

Tenure security: A critical factor in agroforestry adoption for tenant farmers in England

Johannes Schmitt*, Markus Hassler

University of Marburg, Department of Geography, Deutschhausstraße 10, DE-35032 Marburg, Germany

Abstract

Global biodiversity degradation is driven by agriculture, population growth, industrialization, and climate change. To address this, the UK aims to plant 1 million hectares of new woodland by 2050. However, tree planting rates fall short of targets. Agroforestry, which combines agriculture and forestry, could help achieve this goal by utilizing agricultural land. In England, 2.9 million hectares of land are rented, offering a large area for agroforestry adoption. This qualitative research study, based on expert interviews with British stakeholders, aimed to identify English agricultural sector tenancy agreement aspects influencing tenant farmer decision-making in the context of agroforestry adaptation and perceived tenure security. Four topics influencing tenant farmers' perceived tenure security and decision-making in agroforestry adaptation were identified: 1. Tenancy duration: Short-term agreements hinder long-term investments in sustainable practices. 2. Restrictive clauses: Legal frameworks offer flexibility, but tenancy agreements often include restrictive clauses limiting agricultural practices. 3. Tree ownership: Trees are owned by the landlord, even if planted and financed by the tenant. 4. End of tenancy: Tenant farmers lack investment protection, with inadequate compensation and transfer clauses. These topics contribute to tenure insecurity of tenant farmers and disincentivize agroforestry adoption on tenanted land in England, underscoring the need for further research to address these challenges.

Key words: agroforestry; sustainable agriculture; farming systems; land tenure; tenancy agreements

Editor: Martin Lukac

1. Introduction

Agricultural intensification on a global scale, in conjunction with population growth, shifting dietary patterns, industrialization, and climate change, are major drivers of biodiversity and ecosystem degradation all around the globe (Campbell et al. 2017; Udawatta et al. 2019; Hossain et al. 2020). In response to these ecological crises, widespread adoption of soil-conserving and sustainable agricultural practices is required (Springmann et al. 2018). In this context, the UK government has set the 2050 net-zero greenhouse gas emission goal, which can only be achieved by increasing tree cover (Staddon et al. 2021; Climate Change Committee 2024). Therefore, the UK government has set an ambitious target to plant around a million hectares of new woodland by 2050 (Climate Change Committee 2022). However, a discrepancy persists between policy ambitions and actual implementation, as the annual tree planting rates continue to fall short of established targets (UK Parliament 2025). A rapid upscaling of tree planting and woodland

creation is required, thereby raising the question of how and where this expansion should be achieved. In 2024, the utilised agricultural area in England was 8.7 million hectares, approximately 67% of England's total land area (Department for Environment, Food & Rural Affairs 2025c). The spread of agroforestry practices in the British agricultural landscape could help achieve this goal, as this approach enables the continuation of agricultural production without necessitating the identification of separate areas suitable for reforestation or broader land use change (Burgess et al. 2022).

Agroforestry systems contribute to climate change mitigation, soil conservation, biodiversity enhancement, and the overall improvement of landscape resilience and ecological integrity (Montagnini & Nair 2004; Verchot et al. 2007; Jose 2009; Smith & Olesen 2010; Jose 2012; Nguyen et al. 2013; Wilson & Lovell 2016; Campbell et al. 2018; Wolz et al. 2018; Ghale et al. 2022; Kandji et al. 2025). Adding to these environmental benefits, the adoption of agroforestry enables farmers to diversify production, reduce specific input costs, and enhance agricul-

*Corresponding author. Johannes Schmitt, e-mail: johannes.schmitt@geo.uni-marburg.de

© 2026 Authors. This is an open access article under the CC BY 4.0 license.

tural productivity, thereby supporting more sustainable and resilient farming systems (Garrity et al. 2010; Souza et al. 2012; Jose & Dollinger 2019; European Parliamentary Research Service 2025). In general, agroforestry is a traditional agricultural practice with a long history of implementation across various cultural and geographical contexts (European Parliamentary Research Service, 2025). Rois-Díaz et al. (2018) recognised agroforestry fittingly as “a new word for something extremely old and large”. Although agroforestry represents a traditional form of land use, its definitions and legal interpretations vary significantly across national contexts. In summary, the following definition can be proposed: Agroforestry is a dynamic and sustainable land management approach that deliberately combines woody perennials (such as trees, shrubs, palms, etc.) with crops and/or livestock in spatial or temporal configurations, with the objective of diversifying and sustaining production to enhance economic, social, and environmental outcomes (Santiago-Freijanes et al. 2021; Food and Agricultural Organisation of the United Nations 2025a, 2025b).

Furthermore, agroforestry is not inherently associated with any specific farming system, as it can be practiced across conventional, integrated, and organic agriculture (Pantera et al. 2021). Consequently, it has received increasing attention in the last decades within the scientific community as a multifunctional land-use practice capable of delivering a wide array of environmental, social, and economic benefits (Montagnini & Nair 2004; Verchot et al. 2007; Dollinger & Jose 2018; Ghale et al. 2022; Kandji et al. 2025). The availability of arable land is fundamental for agricultural production and, therefore, also agroforestry adoption. The ownership of agricultural land varies. Tenure rights are the legal or customary rights that define how individuals or groups can hold, use, and manage land (FAO 2024). They generate what can be termed ‘consequential geographies’ that reflect and reinforce asymmetries in the distribution of burdens, benefits, and power due to the finite and immobile nature of land, as well as its distinct characteristics (Brown 2007). Land tenure systems, especially landlord-tenant structures, and tenure security play a pivotal role in structuring human engagement with land as they are determining the allocation, duration, and conditions of land use, shaped by power relations between all involved stakeholders, rules, land rights, land stewardship, and regulatory frameworks (Brown 2007; Sklenicka & Salek 2008; Petrzalka & Marquart-Pyatt 2011; Simbizi et al. 2014; FAO 2024). Their functioning is embedded in social, technical, economic, institutional, legal, and political dimensions (Simbizi et al. 2014). Research showed that land tenure has an impact on the uptake of agroforestry, especially tenure security, whose individual perception positively correlates with investment in agroforestry and can therefore negatively or positively influence the uptake of agroforestry (Neef & Heidhues 1994; Benjamin et al. 2021).

However, land tenure is often neglected in regard of agroforestry research (Neef & Heidhues 1994).

This illustrates the relevance of taking a closer look at land tenure, as all around the globe, owning and renting land is a fundamental component of agricultural practice. Within the European Union, more than half of the agricultural land is under rental agreements (European Commission 2021). In England, the extent of agricultural land rented for a duration of one year or more is around 2.9 million hectares in 2024, approximately one third of England’s total agricultural land (Department for Environment, Food & Rural Affairs 2025a). This shows the large area potential for agroforestry adoption. By now, there is no data available in terms of the ownership structure of agroforestry land in England. During the data collection, only one farmer was mentioned by the interviewed experts, who practices agroforestry on tenanted land. The question arises as to how this potential can be effectively used and what or who acts as an incentive or disincentive.

Agricultural tenancies in England fall mostly under either the Agricultural Holding Act or the Agricultural Tenancies Act framework and therefore create different starting points for agroforestry adoption (Department for Environment, Food & Rural Affairs 2025c). Both frameworks are essential factors for tenure security in England and, therefore, of great importance for this paper. The extent to which a landlord compared to a tenant has control over the land is a critical area of debate (Petrzalka & Marquart-Pyatt 2011). Control can be exercised through tenancy agreements and thereby can have a direct influence on the perceived land tenure security of the tenant. The individual tenancy duration is one such aspect that acts as a control measure for the landlord over the tenant. Whereby it is closely influencing the tenant’s perceived tenure security and therefore the uptake of sustainable practices such as agroforestry (Palm et al. 2005). Thus, it is reasonable that the topic of tenancy duration, which has to be seen in the context of both tenancy frameworks, is the research starting point of this paper. Furthermore, it is necessary to identify other aspects within tenancy agreements that influence tenant farmers’ decision-making and perceived tenure security and thereby negatively impact agroforestry adoption. After such aspects are identified, it will be possible in future research endeavours to identify and determine which stakeholder group is capable of implementing needed changes, eliminate disincentives or push incentives.

In the context of the named aspects, the focus of this paper lies in identifying tenancy agreement aspects that influence the decision-making of tenant farmers in the context of agroforestry adoption and perceived tenure security. In addition, it examines the associated constraints and repercussions for the implementation of agroforestry practices on tenanted agricultural land. This focus is supported by Primdahl’s (1999) statement

that “the focus on farmers’ decision making and the distinction between the lords and the producers has proven to be a useful approach at the farm level”. Furthermore, Petrzelka & Marquart-Pyatt (2011) called out for qualitative analyses as such “would produce a much more nuanced understanding of the relationship dynamics that have been raised”. The paper’s findings are based on qualitative data collection, including expert interviews conducted with English stakeholders between June 2023 and January 2025.

The structure of the paper is as follows. Section 1 concludes with a Literature Review to further contextualise the paper in regards of land tenure security, landlord structure changes, and agricultural tenancies in England. The Methods section outlines the methodical approach of this study. This is followed in the third section by the presentation of the results of this study. The fourth section offers interpretations and discusses the results in the context of previous studies. The paper is finished by a short conclusion.

