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English farmers' views on agroforestry and agroforestry scheme characteristics: a qualitative analysis of drivers and facilitators of engagement

Clark Beth · J. Areal. Francisco. · Remoundou Kyriaki · Jin Shan · Yit Arn Teh · Fu Rao · Lukac Martin · J. Frewer Lynn

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Abstract Agroforestry is increasingly recognised for its multifunctional benefits, including ecosystem service delivery, biodiversity enhancement, and landscape improvement. As interest in this type of agriculture grows within new agri-environment policies, understanding farmer preferences and barriers to agroforestry adoption becomes critical. This study explored farmer views on agroforestry practices and scheme characteristics through four focus groups with 24 participants in England. Thematic analysis identified four key themes: terminology, perceived benefits, barriers, and facilitators of adoption. Farmers associated agroforestry with a range of farm-level and environmental benefits, such as shade for livestock, additional income streams, habitat creation, and cultural ecosystem services. However, adoption was constrained by concerns over financial viability, scheme inflexibility, and the mismatch between the long-term nature of tree planting and short-term policy cycles. Farmers also expressed uncertainty about how agroforestry fits within their role as food producers, and highlighted knowledge gaps around scheme requirements and tree management. Short-term tenancy agreements further limited participation. Findings suggest that farmers are more likely to adopt agroforestry when support schemes are flexible, context-sensitive, and supported by trusted advisors. Trust in scheme providers, particularly those perceived as impartial and embedded within the farming community, was found to be a critical factor influencing engagement, especially given widespread scepticism toward government-led initiatives. Future policies should prioritise long-term support, facilitate peer-to-peer learning, and ensure that agroforestry practices complement farm operations and food production goals. By fostering trust, simplifying scheme processes, and aligning agroforestry with farmer identity,

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C. Beth (✉) · Y. A. Teh · F. Rao · J. F. Lynn
School of Natural and Environmental Sciences, Newcastle University, Newcastle Upon Tyne NE1 7RU, UK
e-mail: beth.clark@newcastle.ac.uk

J. A. Francisco.
Newcastle Business School, Northumbria University, Newcastle Upon Tyne NE1 8ST, UK

R. Kyriaki
Aberystwyth Business School, Aberystwyth University, Hugh Owen Building Penglais Campus, Aberystwyth SY23 3DY, UK

J. Shan
Royal Agricultural University, Cirencester GL7 6JS, UK

J. Shan
Faculty of Business and Law, University of Portsmouth, Portsmouth PO1 3DE, UK

L. Martin
School of Agriculture, Policy and Development, University of Reading, Reading RG6 6AR, UK

policy can more effectively support the transition to sustainable land management.

Keywords Agroforestry · Agri-environment schemes · Focus groups · Farmers

Introduction

Agroforestry is the deliberate integration of trees into farm systems to simultaneously maintain or enhance the farm's agricultural output, including crops and livestock products (Forestry Commission 2024). Agroforestry has the potential to deliver a broad range of ecosystem services (ES, (Torralba et al. 2016)), enhancing numerous direct and indirect benefits of agro-ecosystems for human well-being (Haines-Young, 2023). Agroforestry can also help diversify farm income and increase farm resilience to climate change and economic uncertainty (Staton et al. 2022; Woodland Trust 2022). In this context, agroforestry represents an important part of the UK government's agricultural and net-zero strategies (Department for Environment Food & Rural Affairs, 2025c). The Commitee on Climate Change (2020) recommended that agroforestry should be implemented on a minimum of 10% of arable land and grassland by 2050 if net-zero targets are to be achieved. Consequently, various policies and incentive schemes have been introduced promoting agroforestry.

In England, the relevant policy is the Environmental Land Management Scheme (ELMS; (Schaub et al. 2023), which replaces the EU's Common Agricultural Policy (CAP), and aims to incentivise farmers and land managers to deliver environmental and climate benefits alongside food production. ELMs aims to reward farmers for delivering public goods, including climate mitigation, improvements in water quality, and biodiversity enhancement, alongside food production. Under ELMs, tools such as the Sustainable Farming Incentive (SFI) and Countryside Stewardship have been operationalised to compensate farmers for actions that deliver environmental and climate benefits (Department for Environment Food & Rural Affairs, 2023b). The two key components included are: (i) Sustainable Farming Incentives (SFI) aimed at improving soil health, biodiversity, and water quality, with some flexibility to allow farmers to implement actions in relation to specific farm contexts and individual farmer needs. In the context of agroforestry, this could include tree planting or hedgerow management (Department for Environment Food & Rural Affairs, 2025a). (ii) Landscape Recovery targets large-scale environmental projects (500-5000 ha), such as rewilding or river restoration and involves long-term agreements. Larger agroforestry projects, often involving multiple landowners working collaboratively, may qualify for funding. Capital Grants aim to support infrastructure and environmental improvements and may support agroforestry infrastructure like fencing or irrigation for tree systems (Department for Environment Food & Rural Affairs, 2025a). Alternative schemes are offered by the Woodland Trust or local authorities, which provide grants to cover some of the costs of implementing agroforestry, including hedgerows (Woodland Trust 2025).

