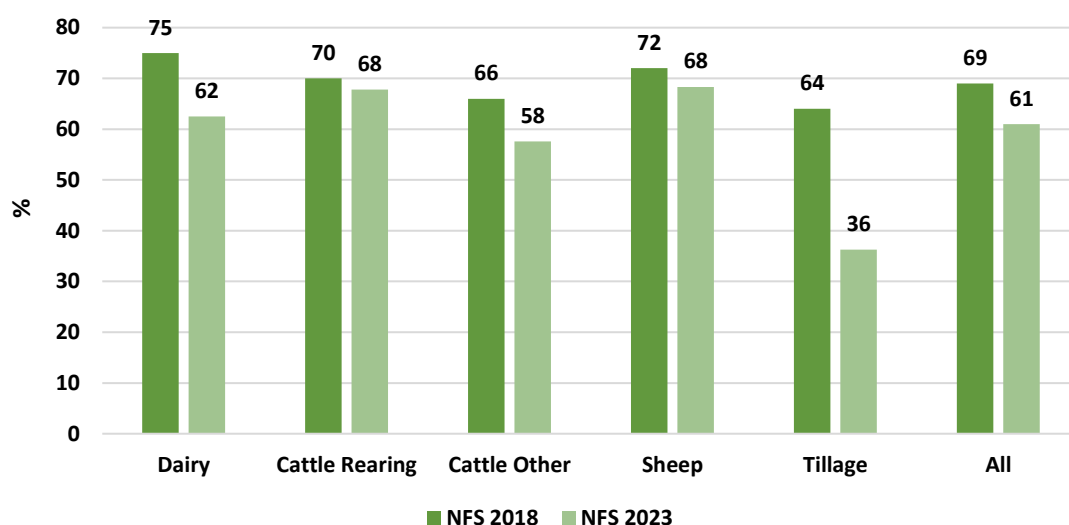
Selected sociodemographic data from the NFS, relating to the farm holder and household are published on an annual basis. This provides insights into age profile, marital status, household composition, incidence of off-farm employment, hours worked (on and off farm) and agricultural education. Over the past decade, this has reflected the ageing farmer profile and the increased proportion of farm households in receipt of off-farm income. Supplementary data relating to social issues of concern have also been collected through the NFS over the past decade, including data on farmer health and safety, ICT use and access to services e.g. banking and health. A brief description of data collected with regard to generational renewal, farmer wellbeing and social engagement are provided here.

Generational renewal

Data from the 2020 Irish Census of Agriculture indicated that almost 33% of farm holders were aged more than 65 years, up from 23% in 1991. Conversely, only 7% were aged less than 35 years, down from 13% over the same period. As such, there is growing concern around the issue of delayed succession and generational renewal on farms. Although some qualitative insights on the drivers and barriers to farm transfer have been garnered through research such as Conway et al. (2017) and Leonard et al. (2020), there existed a lack of quantitative data on farm holder intentions with regard to succession. This provided the motivation for the collection of such data through the NFS. Data from the 2023 NFS indicates that on average, 6 in 10 farmers aged over 60 have identified a successor, with some variation by farm system. Across all farm types, a decline in the proportion of farmers with an identified successor is evident when compared to 2018 when the data was previously collected. Further data analysis by Loughrey et al. (forthcoming) concludes that factors impacting farm

succession across systems are nuanced, and that economic, demographic, and social dimensions need to be considered in the design of targeted interventions to support of generational renewal.

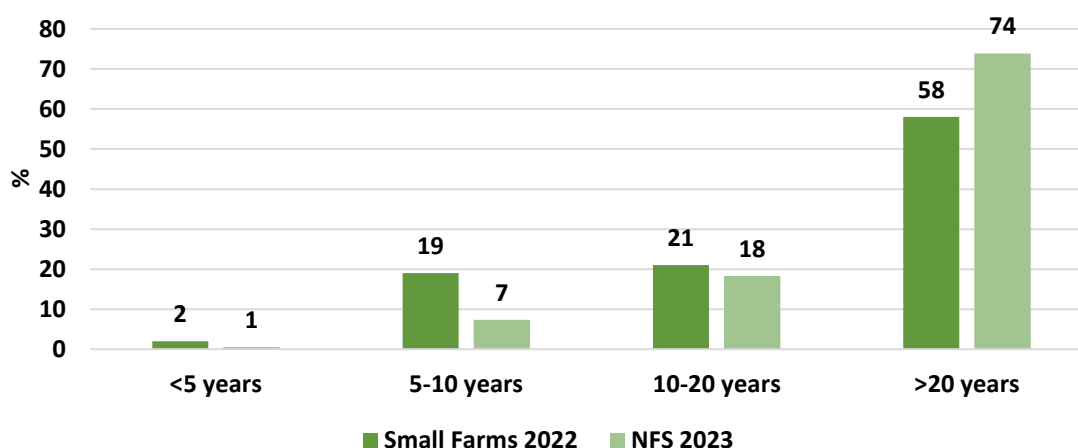
Fig. 2: Proportion of farm with identified successor (farmers aged >60 years)



Source: Teagasc National Farm Survey

Data from the NFS Small Farms Report 2022¹⁰ further indicates that a lower proportion of small (cattle and sheep) farm operators have identified a successor, at just 56% on average. The challenge of delayed succession is further illustrated in Figure 3 which illustrates the length of time that the average farm holder has been in place as the main farm operator, across both the core NFS and on small farms.¹¹ The data indicates that almost three-quarters of farm holders have had managerial control of their farms for more than 20 years. The proportion was somewhat lower on small farms at 58%.