Literature review

Land tenure security is widely regarded as a key factor in reducing poverty, promoting social equality, and conserving natural resources, as it provides incentives for investment and efficient resource use (Wannasai & Shrestha 2008). Land tenure security refers to the certainty that a person’s rights to land will be recognized and protected by others, including the community, government, and formal legal system (FAO 2024). In the context of agriculture, tenure is secure if the tenant farmer or farming landowner is sure of using a parcel of land for a long period, such that the farming stakeholder could reap the benefits of investments made (Lavigne-Deville 2018). Each farmer must act in accordance with its respective opportunities and constraints, with decisions being guided by prevailing economic conditions (Primdahl 1999). The expectation of secure land tenure is such a condition and significantly impacts farmers’ decision-making, influencing factors such as land use, crop selection, production methods, adoption of new technologies, resource sustainability, and the intensity of conservation investment (Worku & Mekonnen 2012; Oporto-Peregrino et al. 2020; IFAD 2025). Within the United Nations Human Settlements Programme (2004) it is stated in urban context: “Nobody invests if they feel insecure.” This statement is also true for the agricultural context regarding the implementation of sustainable practices, as secure land tenure significantly increases farmers’ willingness to invest in sustainable land management and conservation practices with longer payback periods, as returns on investment of such practices may not be realizable in the short term (Kabubo-Mariara 2007; Atangana et al. 2014; Asaaga et al. 2020; Kolapo

et al. 2022). Accordingly, secure tenure is essential for the success of future endeavours to promote new agricultural technology initiatives for climate change mitigation and/or adaptation (IFAD 2025).

Farms can be classified into three tenure types, with a focus on the proportion of leased and/or owned land: owner-occupied, mixed tenure occupation, and rented (Walford 2002; Moreno Pérez & Ortiz Miranda 2008). Tenant farmers are stakeholders who cultivate land that they do not own and which they have leased from a landowner (Primdahl 1999). To lease additional land to amass additional farmland for growth of business can be a survival strategy for farmers in order to keep their business viable in the context of market challenges connected to farm size (Dramstad & Sang 2010). The concept of tenancy comprises the rights of landlords, which include benefits, such as rental income, and user rights. User rights are further divided into organizational and operational decisions. Organizational decisions, encompassing economic decisions regarding the land, precede and can constrain operational decisions, which pertain to the day-to-day management of the property (Petrzelka & Marquart-Pyatt 2011). So, the landlord’s organizational stance can influence the tenant’s farmers operational ability to decide which kind of land use he can or cannot pursue and thereby has substantial control over his tenants (Petrzelka & Marquart-Pyatt 2011). This means that in the landlord-tenant relationship, the landlord’s organisational decisions are reflected in the tenancy agreement, while the operational decision-making is transferred to the tenant. If the landlord’s organisational decision conflicts with agroforestry, this is reflected in the tenancy agreement and thereby limits the tenant’s ability to integrate agroforestry into their operational decision-making. Hence, it is important to understand the characteristics of stakeholders with control over agricultural land and their decision-making processes as they are crucial for assessing their impact on the spread of land use changes, such as agroforestry (Primdahl 1999; Petrzelka & Marquart-Pyatt 2011).

Structural change in agriculture results in a declining number of farms, accompanied by increases in farm size and specialization. Farmers exiting the sector, particularly those with a strong emotional or familial attachment to their land, often exhibit reluctance to sell. Instead, they frequently opt to lease their land to other farmers (Forbord et al. 2014; Duesberg et al. 2017; Grubbström & Eriksson 2018). This observation also applies to heirs who tend to lease the land rather than sell it, especially when emotional attachments to the land influence their decision-making (Grubbström 2011). Consequently, a growing proportion of agricultural landlords worldwide neither engage in farming activities themselves nor possess any farming background (Petrzelka & Marquart-Pyatt 2011; Petrzelka et al. 2013). A significant number of these landlords, so-called absentee landlords, reside at considerable distances from both their land and its

occupants (Petrzelka et al. 2013). Consequently, ownership of agricultural land and its cultivation are becoming increasingly separated (Rotz et al. 2019). This dynamic has direct implications for land management decisions, since tenant farmers typically face greater constraints in decision-making autonomy compared to owner-occupiers, particularly regarding investment in conservation and diversification (Maye et al. 2009; Rotz et al. 2019; Calo 2020). Thereby, the dynamics of the landlord-tenant relationship can either hinder or support the adoption of conservation and sustainable practices by farmers operating on leased land (Ranjan et al. 2019; Leonhardt et al. 2021).

The role of agricultural landlords, especially of the growing group of absentee landlords, in implementing conservation and sustainable practices is understudied and warrants further research (Petrzelka & Marquart-Pyatt 2011). There is disagreement in the scientific community as to who is responsible for implementing conservation and sustainable practices. Some assign the responsibility to the tenant farmer, arguing that limited participation in land-related decision-making is exhibited by absentee landlords, who depend substantially on tenants for management and conservation information, while primary responsibility for land management decisions is assumed by the tenant (Petrzelka et al. 2013). Opposing this, research showed that absentee landlords prefer a stable way of agricultural practice and therefore want from tenants that their arable land is maintained without many land use transitions, such as tree planting (van Doorn & Bakker 2007). This would mean that the landlord acts as a disincentive and is responsible for hindering implementation.

A critical starting point for further contextualising the previously mentioned points in relation to England lies in examining the current agricultural tenancy framework. At present, two principal types of agricultural tenancy agreements exist in England:

Tenancy agreements established before 1 September 1995 are generally governed by the Agricultural Holdings Act 1986 and are referred to as Agricultural Holdings Act Tenancies. Agricultural Holdings Act Tenancies usually grant tenants lifetime security of tenure. Those created before 12 July 1984 may also allow for up to two statutory successions, subject to specific eligibility criteria, thus enabling continued family farming across three generations (Spire Solicitors 2021; Roythornes 2023; GOV UK 2025a; Department for Environment, Food & Rural Affairs 2025a).

The majority of tenancy agreements established after 1 September 1995 are generally governed by the Agricultural Tenancies Act 1995 and are referred to as farm business tenancies. These tenancies allow for significant contractual flexibility between landlord and tenant regarding terms such as rent and duration (Net Lawman 2013; Spire Solicitors 2021; GOV UK 2025b; Department for Environment, Food & Rural Affairs 2025a).

Although Farm Business Tenancies were first introduced with the objective of promoting greater flexibility in tenancy arrangements and fostering activity diversification, they have probably largely failed to achieve these intended outcomes (Maye et al. 2009). Empirical evidence from 1999 also showed that, despite the discourse of modern business relations, tenant exploitation by landlords was intensifying through Farm Business Tenancies (Ravenscroft 1999). These problems can mostly be attributed to the short duration of most Farm Business Tenancy agreements, which discourage tenant farmers from making substantial investments in sustainable practices due to the lack of long-term security (Maye et al. 2009). The shift from Agricultural Holdings Act Tenancies to Farm Business Tenancies, with a current ratio of approximately 48:52, is driven by demographic change. This shift, especially in tenancy duration, poses challenges for the adoption of agroforestry practices (Department for Environment, Food & Rural Affairs 2025b). Underlining the reasoning why tenancy duration was chosen as the research starting point of this paper.

2. Methods

The data collection for this study was part of REFOREST project. This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101060635 (REFOREST). Views and opinions expressed are, however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

As project partners and due to the focus of our research group, it was necessary to collect qualitative data in various European countries to fulfil our tasks within the project. The empirical social research approach was chosen because it is suitable to collect, process and analyse the data obtained with regard to our tasks, since it offers specialised methods, techniques and instruments for investigating complex social phenomena (Häder 2019). In general, empirical social research is divided into quantitative and qualitative social research, which differ from each other in their methodological approach (Gläser & Laudel 2009). Quantitative social research relies on standardised data collection procedures and the use of statistical tests to examine a large number of samples (Häder 2019). Qualitative social research, on the other hand, uses a small number of samples to search for the causes and effects of causal mechanisms by analysing the samples very extensively and in detail (Braunecker 2021). Representativeness, reliability and validity are quality characteristics which must be considered during the planning, implementation and evaluation phase (Atteslander 2006).

As the method for data collection the use of open-ended in-depth expert interviews seemed appropriate as it enables us as researchers to collect specialised knowledge and individual perspectives from experts. A semi-standardised approach was employed for conducting the interviews to accommodate the unique characteristics of each participant and to collect relevant data in an appropriate scope. The use of an interview guideline ensured that the key aspects of the research effort were covered, while allowing for a flexible and spontaneous conversation between the interviewer and interviewee to develop naturally (Gläser & Laudel 2009).