There are a range of different agroforestry options which can be implemented and leveraged by policy instruments within ELMs, as the practice of integrating trees with agriculture has the potential to deliver multifunctional ES (Baker et al. 2025). For example, capital grants are available to support agroforestry planning and tree establishment, such as the PA4 Agroforestry Plan under the Higher Tier Countryside Stewardship, which provides funding for the preparation of an agroforestry plan and acts as a prerequisite for other tree planting and management capital items (Rural Payments Agency (2024), updated 2026). The transition from the CAP to ELMs, however, has not been straightforward and continues to face political uncertainty. This is made more complex by the continuing evolution of Government policy during this period. While different agroforestry practices were identifiable in policy at the time of data collection (2023), there was no formal Defra support for 'agroforestry' available at that time (Department for Environment Food & Rural Affairs, 2023c), although it did have some actions that could be considered within agroforestry definitions (e.g. support for hedgerow management). An expanded SFI offer was announced in May 2024, which included specific agroforestry actions, plus support for a range of other relevant tree/woodland actions (Department for Environment Food & Rural Affairs, 2024b). The Countryside Stewardship scheme was available during 2023 and contained various actions relevant to agroforestry implementation, such as support for wood pasture (creation and management), scrub (creation and management),

hedgerow management, traditional orchards (creation and management), annual pruning of fruit trees and woodland creation, although no policy actions were included which explicitly included agroforestry. Extensive support for one-off capital items relevant to agroforestry implementation was also available throughout this period. The revised Countryside Stewardship scheme incorporates a wide range of relevant actions explicitly labelled as agroforestry (Department for Environment Food & Rural Affairs, 2024a). Thus, at the time of data collection, agroforestry adoption and implementation was a UK policy issue, (with some policies (e.g. in relation to payment schemes, already implemented), but policy formulation was still in development, and may continue to further develop with subsequent policy iterations.

Agroforestry within the UK has been low, standing at 3.3% of land cover, excluding hedgerows (Den Herder et al. 2017). Studies have identified important barriers making farmers reluctant to integrate trees on their farms. Key concerns centre on a lack of sufficient knowledge about agroforestry systems and available funding schemes as well as the costs involved in establishing and managing trees (Hood et al. 2025; Tosh and Westaway 2021; Felton et al. 2023). Moreover, while farmers are aware of the environmental and social benefits of agroforestry, they express concerns about the potential negative impacts on farm operations and crop productivity, as trees can compete with crops for water, nutrients and light (Graves et al. 2017). Farmers are also reluctant to adopt agroforestry if they believe that a 'good farmer' should not devote productive agricultural land to tree planting or if they are not confident in tree management (Felton et al. 2023). The type of land ownership can also be important, with tree planting more likely on farms owned by public bodies or charities, who see their role as providing a wider range of public goods and services, beyond food production (Felton et al. 2023). Effective policy implementation is contingent on developing policy actions which address the barriers and constraints that make farmers and landowners reluctant to adopt novel practices, within the specific policy context where the action is to be implemented (Schaub et al 2023). Barriers and facilitators to the adoption of agroforestry are likely to vary depending on the specific type of agroforestry system, its compatibility with the farmer's existing business model, and the broader policy environment in which the farm operates. This paper draws on qualitative data from focus group discussions with farmers in England to explore the following research questions:

What are the key barriers and facilitators influencing farmers' adoption of agroforestry within the current English policy context?
What is needed to support and encourage greater adoption of agroforestry in England?