Fig. 3: Farm holder duration as main operator



Source: Teagasc National Farm Survey

¹⁰ <https://www.teagasc.ie/publications/2024/national-farm-survey-small-farms-report-2022.php>

¹¹ Farms included in the annual NFS sample have a standard output above €8,000 and are representative of approximately 85,000 farms annually. Small farms have a standard output below this threshold and data is collected on a periodic basis. Such farms are representative of approximately 48,000 farms in Ireland.

4. Discussion

The study evaluates the social sustainability of Irish farms using data from the Teagasc National Farm Survey, identifying key challenges and disparities across farm systems and regions. Results show that social sustainability varies significantly, with older farmers and those in cattle and sheep farming sectors facing heightened economic vulnerability, social isolation, and mental health concerns. Dairy farmers, while economically viable, report higher stress levels and poor work-life balance, illustrating trade-offs between economic and social sustainability.

Generational renewal emerges as a significant issue, with a declining proportion of farmers identifying successors, especially on small farms. On average, 60% of farmers aged over 60 have identified successors, with notable variations by farm type. Long-term farm management without succession further highlights challenges in sustaining farm operations.

Findings highlight the multifaceted nature of farmer stress, linked to financial pressures, workload, and adverse weather, with dairy farmers most affected. Additionally, data on social engagement indicate reduced social contact during the COVID-19 pandemic, particularly among older farmers and those in remote areas.

This study underscores the critical importance of integrating social sustainability into agricultural assessments and policy frameworks. While economic and environmental dimensions have traditionally dominated sustainability discourse, the social aspects such as farmer wellbeing, generational renewal, and social engagement are increasingly recognised as integral to achieving comprehensive sustainability goals. Drawing on data from the Teagasc NFS, this paper identifies significant disparities in social sustainability across farm systems and regions, reflecting challenges such as stress, social isolation, and limited access to services.

The multidimensional nature of social sustainability is captured through factors such as quality of life, social connections, and community resilience. However, the findings also reveal inherent trade-offs between different dimensions of sustainability. Addressing these nuanced challenges requires targeted, evidence-based policy interventions that acknowledge the diversity within the farming population. The study advocates for improved data collection, stakeholder engagement, and the co-design of metrics to better address the complexities of social sustainability and to consider a broader range of issues such as animal welfare and rural viability. Enhanced reporting systems and policies that incorporate social metrics can provide a more holistic approach to sustainability, ensuring that economic and environmental goals are achieved without compromising social wellbeing. Ultimately, integrating social sustainability into agricultural strategies is essential for fostering resilience, equity, and long-term viability in rural communities, contributing to a more sustainable and inclusive future for the agri-food sector.

5. Conclusion

Policy monitoring and evaluation requires harmonised multidimensional indicators to gauge progress towards specific sustainability targets. A guiding principle of the recent Strategic Dialogue on the Future of Agriculture is that economic, environmental, and social sustainability can reinforce each other. The delivery of a more holistic assessment of farm level sustainability, with improved social metrics will facilitate the design of more targeted policy interventions and allow for the achievement of a wider range of sustainability goals.

Given the broad spectrum of social sustainability, the collection of relevant data for integration into farm level sustainability assessments is challenging, complex and costly. Particular difficulties include the burden of collecting broad ranging data every year, and the potential sensitivities around the

discussion of certain personal or family issues. Resource requirements are high due to the nature of data collection in some instances (e.g. one-to one engagement with farmers) or the sheer volume of data required (e.g. to collect accurate representative data on antibiotic use on farms). In the context of the NFS, a core component of the newly DAFM funded MEASURE¹² and GENFARMS¹³ projects will build upon the progress made to date in the design of sustainability indicators. This will involve stakeholder engagement and knowledge exchange in the co-design of suitable new survey instruments, for social and environmental metrics in particular. In addition, in an attempt to ease the data collection burden, efficiencies should be made where possible through the use of existing data. For example, in time, the possibility of utilising available administrative data through the antibiotics register would be very valuable.

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¹² MEASURE (Modelling Estimates for Agricultural Sustainability Using Real Evidence) www.teagasc.ie/measure

¹³ GENFARMS (Gender and Generational Factors in Agricultural Resource Management for Sustainability) www.teagasc.ie/genfarms

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