The initial interview guideline was developed based on the REFOREST project requirements, experience gained in previous projects and related data collection in similar contexts, as well as the findings of desk research. The REFOREST related input includes everything necessary to conduct qualitative value chain analyses of different value chain agents, their activities and relationships to investigate the technological, social and economic conditions, barriers and strategies for agroforestry adoption, marketing and value addition of agroforestry products. Such value chain analyses were the outcome of previous projects and data collections with agricultural background, like FOODLEVERS under the Joint SUSFOOD2/CORE Organic Call 2019, which resulted in considerable overlap in the general structure of the interview guidelines. Agroforestry-specific context was incorporated into the interview guide through desk research. Throughout the data collection process, the interview guideline was frequently revised to ensure that relevant aspects that emerged during data collection but were not initially included in the guide because we were unaware of them were included. This led to individual interviewees being asked different and/or more specific questions, for example, in the context of their country or position. This approach enables a more comprehensive and differentiated understanding of specific research topics, as it allows for deeper exploration of the respective topics during the course of data collection. In general, this is one of the key advantages of qualitative data collection: it enables a flexible and adaptable approach.

About the scope of the data collection process, we decided that the wide variety of agroforestry systems would make it an immense challenge to target and include all systems within one research effort (Mosquera-Losada et al. 2018). To limit the scope of data collection, which would otherwise be necessary if all types of agroforestry present within each country were to be included, the data collection and all subsequent analyses were focused exclusively on silvopastoral agroforestry. In retrospect, the decision had another benefit, as substantially more publicly accessible contact information is available for silvopastoral practitioners than for other forms of agroforestry, especially in England. The greater access to contact information and subsequent large number of interviews conducted, as well as the low language barrier, resulted in

us generating the highest data density for England compared to the other countries. Due to this data density, England was selected for more focused analyses.

For England, the interview sample was selected as follows. Through internet research and recommendations by project partners as well as interviewees, around 80 individual stakeholders were identified who had expertise in silvopastoral agroforestry and the tenure system in England. All of these were contacted through phone and mail between June 2023 and January 2025. Within this period, the interviews were conducted in two data collection blocks. This split emerged because gaps and additional relevant aspects became evident during the evaluation of the initial data collection, which required further data to be examined in greater depth. Among the aspects not anticipated at the outset of the data collection was the topic addressed in this paper. However, due to the substantial significance of these aspects, a second data collection was necessary to ensure their comprehensive examination. In total, 24 stakeholders agreed to an interview. It must be acknowledged that, given the sample size and the voluntary participation of respondents, the presence of selection and self-selection bias cannot be excluded.

While searching for further interviewees, particularly those with expert knowledge in the topic of this paper, the following Youtube video came to our attention “Agroforestry Show: Making Agroforestry Work for Tenants” (The Agroforestry Show 2025). The video is the voice recording of a panel discussion between a tenant agroforestry farmer and representatives of the Tenant Farmers Association and of the Central Association of Agricultural Valuers. The three panel speakers are all experts in the context of the topic of this paper, and the discussion between them included valuable information. Therefore, they are treated like interviewees and subsequently also listed in Table 1. It must be noted that all three speakers represented particular interests and positions within the discussion, implying that situation-specific framing cannot be excluded. Nevertheless, both the selection of speakers and the distribution of speaking time ensured that contrasting viewpoints were represented to an equivalent extent, without directing the audience toward a specific perspective. Consequently, the information derived from the discussion was treated as equivalent to that obtained through interviews. Table 1 provides an overview of the stakeholder codes and the profession of each stakeholder, demonstrating a wide array of expertise.

The interviews took between 30 and 220 minutes. The variation in interview duration resulted from differing levels of communicativeness among the individual participants. The duration does not indicate data quality or comparability. Within the interviews, individual topics are weighted to varying degrees, which is characteristic of this methodological approach. Half of the interviews were conducted and recorded via the video-call service BigBlueButton or Microsoft Teams. The other half of

Table 1. Interviewed stakeholders and their profession.

Stakeholder code	Profession
S1–S14	Farmer
S15	Farmer with PhD in Biospheric Systems
S16	Farmer with background in Natural Resource Management and Land Use Planning
S17	Agroforestry Project Manager at Woodland Trust
S18	Lead Farming Advocate at Woodland Trust
S19	Trees and Woodland Adviser at National Trust
S20	Environmental Asset Manager at the Church Commissioners for England
S21	Ecologist at Rothamsted Research
S22	Principal Ecologist at farm
S23	Meat supply chain. Former investigative environmental journalist. Worked with the Farming and Wildlife Advisory Group.
S24	Head of Agroforestry at Soil Association
S25	Ecologist and sustainable land manager, quality lead for the land-based department at Agricultural College
S26	Chief Executive at Tenant Farmers Association
S27	Secretary and Adviser at Central Association of Agricultural Valuers

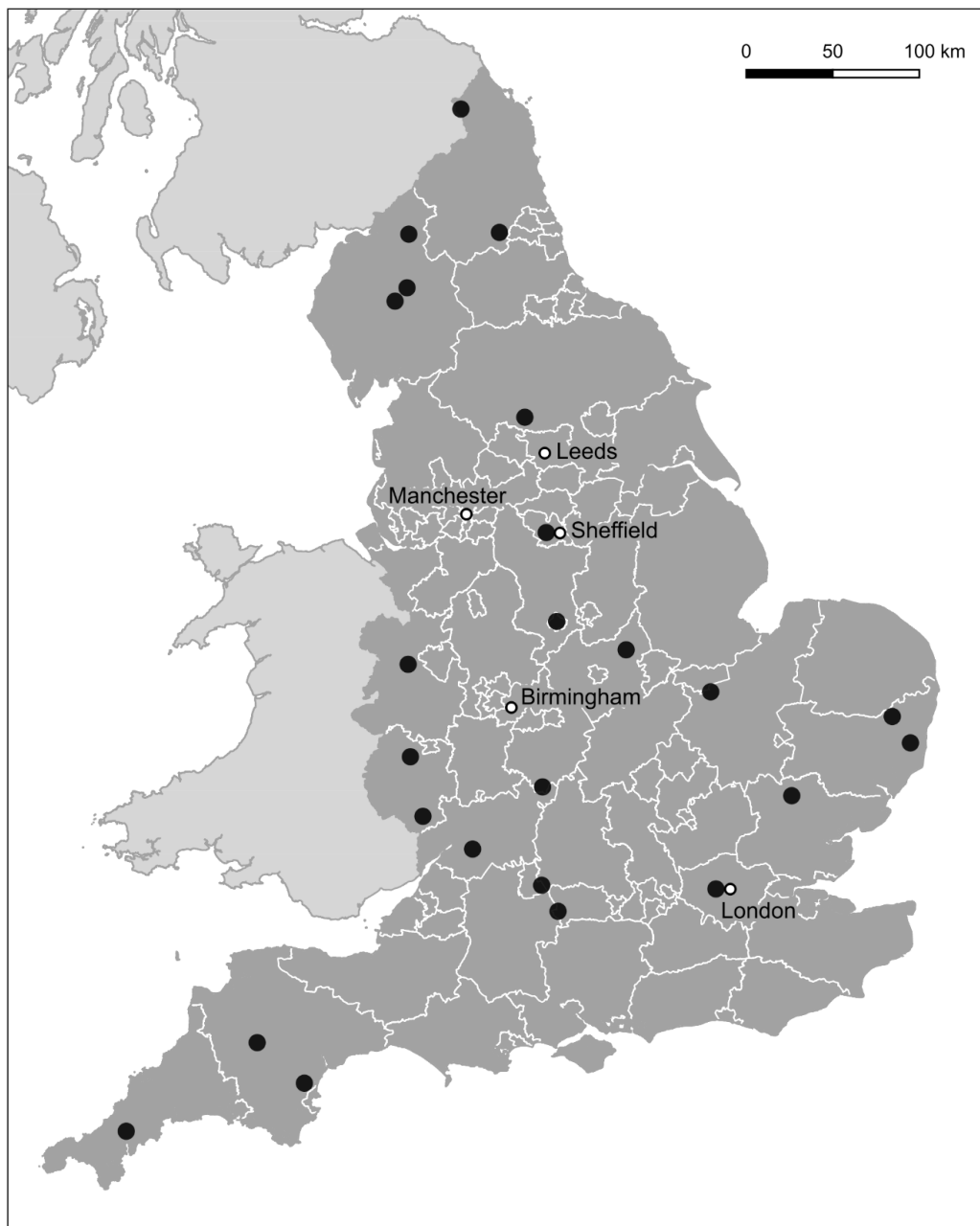


Fig. 1. Map of England showing the locations of the interviewees (Cartography: Mann, C., Base Map: @ GADM 2018–2025, 2025).

the interviews were conducted in person as part of the second data collection during a field trip to England in 2024. Figure 1 illustrates the geographical distribution of the interview participants and demonstrates the spatial extent of the data collection efforts across England. The interviews were recorded using a handheld voice recorder as the use of recording devices minimises the loss of information (Gläser & Laudel 2009).

Subsequently, the interviews as well as the video were transcribed. The data was analysed using Mayring's (2000) qualitative content analysis. The data was initially processed from a value chain analysis perspective, focusing on the tasks within the REFOREST project. Simultaneously, further categories such as tenure were derived stepwise on the basis of information situated outside the initial analytical framework. Within a subsequent feedback loop, these categories were revised, consolidated into main categories, four of which are the main points of the results presented in this paper, and subjected to a reliability assessment. The data analysis was supported by the use of the software Citavi. The resulting information then formed the basis for the outline and discussion of the empirical results.