Methods

Approach

We examined farmers' views on agroforestry adoption in the UK through online focus group discussions. A semi-structured focus group protocol was developed to enable consistency across focus groups (see Supplementary Material). All focus groups began with a definition of agroforestry being provided, namely: "agroforestry is the practice of integrating trees or shrubs with agricultural crops or livestock". Five different types of agroforestry were then introduced to participants, adapted from Table 1: silvo-pastoral, silvoarable, agrosilvopasture, hedgerows, shelterbelts and riparian buffer strips and woods or plantations.

Participants then discussed the general advantages and disadvantages of agroforestry as a land use practice. This was followed by a more detailed exploration of the perceived benefits and drawbacks of specific agroforestry schemes available in England at the time. Subsequently, farmers were asked to reflect on the factors influencing their decisions to enrol in an agroforestry scheme and to plant trees on their farms. The discussions concluded with a focus on potential scheme requirements—such as replanting obligations, tree density, types of agroforestry systems, and the terminology used in policy and practice. These final topics were intended to elicit further insights into what might encourage or discourage future participation in agroforestry among English farmers.

Focus groups were conducted online via Zoom in September 2023, facilitated by a trained moderator. While online methods can favour participants more comfortable with digital communication tools and with reliable internet access, they may also limit the development of rapport and the spontaneity of conversation compared to in-person settings (Stewart and

Table 1 An overview of the most commonly considered agroforestry systems in the UK

Type of agroforestry system	Definition	Reference
Silvopastoral	Integration of trees, forage plants, and pasture into a single productive system	(de Macêdo Carvalho et al., 2024)
Silvoarable	The association of tree rows and crops on the same land, with trees located either at the field margin boundary (e.g., hedgerows, shelterbelts, riparian buffers) or within the field (e.g., alley cropping, isolated trees, intercropped orchards, forest farming)	(De Clerck et al. 2025; Kletty et al. 2023)
Agrosilvopastoral	Perennial and herbaceous crops are grown simultaneously and are integrated with livestock production, often on a rotational basis	(Baker et al. 2025)
Riparian Buffers	Trees that are planted between agricultural land and watercourses, such as streams, rivers and lakes to act as buffers to protect water quality	(Cole et al. 2020)
Windbreaks and shelterbelts	Trees planted in a linear format, on the edge of a field to reduce wind speed, protect crops and livestock and reduce erosion	(Weninger et al. 2021)
Wood pasture and parkland	Solitary and (usually) old trees in a habitat kept open by grazing	(Achiso and Masebo 2019)

Shamdasani 2017). Nonetheless, online focus groups offer the advantage of including participants from diverse geographic locations who might otherwise be difficult to convene, and they are generally more cost-effective and convenient. We acknowledge that factors such as group size, the dynamics of the discussion process, and the lack of control over participants' environments may pose challenges (Hinkes 2021).

Sample and recruitment

Participants were recruited and moderated by a market research company (Field Mouse Research). Farmers were recruited from their agri-research panel, with individual participants selected to ensure a mixture of farmers across and within the different focus groups. Prior experience with agroforestry was not required. However, it was found that some participants had such experience within both informal (e.g. inherited woodland on farm) and formal (e.g. planting hedgerows or trees in marginal areas to access government stewardship schemes) contexts. Details are presented in Sect. "Participants' experience with agroforestry". Farmers varied according to age and gender, and according to different farm characteristics including geographic spread, farm type, ownership and size (see Table 2). Each focus group contained six farmers, resulting in 24 participants. All participants provided signed consent to take part and for focus groups to be recorded. Ethics approval was granted by the lead author's institutional ethics committee (reference 28,794/2022).

Data analysis

Focus groups were recorded and transcribed *verbatim*. Transcripts were then imported into the Nvivo software (Lumivero 2024) to support systematic data analysis. A six-step thematic analysis approach was employed, following the framework outlined by Braun and Clarke (2006). First, researchers read through the transcripts to familiarise themselves with the data. A codebook was then developed using a combination of inductive and deductive coding strategies. Deductive codes were identified a priori, informed by the literature review and the research objectives. These included codes related to agroforestry scheme requirements, previously identified advantages of and barriers to, agroforestry adoption. Additional inductive codes emerged during the familiarisation stage, capturing new discussion topics and contextual factors raised by participants. Each transcript was coded by a single researcher using the established codebook. The resulting codes were then grouped into broader themes (Table 3). These themes were reviewed and refined through discussion with

Table 2 Focus group participant overview

Farmer ID	Region	Age	Gender	Type of Farming	Hectares
Focus group 1					
P1	Southwest	67	Male	Mixed, organic dairy, beef & arable	450 Hectares
P2	East Midlands	45	Male	Mixed, arable, beef and sucklers	202 Hectares
P3	Yorkshire & The Humber	46	Male	Predominantly arable	324 Hectares
P4	Yorkshire & The Humber	58	Female	Beef, arable	61 Hectares
P5	Southwest	40	Female	Dairy	81 Hectares
P6	Northeast	38	Female	Conservation & Beef	101 Hectares
Focus group 2					
P7	West Midlands	38	Male	Sheep & arable	688 Hectares
P8	West Midlands	59	Male	Soft fruit, top fruits & nuts	10 Hectare
P9	Southeast	40	Male	Sheep & arable	1000 Hectare
P10	West Midlands	28	Female	Beef, sheep & arable	200 Hectare
P11	Southwest	33	Female	Dairy & arable	486 Hectares
P12	East Midlands	40	Female	Dairy	110 Hectares
Focus group 3					
P13	East Anglia	40	Male	Arable & beef suckler	400 Hectare
P14	West Midlands	37	Male	Arable & beef	567 Hectares
P15	West Midlands	65	Male	Beef & arable	156 Hectare
P16	Southwest	35	Female	Beef	635 Hectares
P17	Northwest	49	Female	Dairy	44 Hectares
P18	Southwest	32	Female	Dairy, pigs & arable	81 Hectares
Focus group 4					
P19	Northeast	54	Male	Livestock	23 Hectares
P20	Northwest	59	Male	Sheep, beef & forestry	81 Hectares
P21	Northeast	32	Male	Sheep, beef & arable	405 Hectares
P22	Southwest	49	Female	Mixed arable, livestock & forestry	1012 Hectares
P23	Southeast	37	Female	Livestock (cows, sheep, pig & poultry)	23 Hectares
P24	Southeast	65 +	Female	Arable	52 Hectares

Table 3 Overview of themes arising from the thematic analysis

Theme	Subtheme	Description
Perceived benefits of agroforestry	Individual farm	Benefits of agroforestry to individual farms
	Public goods	Wider benefits from agroforestry outside of the farm
Perceived barriers to agroforestry adoption	Scheme characteristics	Financial support available, length and flexibility
	Farm business	Farm size, tenancy and farm context
	Markets for agroforestry products	Access to and information on markets for agroforestry products
	Trust	Trust in schemes and scheme providers
	Lack of knowledge	Lack of knowledge on agroforestry and its practical considerations
Perceived facilitators of agroforestry adoption	Knowledge exchange	Methods of improving knowledge on agroforestry and related schemes
	Practicalities and flexibility	Schemes that adapt and consider the farm context

the wider research team, including reorganisation of subthemes.

Results

Participants' experience with agroforestry

Just over half of the farmers in each focus group had some familiarity with trees or hedgerows on their land, although not always within a formal agroforestry context. In several cases, existing woodland had been inherited as part of the farm. Other participants had planted hedgerows or trees in marginal areas often to access government stewardship schemes or support from organisations like the Woodland Trust. A smaller subset of farmers was actively engaged in implementing silvopastoral systems. These participants had integrated trees into grazing systems, reflecting a more deliberate adoption of agroforestry principles. An overview of participant and farm characteristics is provided in Table 2.

Experience with planting schemes, either past or current, influenced the decision to enrol in a scheme (see Sect. "Lack of trust in agri-environment scheme providers"). One farmer who had been involved in a scheme reported that their experience had been negative so far "*I'm currently taking part in the first landscape recovery pilot on part of our land, and there's been lots of sort of work done, but there's no actual figures to what we're going to get or what how it's going to benefit my business at the moment that we spent about a year on it trying to work out what's going on. And so far, all of the money just seems to be going on consultants and non-farming people…"* (P13, FG3).

Overall attitudes towards the term "Agroforestry"

At the outset of each focus group, agroforestry was defined as "the practice of integrating trees or shrubs with agricultural crops or livestock." Participants were also provided with a typology of agroforestry systems (see Sect. "Approach"). Farmers were then invited to share their initial impressions of the term "agroforestry." There was some evidence that the term had acquired political connotations, with several participants associating it with government classifications and policy-driven labels applied to farming practices. This framing appeared to influence how some farmers perceived agroforestry:

"…like everyone's saying we're going to alienate people with these names if we need to fit in brackets. I think we just want to be farmers" (P11, FG2).