3. Results

The content analysis identified four main topics that impact tenant farmers' decision making in the context of agroforestry adoption: 1. Tenancy duration; 2. Restrictive clauses; 3. Tree ownership; 4. End of tenancy. The findings related to these four topics are presented in the following chapter.

3.1. Tenancy duration

The data collection showed consensus that short-term tenancy agreements, such as most Farm Business Tenancies, are incompatible with the temporal requirements of agroforestry, as the financial return on investment cannot be captured within the limited duration of such agreements. Tenancy periods shorter than 15 years are generally seen as preclude serious consideration of agroforestry, as even the most basic systems typically require five to ten years to reach maturity and generate substantial yields. The duration of tenancy is stated to significantly influences the type and design of agroforestry systems that farmers can implement.

“Length of tenancy is a real disincentive (...), if you only got a five-year tenancy, you exploit that bit of land for the five years and then move off it. Especially when there isn't a baseline [such as soil health, biodiversity, etc.] at the beginning and the end, which is enacted and monitored.” (S5)

“The type of system is very much dictated by what we could and couldn't do within the lifetime of our tenancy.” (S5)

Short-term tenancy agreements, in general, are seen as discouraging investment and leading to underinvestment in land improvements and farm development, as tenants have little incentive to commit personal resources.

“A five-year let is not long enough for anybody to have any real view about the future of that farm. (...) If he's in for five years, he's not going to develop it. Why would he put (...) any of his own money into it? It's too short.” (S2)

The decline of long-term tenancy agreements was mentioned continuously in reference to Agricultural Holding Act tenancies and the continuous occurrence of new Farm Business Tenancy agreements with short tenancy durations. It is stated multiple times that, in theory, the Farm Business Tenancy framework allows long-term tenancy agreements as it is purely up to the landlord to decide, but that, in reality, new long-term agreements are becoming scarce.

“85% of all new Farm Business tenancies are for five years or less, and yes, some of them are rolling on a year-to-year basis. This doesn't give anybody the confidence to invest. We need a change of mindset in relation to landlords and their agents.” (S26)

“You are lucky if you get a 15-year [tenancy agreement].” (S24)

3.2. Restrictive clauses

Several stakeholders truthfully stated that agroforestry is already legally recognized within the framework of existing tenancy legislation in the agricultural sector in England, as the definitions of agriculture in the Agricultural Holdings Act 1986 and the Agricultural Tenancies Act 1995 encompass the planting of trees, provided that such practices are complementary to agricultural land use (GOV UK 2025a, 2025b)."

“The definition of agriculture already includes tree planting where it is ancillary to agricultural use within the definition of agriculture within both the 1986 Act and (...) those that are after (...). The definition of agriculture helps us in relation to ensuring that agroforestry in all its forms, silvopastoral and silvoarable, can be considered to be agricultural support.” (S26)

The responses showed that the legal framework for the lease of agricultural holdings in theory allows considerable flexibility in terms of lease duration, permitted land uses, and subletting arrangements. However, the expert's consensus was that, in practice, this potential remains largely underutilised, as Farm Business Tenancy agreements continue to be seen as predominantly short-term and restrictive in nature.

“The tools are there [within the Farm Business Tenancy framework to create all kinds of tenancy agreements and allow the implementation of agroforestry], and I would fully encourage their creative use.” (S27)
“In terms of the legislation, the farm business tenancy legislation is effectively an open book. (...) But if we were to measure the breadth of this flexibility within that legislation, the lengths of term are routinely short, tenancies are routinely restrictive, and they have not created the degree of change that we hoped to see” (S26)

The perception was that the cause for this is that the demand for agricultural land significantly exceeds the available supply, resulting in a landlord-favoured market, which enables landlords to impose shorter lease terms as well as restrictive clauses. Several stakeholders mentioned that tenancy agreements frequently contain restrictive clauses that inhibit the implementation of agroforestry practices, including explicit prohibitions on the planting of trees, hedgerows, or other vegetation types integral to agroforestry systems. It was also stated that subletting is frequently also prohibited, which is seen as limiting the farmers’ opportunities to engage in collaborative arrangements or enter into joint ventures that could enhance productivity and sustainability.

“We do need a change in contracts [tenancy agreements]. (...) I see examples of contracts which have clauses such as (...) the tenant shall not plant any hedges, fruit trees, etc. And there is a sort of (...) laziness in the sector where the land agent will take out the standard Farm Business Tenancy agreement that’s been in their drawer for the past 25 years.” (S26)

Even if certain activities are not explicitly forbidden within a tenancy agreement, tenants are often required to obtain prior consent from the landlord, which is seen as disincentivising.

“We have some quite strange clauses in our own personal tenancy, one being that we can’t bring livestock onto the farm without landlord’s consent. We’re not allowed to create any joint ventures or contract farming arrangements without landlords’ consent, of which they want a percentage of the return.” (S5)

One expert highlighted a particular contradiction. In some cases, incoming tenant farmers are obliged to do and selected based on progressive and innovative business plans, yet are subsequently constrained by tenancy agreements that preclude the realisation of these plans.

“I also get really frustrated when tenants are asked to produce business plans and applications for tenancies, where they put in (...) wonderful things that they want to do, and then they get presented with the standard Farm Business Tenancy agreement, which seems to belie everything that they’ve put into their business plan and why they were selected in the first place. This requires a change of mindset amongst landlords and their agents to be more open-handed when it comes to the clauses of those agreements.” (S26)

The persistence of conservative and restrictive contractual clauses is attributed by the experts to a widespread reluctance among landlords to adopt innovative or risk-associated approaches. The cause of this reluctance is seen by the experts in a general lack of trust between landlords and tenants, as well as in the influence of risk-averse land agents, who perceive agroforestry as a risk and further reinforce the landlords’ preference for conventional and low-risk contractual terms.

“What we are against on a very regular basis is the conservatism in the sector in that the usual way of doing things, the usual clauses, (...) there tends to be a lack of willingness to be less than conservative in approach to businesses. Some of that’s about lack of trust, some of that’s about needing to build trust. Coupled with that, though, there is a seemingly unlimited concern amongst landlords and those who advise them about taking risk. (...) Quite often, those who are advising them will almost put them off from doing stuff because of the risk aspects.” (S26)

An illustrative example of what is possible within the current Farm Business Tenancy frameworks is demonstrated by one of the interviewees, who is an active farmer as well as an active landlord. In this case, the tenants are granted considerable autonomy in managing the land, including the right to plant trees, as part of their tenancy agreements. The only stipulation within the tenancy agreement is that tenants must seek prior approval from the landlord before entering into long-term stewardship agreements. This requirement stems from the landlord’s responsibility to ensure that any successor tenant will be able to honour the commitments made under such stewardship agreements and not to prevent the tenant from the farming in the way they wish to do.

“Under the terms of their tenancy, they have free hand to plant trees or to do whatever they like. The only thing is that if they take out a stewardship agreement, (...) because that’s obviously for a period of usually 10 years, they have to get the landlord’s agreement, because should they leave within those 10 years, the landlord has to then agree that the next tenant or whoever is operating that land will continue with the agreement until it ends. So that is the only time really that they have to come to us to ask for approval.” (S2)

3.3. Tree ownership

Agroforestry implementation is costly, this itself is recognised by the interviewees as a disincentive for agroforestry uptake.

“Cost is always there as a barrier.” (S17)

The costs of agroforestry implementation are closely connected to the question of tree ownership and ownership rights following such an investment. Almost all stakeholders stated that the establishment of most agro-

forestry systems is undertaken and financed by farmers. However, some of the interviewees mentioned that under prevailing tenancy law, trees planted by a tenant farmer are legally considered the property of the landlord as they are fixtures to the land (GOV UK 2025a, 2025b).

“[A tenant farmer] doesn’t own his trees. Anything you fix to land belongs to land, and that’s the challenge.” (S27)

“There is a legal framework around tenants’ fixtures like that. Strictly, at the point the trees grow, they’re the landlord’s trees.” (S27)

One of the farmers explained that his tenancy agreement mandates that the trees, which he fully financed and established himself, must be removed by him at the conclusion of the tenancy. While this may imply tenant ownership, legal ownership remains with the landlord, who is entitled to require the restoration of the land to its original condition. For almost all interviewees, this constitutes a substantial disincentive for tenant farmers, as they see the adoption of agroforestry practices significantly discouraged under such legal and contractual conditions. By now, the interviewee maintains the expectation that, upon the end of his tenancy, the practice of agroforestry will be recognised by the landlord as a beneficial and legitimate form of land use, and he therefore does not have to remove the trees.

“Looking at (...) [S5] perspective. (...) It’s madness that he is being required to remove the trees that he has put in to develop the system that he has got up and running.” (S26)

One interviewee mentioned another example of such constraints closely linked to fixtures. This is the inability of tenants to enhance hedgerows, as these features often fall under the direct control of the landlord. For the interviewee, this demonstrates the tenancy frameworks’ limits in relation to modern agricultural and sustainable requirements.

“Tenants have the grass in the middle of the field, which they could change and increase its value to some degree, but actually, in reality most of the natural capital value is around the edge, it’s in the hedgerows, etc. of which the tenant has no control over typically. So even if they wanted to do work on their hedgerows (...) to improve them, they couldn’t because they were under the landlord’s control. Their ability to take their farm forward is very limited. (...) Tenancy agreements are very out of date.” (S22)

The National Trust has addressed these problems by promoting a collaborative planning model between the National Trust as landlord and its tenant farmers. This approach aims to ensure that trees planted during the term of a tenancy are consistent with the organisation’s broader land use objectives and ecological strategy, and therefore can remain after the end of tenancy.

“We would hope that by co-planning and careful design together, that any trees we [and our tenant farmers]

plant are in the right place for us, so that when a farmer leaves, we’re happy for the trees to stay.” (S19)

3.4. End of tenancy

Closely connected to the previous topic, the end of tenancy is recognised by several interviewees as a topic that concerns farmers regarding the implementation of agroforestry.

“We need better (...) end of tenancy protocols.” (S26)

Some interviewees mentioned that there are commonly employed punitive clauses within tenancy agreements that, at the end of tenancy, frequently oblige the tenant to provide compensation to the landlord in cases of poor agricultural practice, diminution in land value, or environmental degradation. They stressed that, in contrast, there is a widespread lack of reward clauses which offer incentives or rewards to tenants for tenant investments in beneficial or sustainable land management practices.

“There are very few rewarding clauses in most tenancies for when you’ve increased biodiversity, (...) soil quality or (...) water quality. They tend not to exist. (...) We’ve got scientific evidence [for our farm] that we know we’ve increased biodiversity and (...) soil quality on the farm, but (...) I’m not gonna get any reward for that. Now, in the world of equity, is that an equitable arrangement when I’ve improved somebody else’s asset?” (S5)

“If the tenant is improving the quality of the soil by putting in agroforestry and it’s increasing the land’s value, then that’s not reflected in the tenancy agreements.” (S18)

The establishment of agroforestry systems requires initial investment, mostly by the farmer, and entails a long-term commitment. However, interviewees indicated that existing tenancy agreements mostly provide no adequate investment protection and that in the absence of appropriate safeguards, tenants are exposed to the risk of forfeiting their investments upon vacating the land, while subsequent tenants or landlords could benefit without incurring any costs. Which is perceived by the interviewees as disincentivising.

“In 20 years, at their peak production, if you get thrown off the land as a tenant, you go: Well, hang on, I have put all this money into it, I should be reaping the reward. So, you need an agreement that sort of reflects that.” (S24)

“There is a massive disincentive to do things regeneratively or agroforestry if you’ve only got a five-year farm business tenancy, unless there are transfer clauses, unless any benefit could be transferred between one tenant and a subsequent tenant.” (S5)

“I think the issue is (...) how you account for the value of the trees at the end of the tenancy. You could have a one-year tenancy agreement where the landlord says fine plant fruit trees, but the tenancy agreement must

realise that the landlord is going to get the benefit in five years' time, not you. But you must reflect that in price. It's (...) not done." (S3)

In this respect, one expert mentioned that at the end of a tenancy, such investments currently might not translate into monetary value because the market isn't reflecting it as such, therefore making it difficult to justify compensation.

"When it comes to the end of the tenancy, the question is, what is the value you are leaving for the next occupier or to the landlord? (...) If the market doesn't see a (...) value in it, or it's too special, then your work suited you. It was your business proposition. You've earned what you can from it, opportunity and risk, but there may not be an end-of-tenancy value." (S27)

Several interviewees stated that legislative mechanisms like the development of clauses guaranteeing reimbursement for unamortised investments would contribute to greater financial security for tenants and promote sustainable land use practices. In this context, it was emphasized that a complete revision of the valuation procedures at the end of tenancies is needed. Aspects that were mentioned to be considered in such a revision were tree life-cycle phases including productivity aspects, landscape value, ecological value, as well as supply chain demands that place certain requirements such as environmental criteria onto the tenant to be able to participate in specific supply chains and manage a viable business.

"There is a real need to reimagine the end-of-tenancy valuation side." (S26)

"If I were implementing agroforestry with a Farm Business Tenancy. (...) There would have to be a mechanism to say: I'm putting in (...) my money to set this agroforestry system up. (...) I'm going to write that off over 10 years (...). If I lose my tenancy after five years, someone's going to pay me (...). Those sorts of things could be legislated for, but it's not, and that would give tenants confidence to invest knowing that they don't lose all their money when they hand it over to the next person, who would then get the trees for nothing and be able to take the income from it." (S13)

"The valuation profession (...) needs to reimagine the place of trees (...) and how they sit within the farm landscape and ensure that they have a right perspective of the value of those trees in the farm landscape as rather than just seeing them as an encumbrance, as an issue for dilapidation, as an issue for loss of value." (S26)

4. Discussion

The results demonstrated that the main topics influencing tenant farmers' decision-making in the context of agroforestry adoption are: 1. Tenancy duration; 2. Restrictive clauses; 3. Tree ownership; 4. End of tenancy. Within

the following section, the impact of these four topics, as well as their implications for the perceived tenure security by tenant farmers, are discussed. Van Vliet et al. (2015) stated that the farmer has the decision-making power to decide the land use on the agricultural land he manages. While this might be true for owner-occupied farms, during the data collection process, as well as the analysis, it became evident that this is not true for tenant farmers, as the individual tenancy agreement can have a significant impact on what a farmer can or cannot do on the land he rented.

The results demonstrated that tenancy duration is a critical determinant of farmers' willingness to make long-term investments into sustainable practices or farm development and diversification, such as agroforestry. The number of long-term Agricultural Holdings Act Tenancies is declining, while the number of short-term Farm Business Tenancies increases, of which most have a tenancy duration of 5 years or less, with an average duration of 3.03 years in 2021 (Department for Environment, Food & Rural Affairs 2025b). This leads to tenure insecurity for the tenant farmer and offers little incentive to commit personal resources, as has also been observed in previous studies (Maye et al. 2009).

This development is worrying, as it disincentivises agroforestry adoption on a growing portion of land in England. However, spreading agroforestry practices to tenanted land is essential to achieving the UK's tree planting goals by 2050. Yet, the duration of tenancy agreements remains at the landlord's discretion, and the prevailing short-term orientation fundamentally conflicts with sustainable agricultural and environmental management principles. Research consistently found that tenure insecurity on tenanted land leads farmers to prioritise short-term solutions, for example the use of chemical fertilizers for soil fertility increase and disincentivises long-term investment into sustainable and conservation practices (Worku & Mekonnen 2012; Kassie et al. 2013). Sklenicka et al. (2015) fittingly brought up the saying "No one washes a rented car". The opposite was observed by several studies on owner-occupied land, where long-term tenure security, emotional connections and autonomy in decision-making support the adoption of long-term strategies, especially agroforestry uptake (Buyinza et al. 2009; Worku & Mekonnen 2012; Kassie et al. 2013; Sklenicka et al. 2015). These studies, as well as our findings, underscore the importance of incentivising landlords to offer longer tenancy agreements, which would encourage tenants to invest in sustainable, long-term practices and could ultimately even enhance the value of the land. To further sustainable land use and meet tree planting targets, future research should focus on understanding the factors behind landlords' preference for short-term tenancies and explore policy levers to promote long-term agreements.

The research showed that regardless of the legal framework's ability for flexibility and acceptance of tree

planting, a certain amount of tenancy agreements, especially Farm Business Tenancies, include clauses that cause restrictiveness. These clauses can prohibit activities such as tree planting or subletting. If such clauses are present, they disincentivise a broad range of activities, thereby significantly limiting the flexibility of tenant farmers and constraining their ability to pursue diverse or innovative business strategies. For instance, if a tenant farmer intends to establish trees to support his agricultural activities but lacks the necessary expertise or interest in managing them, he could opt to sublet the tree strips to another farmer. If subletting is prohibited, however, such a farmer would refrain from planting trees altogether, as the clause would serve as a disincentive. Most of such clauses are outdated in the context of modern farming requirements. Their continued use creates tenure insecurity for tenant farmers, thereby discouraging long-term oriented, sustainable and innovative practices, such as collaborative arrangements or joint ventures, that could enhance farm productivity and resilience (Ravenscroft 1999). Research and policy action are needed to reform the employment of clauses from restrictiveness towards a more flexible framework that promotes long-term sustainable practices.

Under English tenancy law, trees planted by a tenant farmer are a fixture and legally considered the property of the landlord, paired with the fact that tenants are often required to remove planted trees at the end of the tenancy. Such legal and contractual conditions act as major disincentives for the adoption of agroforestry, ultimately undermining sustainable agricultural development in England. Unruh (1995) already denounced in 1995 that a departure from the fixture presumption is needed to support agroforestry adoption. It is tragic that this problem, as the others previously mentioned, still exists today. Therefore, legislation is needed to fix this issue in a way landowners and tenants needs for security are met.