Some participants initially interpreted "agroforestry" as referring to forest plantations, rather than the diverse systems outlined in the typology provided (Table 1) or as practices they themselves had already implemented. This suggests a disconnect between farmers' existing land management activities and the terminology used in policy and funding frameworks. As a result, some farmers may not recognise their current practices as qualifying under government definitions of agroforestry, potentially limiting their access to associated (Department for Environment Food & Rural Affairs, 2025b).

"*I regard myself as a nut farmer. Agroforestry that to me, that's the big commercial concern… you know, miles upon miles of conifers.*" (P8, FG2).

However, other participants liked the term and the distinction, thinking it is '*simple*' and that it '*sort of does what it says on the tin*' (P17, FG3), providing an important distinction between forestry and farming with trees.

Benefits

A wide range of benefits was attributed to agroforestry; some were articulated at the individual farm level, while others were broader and implicitly, although not explicitly, referred to as public goods.

Individual farm

Individual farm benefits were often specific to the type of farm enterprise. This was particularly the case for participants associated with livestock farms, who referred to the practice's potential to provide shade for animals, provide structural livestock management advantages by acting as fencing, serve as an additional feed source, and reduce parasites in small ruminants (specifically goats). Given the recent warmer summers experienced in the UK and the likelihood that their frequency will increase, the value of shading was mentioned several times.

"*I'm just interested in what it can provide shade-wise and weather protection just because we're*

getting these droughts most years now, and I've just seen the heat stress on animals" (P11, FG2).

"…hedgerows are, they're great for giving them [cattle] some protection from the sun, and some of our hedgerows are quite established now, which has meant I've been able to take the electric fencing down." (P23, FG4).

Some participants also referred to the role of trees in preventing soil erosion. "*We know how much the trees prevent that soil erosion and hold our soil together*" (P10, FG2).

Farmers, in particular those who had already planted trees on their farms, further acknowledged agroforestry's potential to provide additional income streams. These included trees planted for their produce, e.g., nut trees, which could provide a diversified income stream, and carbon trading.

"P15, he's thinking along the lines of physical things that you can sell, but obviously, you are hopefully gaining another income from a certain area, whether that be via *trading carbon or a physical thing like fruit or whatever, whilst maintaining your current farming practices*." (P13, FG3).

Public goods

Participants also highlighted agroforestry's potential to support ES delivery and the provision of public goods. Farmers shared how trees on farms contributed to biodiversity enhancement, habitat creation for wildlife, and regulatory ecosystem services. These included reducing the environmental impact of conventional farming practices and helping to meet environmental policy targets, such as improving water quality through reduced runoff and contributing to carbon sequestration. As one participant noted, "*all of those are potential*" (P2, FG1). Farmers who had already planted trees and hedgerows were particularly likely to emphasise agroforestry's role in supporting biodiversity, suggesting that direct experience may shape perceptions of its environmental value:

"*[we're] satisfied to see how they're growing and the different habitats it provides*" (P6 FG1).

Participants also referenced the delivery of cultural ES, particularly in relation to landscape aesthetics and public access. Examples included improving the visual appeal of farmland and creating opportunities for people to walk among trees. These views were closely tied to participants' self-perception as custodians of the rural environment, describing themselves as "*stewards of the* farm" and "doing it for everyone", rather than solely managing the land as a business enterprise. This perspective suggests that providing public goods has become an increasingly salient element in how some farmers construct their identity as a "good farmer"[1] Some participants expressed a clear awareness of the broader environmental implications of their farming practices, suggesting that motivations for adopting agroforestry may extend beyond economic or operational considerations to include ethical and cultural values.

"…our farm is still a big carbon generator and we'd like to get it to either neutral or sequestering carbon. Partly for financial reasons, partly for just conscience reasons." (P14, FG3).

Barriers to agroforestry adoption and implementation

Barriers to the adoption and integration of agroforestry on the farm were mentioned across all focus groups. Barriers are related to perceived problems with the requirements of agroforestry schemes, farm business considerations, access to and knowledge of markets, trust in different stakeholders and lack of knowledge about agroforestry practice and associated elements of agri-environment schemes (AES).