The end of tenancy is essential for all tenancy agreements. Therefore, it is important to recognise all contributions that have been made to the property, positive and negative. The study showed that tenant farmers face significant business risk of losing their investment stemming from uncertainties surrounding future compensation and transfer to the subsequent tenant or landlord. In the absence of mechanisms for recognising and valuing such contributions, like agroforestry, in a beneficial way for the tenant at the termination of a tenancy, tenants are disincentivised from undertaking long-term investments, of which they may never reap the reward and are not compensated for. From a UK's tree planting and net-zero goal perspective, it does not really matter who plants the trees, as long as they remain standing at the end of the tenancy. In this context, the only important thing is that, under all given conditions, it is very unlikely that trees will be planted at all. That is why it is so important to offer tenant farmers financial incentives, such as compensation, so that they plant the trees in the first place. Furthermore,

the perspective that the tenant who initiated and financed these enhancements remains uncompensated at the end of the tenancy, while such long-term improvements frequently confer lasting benefits upon the landlord, is, in the context of equity, troubling. In addition, the prevailing tendency within the valuation community to regard trees as potential liabilities, rather than as asset-enhancing investments, further increases the problem. If there is no value accounted for in planting trees there is no value to compensate. Therefore, efforts should be undertaken as well as in research and policy on how to employ mechanisms that enable compensation and transfer clauses, as well as how to equitably determine the value of created agroforestry systems, to properly account for them in compensation and transfer.

Considering the tree ownership and compensation topic, the study demonstrates that collaborative planning between tenant farmers and landlords can enhance tenure security and deliver mutual benefits. Such collaboration helps mitigate potential conflicts at the end of tenancies by establishing clear agreements regarding investments and future compensation. Moreover, landlords should be encouraged to actively support and participate in the planning and uptake of agroforestry, which can increase land value and productivity in the long term. If both parties follow a sustained landscape management vision, the continuity of environmental assets and sustainable practices is more likely.

The European agricultural landscape suffers from ownership fragmentation and the separation of ownership from land use, see absentee landowners, which complicates farming activities (Jongman 2002; van Dijk 2003; Sklenicka et al. 2014). Fragmentation often results in landscape homogenization, as small, inefficient parcels are leased to larger entities, which combine them into large-scale production blocks in order to enhance the agricultural viability (Sklenicka et al. 2014). Sklenicka et al. (2014) termed this process the “Farmland Rental Paradox”. This phenomenon is associated with numerous negative consequences, including social and economic impacts, such as the decline of rural character and the growth of large agricultural companies at the expense of small and medium farms, as well as environmental impacts, including biodiversity loss, increased erosion risk, and decreased aesthetic value of the landscape, and is even regarded as a new form of land degradation (Sklenicka et al. 2014). Therefore, it could be of great interest to research whether the Farmland Rental Paradox is of relevance for the tenant farming sector in England. As agroforestry implementation is generally difficult on tenanted land. The implementation of agroforestry could be particularly challenging if a tenant farmer's landholdings were fragmented among several landowners, because each parcel could be subject to different tenancy agreements and consequently would offer different barriers, that needed to be considered. This would enhance the disincentivising effect of the aspects found in this study

for large farmers. This would be tragic, as such farmers can be a key group for fostering agricultural change and introducing sustainable practices (Walford 2002; Pfeifer et al. 2009). Large-scale tenant farms have the potential to significantly amplify the benefits of agroforestry if changes in tenancy agreements enhance tenure security and support its adoption. Therefore, targeted measures should be implemented to realise this potential. Presenting agroforestry as a viable option to such farmers could significantly help address some of the challenges of modern agriculture (Walford 2002).

Several limitations of this study should be taken into consideration when interpreting the findings and assessing their applicability to broader contexts. Firstly, the sampling process may introduce selection bias and limit the representativeness of the sample. As a result, the views and experiences captured may not fully reflect those of the whole English agricultural sector. Secondly, the extended data-collection period introduces the possibility that external conditions or participant perspectives may have shifted during this time. Such temporal variation could influence the consistency of responses and thus affect the comparability of the collected data. Finally, the incorporation of a recorded panel discussion as a secondary source represents an additional potential source of bias. These factors collectively suggest that care should be taken when generalising the results, and further research with broader and more diverse samples, shorter collection periods, and unified data sources is recommended to strengthen the reliability and transferability of the findings.

5. Conclusions

This study aimed to identify tenancy agreement aspects within the English agricultural sector that influence the decision-making of tenant farmers in the context of agroforestry adoption and the perceived tenure security. While tenancy duration was already previously known to be a limiting factor for sustainable practices like agroforestry adoption and tenure security, this study underpinned this and provided further insights as well as identified three new topics: 1. Restrictive clauses, while the legal framework offers the ability for flexibility and acceptance of tree planting tenancy agreements, often-times include clauses that cause restrictiveness regarding the way farmers can practice agriculture and develop their business. 2. Tree ownership, trees are regarded as fixtures and therefore are owned by the landlord even if they are planted and financed by the tenant. 3. End of tenancy, tenant farmers are not sufficiently protected at the end of a tenancy, meaning that adequate compensation and transfer clauses regarding agroforestry are missing.

Land use changes are path dependent (van Vliet et al. 2015). The results of this study showed that this is also the case for agroforestry adoption on tenanted land in England, as it is dependent on the perceived tenure security by tenant farmers, which is affected by the four named topics. As matters of land tenure security can be directly influenced by the government future research is needed on how to solve the issues presented within this paper (Worku & Mekonnen 2012).

Nevertheless, it is necessary to note that the outcome of all future endeavours should respect the rights of all affected stakeholders as well as consider possible implications and consequences before going for institutional and policy changes (Neef & Heidhues 1994). A potential starting point for subsequent research could be based on Felton et al. (2023) findings that highlighted that a higher likelihood of agroforestry adoption can be found on farms with 'nonstandard' land ownership. The efficacy of incentives for promoting tree planting is contingent upon the pre-existing interests and values of the farmer or landowner (Westaway et al. 2023). Consequently, nonstandard landowners should be the subject of a subsequent research initiative, with a focus on their perspectives on the four main topics identified within this paper. This would enable an examination of the rationales underlying their divergent approaches to these issues, as well as the identification of potential opportunities for disseminating these attitudes among more standard landlords.

Acknowledgements

The data collection was funded by REFOREST. This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101060635 (REFOREST). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

References

- Asaaga, F. A., Hiron, M. A., Malhi, Y., 2020: Questioning the link between tenure security and sustainable land management in cocoa landscapes in Ghana. *World Development*, 130:104913.
- Atangana, A., Khasa, D., Chang, S., Degrande, A., 2014: *Tropical Agroforestry*. Dordrecht, Springer Netherlands, 380 p.
- Atteslander, P., 2006: *Methoden der empirischen Sozialforschung*. 11th edn. (ESV Basics). Berlin: Schmidt.