Scheme characteristics

The characteristics of agroforestry incentive schemes emerged as both potential facilitators and barriers to farmer engagement. Key considerations discussed in the focus groups included the level of financial support available, the flexibility of scheme requirements to accommodate farm contexts, and participants' prior scheme experience. Financial viability was a central concern. Farmers considered both short-term costs, such as the capital required for planting, and

[1] The "good farmer" identity represents a shared social norm among farmers, oriented towards achieving the status of a good farmer. Consequently, farmers' decision-making and practices are shaped by self-perceived indicators of good farming within specific farming contexts (e.g. see Burton et al. (2020); Staddon et al. (2021). An extensive body of literature has investigated the construction of good farmer identities and their influence on farming decisions across diverse farming systems and cultural settings (e.g. see Jin et al. 2024; Chan & Enticott (2023); Matthews et al. (2025); Vigours et al. (2023)).

longer-term implications, including land value and maintenance. Most schemes existing in 2023 were perceived to adequately cover tree planting costs, enabling some participants to plant substantial numbers of trees. However, concerns were raised about the economic trade-offs, particularly among arable farmers. For these participants, the perceived value of the schemes needed to offset the opportunity cost of land that might remain unproductive for extended periods, especially where agroforestry systems did not deliver immediate financial returns.

"*I think if it's going to be something productive for the farm that's going to take a while to mature, then the financial support is going to last long enough to cover that gap.*" (P14, FG3).

This aligned with participant discussions about where best to plant trees on the farm (see 3.4.2 and 3.5.2), so that agroforestry practices do not disrupt the main farm operations and negatively impact business income. Some participants appeared reluctant to intensively plant trees on land that could be used for silage or food production, given that they viewed this as their main role as farmers.

"I don't think farms that are full of trees and not capable of growing food is what I'd want as my legacy" (P22, FG4).

The lack of management payments was discussed across focus groups. Trees were perceived to represent a long-term investment and to take a long time to establish and mature, requiring constant management to ensure their health is maintained and that they are protected from stressors.

"*Obviously, as soon as you put the tree into a field of cows, our cattle are bound to be attracted to it and to what's around it and everything else.*" (P2, FG1).

Participants expressed the view that AES should reflect the time and maintenance required especially as farmers may not have the skillset or time to manage the trees alongside other enterprises on their farm. Additionally, the cost of bringing in expertise was perceived as high and reduced farm profitability.

"I think you get £300 a hectare for management, but that's not an hour of a tree surgeon's time." (P24, FG4).

"The fruit trees would have to be pruned and sprayed and, you know, there's a lot to do. A lot of farmers don't have those skills …" (P4, FG1).

If incentive payments weren't available to cover these costs, and they had to be financed by the agroforestry enterprise itself, it could be challenging, given the time taken for trees to mature and become productive.

"…that enterprise, that forestry, needs to generate enough income to pay that contractor… Like any other job on the farm. (P3, FG1).

Current tree planting schemes were not perceived by participants to provide long-term support to reflect the long period that is required before the benefits are realised.

"*My problem is that the support from government is likely to be 3, 5 years or something like that, whereas the benefits to the environment and everything else are probably going to come after that period."* (P2, FG1).

Flexibility in relation to tree planting layouts was also important for participants.

"*The machinery side of it is difficult. If we did it, we would have to be straight lines. But we've got the obvious thing that if my contractor gets a bigger combine, I've got a problem"* (P24, FG4).

Existing schemes were thought to be too restrictive and act as a barrier to agroforestry adoption, for example, in relation to tree density, replanting, species of tree to be planted and where to plant the trees on the farm.

"As soon as you start introducing constraints and minimums and maximums and all that stuff, out the window. Forget it." (P3, FG1).

This had implications for both current and future farming activities. Farmers whose families were likely to continue with the business raised concerns regarding long-term management, which, as P7 described, "*Well, you're committing your children to do it, aren't you then, which is a bit unfair on them*" (FG3). For some farmers, having set planting densities (especially if high) was perceived to be too restrictive, given this could reduce the flexibility of land options.

Farm business

Barriers to agroforestry implementation were discussed in the context of individual farm businesses, and in relation to farm size, farm ownership, on-farm activities and the farm environment. The advantages of agroforestry were perceived to be less clear for smaller farms, where the level of tree planting would be constrained by the need to maximise the utilisation

of farm space as much as possible. Taking land out of production was therefore not an option.

"*We're tenants on a relatively small farm, and planting individual trees, I could see, would benefit us in a carbon sort of way, but we wouldn't be in a position to plant like acres of trees because we need all of our land to work for us.*" (P18, FG3).