- Available at <http://www.socialnet.de/rezensionen/isbn.php?isbn=978-3-503-09740-1>. (In German).
- Benjamin, E. O., Ola, O., Sauer, J., Buchenrieder, G., 2021: Interaction between agroforestry and women's land tenure security in sub-Saharan Africa: A matrilineal perspective. *Forest Policy and Economics*, 133:102617.
- Braunecker, C., 2021: **How to do empirische Sozialforschung: Eine Gebrauchsanleitung.** (utb-studi-e-book Schlüsselkompetenzen, 5595). Stuttgart, Deutschland, utb GmbH, 160 p. Available at <https://elibrary.utb.de/doi/book/10.36198/9783838555959>. (In German).
- Brown, K. M., 2007: Understanding the materialities and moralities of property: reworking collective claims to land. *Transactions of the Institute of British Geographers*, 32:507–522.
- Burgess, A. J., Correa Cano, M. E., Parkes, B., 2022: The deployment of intercropping and agroforestry as adaptation to climate change. *Crop and Environment*, 1:145–160.
- Buyinza, M., Nalule, R., Byakagaba, P., 2009: Land Tenure Systems and Extension Methods: Assessment Of Agroforestry Adoption in Kalungu Sub-County, Masaka District, Uganda. *Journal of Environmental Extension*, 7:63–66.
- Calo, A., 2020: "Who Has the Power to Adapt?" Frameworks for Resilient Agriculture Must Contend With the Power Dynamics of Land Tenure'. *Frontiers in Sustainable Food Systems*, 4:555270.
- Campbell, B. M., Beare, D. J., Bennett, E. M., Hall-Spencer, J. M., Ingram, J. S. I., Jaramillo, F. et al., 2017: Agriculture production as a major driver of the Earth system exceeding planetary boundaries. *Ecology and Society*, 22:8.
- Campbell, B. M., Hansen, J., Rioux, J., Stirling, C. M., Twomlow, S., Wollenberg, E. L., 2018: Urgent action to combat climate change and its impacts (SDG 13): transforming agriculture and food systems. *Current Opinion in Environmental Sustainability*, 34:13–20.
- Dollinger, J., Jose, S., 2018: Agroforestry for soil health. *Agroforestry Systems*, 92:213–219.
- Dramstad, W. E., Sang, N., 2010: Tenancy in Norwegian agriculture. *Land Use Policy*, 27:946–956.
- Duesberg, S., Bogue, P., Renwick, A., 2017: Retirement farming or sustainable growth – land transfer choices for farmers without a successor. *Land Use Policy*, 61:526–535.
- Felton, M., Jones, P., Tranter, R., Clark, J., Quaipe, T., Lukac, M., 2023: Farmers' attitudes towards, and intentions to adopt, agroforestry on farms in lowland South-East and East England. *Land Use Policy*, 131:106668.
- Forbord, M., Bjørkhaug, H., Burton, R. J., 2014: Drivers of change in Norwegian agricultural land control and the emergence of rental farming. *Journal of Rural Studies*, 33:9–19.
- Garrity, D. P., Akinnifesi, F. K., Ajayi, O. C., Weldesemayat, S. G., Mowo, J. G., Kalinganire, A. et al., 2010: Evergreen Agriculture: a robust approach to sustainable food security in Africa. *Food Security*, 2:197–214.
- Ghale, B., Mitra, E., Sodhi, H. S., Verma, A. K., Kumar, S., 2022: Carbon Sequestration Potential of Agroforestry Systems and Its Potential in Climate Change Mitigation. *Water, Air, & Soil Pollution*, 233:228.
- Gläser, J., Laudel, G., 2009: Experteninterviews und qualitative Inhaltsanalyse als Instrumente rekonstruierender Untersuchungen. 3rd edn. (Lehrbuch). Wiesbaden, VS Verlag für Sozialwissenschaften, 352 p. (In German).
- Grubbström, A., 2011: Emotional bonds as obstacles to land sale – Attitudes to land among local and absentee landowners in Northwest Estonia. *Landscape and Urban Planning*, 99:31–39.
- Grubbström, A., Eriksson, C., 2018: Retired Farmers and New Land Users: How Relations to Land and People Influence Farmers' Land Transfer Decisions. *Sociologia Ruralis*, 58:707–725.
- Häder, M., 2019: **Empirische Sozialforschung.** Wiesbaden, Springer Fachmedien Wiesbaden, 530 p. (In German).
- Hossain, A., Krupnik, T. J., Timsina, J., Mahboob, M. G., Chaki, A. K., Farooq, M. et al., 2020: Agricultural Land Degradation: Processes and Problems Undermining Future Food Security. In: Fahad, S., Alam, M., Saeed, M., Adnan, M., Hasanuzzaman, M., Ullah, H., Khan, I. A. (eds.): *Environment, Climate, Plant and Vegetation Growth*. Cham, Springer International Publishing, p. 17–61.
- Jongman, R., 2002: Homogenisation and fragmentation of the European landscape: ecological consequences and solutions. *Landscape and Urban Planning*, 58:211–221.
- Jose, S., 2009: Agroforestry for ecosystem services and environmental benefits: an overview. *Agroforestry Systems*, 76:1–10.
- Jose, S., 2012: Agroforestry for conserving and enhancing biodiversity. *Agroforestry Systems*, 85:1–8.
- Jose, S., Dollinger, J., 2019: Silvopasture: a sustainable livestock production system. *Agroforestry Systems*, 93:1–9.
- Kabubo-Mariara, J., 2007: Land conservation and tenure security in Kenya: Boserup's hypothesis revisited. *Ecological Economics*, 64:25–35.
- Kandji, S. T., Verchot, L. V., Mackensen, J., Boye, A., Tomich, T. P., Ong, C. K. et al., 2025: Opportunities for linking climate change adaptation and mitigation through agroforestry systems – CIFOR-ICRAF Knowledge: Publication, 7 April. Available at <https://www.cifor-icraf.org/knowledge/publication/29285/>.
- Kassie, M., Jaleta, M., Shiferaw, B., Mmbando, F., Mekuria, M., 2013: Adoption of interrelated sus-

- tainable agricultural practices in smallholder systems: Evidence from rural Tanzania. *Technological Forecasting and Social Change*, 80:525–540.
- Kolapo, A., Didunyemi, A. J., Aniyi, O. J., Obembe, O. E., 2022: Adoption of multiple sustainable land management practices and its effects on productivity of smallholder maize farmers in Nigeria. *Resources, Environment and Sustainability*, 10:100084.
- Lavigne-Deville, P., 2018: What is land tenure security and how can it be strengthened? – *Foncier & Développement*, 14 May. Available at <https://www.foncier-developpement.fr/publication/what-is-land-tenure-security-and-how-can-it-be-strengthened/>.
- Leonhardt, H., Braitto, M., Penker, M., 2021: Why do farmers care about rented land? Investigating the context of farmland tenure. *Journal of Soil and Water Conservation*, 76:89–102.
- Maye, D., Ilbery, B., Watts, D., 2009: Farm diversification, tenancy and CAP reform: Results from a survey of tenant farmers in England. *Journal of Rural Studies*, 25:333–342.
- Mayring, P., 2000: Qualitative Content Analysis. *Forum Qualitative Sozialforschung Forum: Qualitative Social Research*, 1. Available at <https://doi.org/10.17169/fqs-1.2.1089>.
- Montagnini, F., Nair, P., 2004: Carbon sequestration: An underexploited environmental benefit of agroforestry systems. *Agroforestry Systems*, 61-62:281–295.
- Moreno Pérez, O. M., Ortiz Miranda, D., 2008: Understanding structural adjustment in Spanish arable crop farms: policies, technology and multifunctionality. *Spanish Journal of Agricultural Research*, 6:153–165.
- Mosquera-Losada, M. R., Santiago-Freijanes, J. J., Rois-Díaz, M., Moreno, G., den Herder, M., Aldrey-Vázquez, J. A. et al., 2018: Agroforestry in Europe: A land management policy tool to combat climate change. *Land Use Policy*, 78:603–613.
- Neef, A., Heidhues, F., 1994: The role of land tenure in agroforestry: lessons from Benin. *Agroforestry Systems*, 27:145–161.
- Nguyen, Q., Hoang, M., Öborn, I., Noordwijk, M., 2013: Multipurpose agroforestry as a climate change resiliency option for farmers: an example of local adaptation in Vietnam. *Climatic Change*, 117:241–257.
- Oporto-Peregrino, S., Hidalgo-Mihart, M. G., Collado-Torres, R. A., Castro-Luna, A. A., Gama-Campillo, L. M., Arriaga-Weiss, S. L., 2020: Effects of land tenure and urbanization on the change of land use of cacao (*Theobroma cacao*) agroforestry systems in southeast Mexico. *Agroforestry Systems*, 94:881–891.
- Udawatta, R. P., Rankoth, L., Jose, S., 2019: Agroforestry and Biodiversity. *Sustainability*, 11:2879.
- Palm, C. A., Van Noordwijk, M., Woomer, P. L., Alegre, J., Arevalo, L., Castilla, C. et al., 2005: Carbon losses and sequestration following land use change in the humid tropics: Slash and Burn: The Search for Alternatives. p. 45–63. Available at https://www.researchgate.net/publication/303211824_Carbon_losses_and_sequestration_following_land_use_change_in_the_humid_tropics#full-text.
- Pantera, A., Mosquera-Losada, M. R., Herzog, F., den Herder, M., 2021: Agroforestry and the environment. *Agroforestry Systems*, 95:767–774.
- Petrzelka, P., Marquart-Pyatt, S., 2011: Land tenure in the U.S.: power, gender, and consequences for conservation decision making. *Agriculture and Human Values*, 28:549–560.
- Petrzelka, P., Ma, Z., Malin, S., 2013: The elephant in the room: Absentee landowner issues in conservation and land management. *Land Use Policy*, 30:157–166.
- Pfeifer, C., Jongeneel, R. A., Sonneveld, M. P. W., Stoorvogel, J. J., 2009: Landscape properties as drivers for farm diversification: A Dutch case study. *Land Use Policy*, 26:1106–1115.
- Primdahl, J., 1999: Agricultural landscapes as places of production and for living in owner's versus producer's decision making and the implications for planning. *Landscape and Urban Planning*, 46:143–150.
- Ranjan, P., Wardropper, Ch. B., Eanes, F. R., Reddy, Sh. M. W., Harden, S. C., Masuda, Y. J. et al., 2019: Understanding barriers and opportunities for adoption of conservation practices on rented farmland in the US. *Land Use Policy*, 80:214–223.
- Ravenscroft, N., 1999: 'Post-Feudalism' and the changing structure of agricultural leasing. *Land Use Policy*, 16:247–257.
- Rois-Díaz, M., Lovric, N., Lovric, M., Ferreiro-Domínguez, N., Mosquera-Losada, M. R., den Herder, M. et al., 2018: Farmers' reasoning behind the uptake of agroforestry practices: evidence from multiple case-studies across Europe. *Agroforestry Systems*, 92:811–828.
- Rotz, S., Fraser, E. D., Martin, R. C., 2019: Situating tenure, capital and finance in farmland relations: implications for stewardship and agroecological health in Ontario, Canada. *The Journal of Peasant Studies*, 46:142–164.
- Santiago-Freijanes, J. J., Mosquera-Losada, M. R., Rois-Díaz, M., Ferreiro-Domínguez, N., Pantera, A., Aldrey, J. A. et al., 2021: Global and European policies to foster agricultural sustainability: agroforestry. *Agroforestry Systems*, 95:775–790.
- Simbizi, M. C. D., Bennett, R. M., Zevenbergen, J., 2014: Land tenure security: Revisiting and refining the concept for Sub-Saharan Africa's rural poor. *Land Use Policy*, 36:231–238.
- Sklenicka, P., Salek, M., 2008: Ownership and soil quality as sources of agricultural land fragmentation in highly fragmented ownership patterns. *Landscape Ecology*, 23:299–311.
- Sklenicka, P., Janovska, V., Salek, M., Vlasak, J., Molnarova, K., 2014: The Farmland Rental Paradox:

- Extreme land ownership fragmentation as a new form of land degradation. *Land Use Policy*, 38:587–593.
- Sklenicka, P., Janeckova Molnarova, K., Salek, M., Simova, P., Vlasak, J., Sekac, P. et al., 2015: Owner or tenant: Who adopts better soil conservation practices? *Land Use Policy*, 47:253–261.
- Smith, P., Olesen, J. E., 2010: Synergies between the mitigation of, and adaptation to, climate change in agriculture. *The Journal of Agricultural Science*, 148:543–552.
- Souza, H. N. de, Goede, R. G. M. de, Brussaard, L., Cardoso, I. M., Duarte, E. M. G., Fernandes, R. B. A. et al., 2012: Protective shade, tree diversity and soil properties in coffee agroforestry systems in the Atlantic Rainforest biome. *Agriculture, Ecosystems & Environment*, 146:179–196.
- Springmann, M., Clark, M., Mason-D’Croz, D., Wiebe, K., Bodirsky, B. L., de Vries, W. et al., 2018: Options for keeping the food system within environmental limits. *Nature*, 562:519–525.
- Staddon, P., Urquhart, J., Mills, J., Goodenough, A., Powell, J., Vigani, M. et al., 2021: Encouraging woodland creation, regeneration and tree planting on agricultural land: A literature review – NEER020, 8 October. Countryside and Community Research Institute report to Natural England. Natural England. 126 p. Available at <https://publications.naturalengland.org.uk/publication/4561957727502336>.
- Unruh, J. D., 1995: Agroforestry, reforestry, and the carbon problem: The role of land and tree tenure. *Interdisciplinary Science Reviews*, 20:215–227.
- van Dijk, T., 2003: Dealing with Central European land fragmentation : a critical assessment on the use of Western European instruments. Delft, Eburon, 11 p.
- van Doorn, A. M., Bakker, M. M., 2007: The destination of arable land in a marginal agricultural landscape in South Portugal: an exploration of land use change determinants. *Landscape Ecology*, 22:1073–1087.
- van Vliet, J., de Groot, H. L. F., Rietveld, P., Verburg, P. H., 2015: Manifestations and underlying drivers of agricultural land use change in Europe. *Landscape and Urban Planning*, 133:24–36.
- Verchot, L. V., Van Noordwijk, M., Kandji, S., Tomich, T., Ong, Ch., Albrecht, A. et al., 2007: Climate change: linking adaptation and mitigation through agroforestry. *Mitigation and Adaptation Strategies for Global Change*, 12:901–918.
- Walford, N., 2002: Agricultural adjustment: adoption of and adaptation to policy reform measures by large-scale commercial farmers. *Land Use Policy*, 19:243–257.
- Wannasai, N., Shrestha, R. P., 2008: Role of land tenure security and farm household characteristics on land use change in the Prasae Watershed, Thailand. *Land Use Policy*, 25:214–224.
- Westaway, S., Grange, I., Smith, J., Smith, L. G., 2023: Meeting tree planting targets on the UK’s path to net-zero: A review of lessons learnt from 100 years of land use policies. *Land Use Policy*, 125:106502.
- Wilson, M., Lovell, S., 2016: Agroforestry – The Next Step in Sustainable and Resilient Agriculture. *Sustainability*, 8:574.
- Wolz, K. J., Lovell, S. T., Branham, B. E., Eddy, W. C., Keeley, K., Revord, R. S. et al., 2018: Frontiers in alley cropping: Transformative solutions for temperate agriculture. *Global Change Biology*, 24:883–894.
- Worku, G. B., Mekonnen, A., 2012: Investments in Land Conservation in the Ethiopian Highlands: A Household Plot-level Analysis of the Roles of Poverty, Tenure Security, and Market Incentives. *International Journal of Economics and Finance*, 4:32–50.

Other sources

- Cartography: Mann, C., Base Map: @ GADM 2018–2025, 2025: United Kingdom. Available at https://gadm.org/download_country.html. Accessed: 5 September 2025.
- Climate Change Committee, 2022: Sixth Carbon Budget – Climate Change Committee, 9 March. Available at <https://www.theccc.org.uk/publication/sixth-carbon-budget/>. Accessed: 17 May 2025.
- Climate Change Committee, 2024: Net Zero – The UK’s contribution to stopping global warming – Climate Change Committee, 18 October. Available at <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>. Accessed: 17 May 2025.
- Department for Environment, Food & Rural Affairs, 2025a: Agricultural tenancies: How farm business tenants and landlords can claim compensation for improvements, terminate a tenancy and ask for a rent review, 18 August. Available at <https://www.gov.uk/guidance/agricultural-tenancies>. Accessed: 17 May 2025.
- Department for Environment, Food & Rural Affairs, 2025b: Rock Review: working together for a thriving agricultural tenanted sector, 19 August. Available at <https://www.gov.uk/government/publications/the-rock-review-working-together-for-a-thriving-agricultural-tenanted-sector>. Accessed: 15 May 2025.
- Department for Environment, Food & Rural Affairs, 2025c: Agricultural land use in England at 1 June 2024, 3 September. Available at <https://www.gov.uk/government/statistics/agricultural-land-use-in-england/agricultural-land-use-in-england-at-1-june-2024#section-1---detailed-results>. Accessed: 15 May 2025.
- European Commission, 2021: EU Farm Economics Overview Based on 2018 FADN data. Available at https://agriculture.ec.europa.eu/system/files/2021-11/eu-farm-econ-overview-2018_en_0.pdf. Accessed: 10 June 2025.
- European Parliamentary Research Service, 2025: Briefing: Agroforestry in the European Union | Think

- Tank | European Parliament, 18 August. Available at [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2020\)651982](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2020)651982). Accessed: 10 May 2025.
- FAO, 2024: FAO Land Tenure Studies 3: Land Tenure and Rural Development, 27 December. Available at <https://openknowledge.fao.org/server/api/core/bitstreams/57cfad3b-e487-492c-9aa8-74be63f-f8dca/content/y4307e.htm>. Accessed: 19 May 2025.
- Food and Agricultural Organisation of the United Nations, 2025a: Overview | About agroforestry | Agroforestry | Food and Agriculture Organization of the United Nations, 13 August. Available at <https://www.fao.org/agroforestry/about-agroforestry/overview/en>. Accessed: 10 May 2025.
- Food and Agricultural Organisation of the United Nations, 2025b: Basic knowledge | SFM Toolbox | Food and Agriculture Organization of the United Nations, 18 August. Available at <https://www.fao.org/sustainable-forest-management/toolbox/modules/agroforestry/basic-knowledge/en/>. Accessed: 10 May 2025.
- GOVUK, 2025a: Agricultural Holdings Act 1986 (c. 5), 6 August. Available at <https://www.legislation.gov.uk/ukpga/1986/5/data.xht?view=snippet&wrap=true>. Accessed: 19 August 2025.
- GOVUK, 2025b: Agricultural Tenancies Act 1995 (c. 8), 6 August. Available at <https://www.legislation.gov.uk/ukpga/1995/8/data.xht?view=snippet&wrap=true>. Accessed: 19 August 2025.
- IFAD, 2025: IFAD Policy on improving access to land and tenure security, 18 August. Available at <https://www.ifad.org/en/w/corporate-documents/policies/ifad-policy-on-improving-access-to-land-and-tenure-security>. Accessed: 11 August 2025.
- Net Lawman, 2013: Farm Business Tenancy – conditions and features, 28 November. Available at https://www.netlawman.co.uk/ia/farm-business-tenancy?srsId=AfmBOoqFbdFIDsWwh0ACN6-iKxY-whUiKHWHFnlUltRDG1GyZhY-1nf_W. Accessed: 17 May 2025.
- Roythornes, 2023: Agricultural Holdings Act (AHA) Tenancies – Roythornes Solicitors, 21 March. Available at https://www.roythorne.co.uk/site/sectors/agriculture-lawyers-solicitors/aha_tenancies/. Accessed: 17 May 2025.
- Spire Solicitors, 2021: What Is an Agricultural Tenancy? 25 May. Available at <https://www.spire solicitors.co.uk/what-is-an-agricultural-tenancy/>. Accessed: 17 May 2025.
- The Agroforestry Show, 2025: Agroforestry Show: Making Agroforestry Work for Tenants, 19 August. Available at <https://www.youtube.com/watch?v=MNNWN12HE-o>. Accessed: 17 June 2025.
- UK Parliament, 2025: Government tree planting meets less than half its annual targets, despite the growing demands on UK woodland for net zero – Committees – UK Parliament, 18 August. Available at <https://committees.parliament.uk/committee/62/environmental-audit-committee/news/196527/government-tree-planting-meets-less-than-half-its-annual-targets-despite-the-growing-demands-on-uk-woodland-for-net-zero/>. Accessed: 17 May 2025.
- United Nations Human Settlements Programme, 2004: Urban land for all. Nairobi, United Nations Human Settlements Programme.