Tenancy issues (length of tenancy and landlord relationships) were raised across all focus groups, with concerns tied to the time needed for trees to mature and see benefits as highlighted by P 20 (FG4) "*if you're lucky, you might only get five years or 10 years. That's not sufficient time to establish any kind of forestry*".

This was thought to exclude tenant farmers from government schemes, as they couldn't always sign up to longer-term commitments to invest in the farm or afford to do so. Having a good relationship with a landlord was central for trying to mitigate challenges associated with the schemes.

"*Unless you're looking at a big stewardship project and you've got a landlord that's prepared to think outside the box with you, you are struggling with what you can do*" (P9, FG2).

Some landlords were perceived to view tree planting as a motivation for terminating farmer tenancies on their land.

"… They're saying, why should I bother with an agricultural tenant? I'll just take the land back in hand, and apply for all the grants and do it myself." (P20, FG4).

Agroforestry was generally perceived as more compatible with livestock farming systems, particularly due to its direct benefits for animal welfare and pasture management (see Sect. "Individual farm"). In contrast, several barriers were identified in relation to integrating agroforestry into arable systems. These were often tied to practical land management considerations. For example, while planting trees in straight lines was seen as more manageable with large machinery, this approach raised concerns about shading and was considered visually unappealing by some participants. Additionally, tree planting was perceived to interfere with crop growth due to shading and competition for water and nutrients.

"*You can see on the yield mapping from the combine that if we drive under a tree, in a dry season, there is a yield drop under the tree where moisture has been taken by the tree as opposed to the crop.*" (P2, FG1).

These concerns suggest that the physical layout and ecological interactions of agroforestry systems must be carefully considered to ensure compatibility with arable farming operations.

Markets for agroforestry products

Access to, and knowledge of, markets for agroforestry products (e.g. wood, fruit) were discussed by participants. Uncertainty regarding future market value for mature crops was perceived as a barrier to adoption, due to the time gap between planting and crops being available to sell. The uncertainty of some markets was also raised, with the example given of apple orchards being ripped out in the south of England due to a drop in demand, which did not give farmers confidence in product-based markets.

"*…look at what's happened to the soft fruit industry in Kent and Hereford and the amount of cider apple orchards that have been pulled up in last couple of years. That ought to set alarm bells ringing.*" (P3, FG1).

"*For a lot of these things, it is quite a big ask for farmers to commit …without that guarantee of an end market at the end of it*" (P2, FG1).

"*… if we are gonna stick rows of trees down the middle of our fields where what's the market for it and how secure is that market?"* (P7, FG2).

Having a farm located near urban areas was perceived to increase the potential to access markets for fruit trees.

"*I have read somewhere that that is happening that a farmer was working with local people, and the local people were actually doing the fruit cropping.*" (P4, FG1).

Lack of trust in agri-environment scheme providers

Trust in other stakeholders, particularly government bodies, was a recurring theme in discussions about scheme participation and requirements. Across all four focus groups, participants expressed a lack of trust in government, often based on personal experiences or word-of-mouth accounts related to previous and current incentive schemes, including those involving agroforestry. Concerns centred on the perceived instability of scheme terms and shifting

government priorities, which raised doubts about the reliability of payments and long-term support. This uncertainty was seen as a significant barrier to engagement, particularly for farmers considering long-term land use changes such as agroforestry.

"*You can't do something like that and be worried, looking over your shoulder for the next five years, worrying that….. you're not gonna get the claim for this*" (P9, FG2).

The perception that policies were unstable was particularly pertinent to agroforestry, given that tree planting is a long-term commitment, and politics is often short-sighted. "*Trees are very long-term commitments. The government is notoriously short-term. So whichever commitments there may well be, it isn't going to last as long as the trees are*" (P3, FG1).

Conversely, participants on Woodland Trust schemes described more straightforward processes, and a greater amount of expertise from those involved managing the schemes.

"*I think there's my personal dealings with the Woodland Trust scheme is that they, you know, they know their stuff. They're great at providing fantastic advice. It's straightforward application process and they trust you as a farmer and land manager to get on and do the*" (P12, FG2).

Whilst a lack of trust was primarily discussed in relation to government, it was also noted for other stakeholders, including those who provide services to fell or maintain woodland, with two participants outlining bad previous experiences.

Lack of knowledge

Participants involved with agroforestry emphasised that they had to spend time to learn about agroforestry practices. Farmers not involved in schemes discussed lacking information needed to make judgements on specific or practical aspects of schemes discouraging adoption.

"*I can't quite picture what that would actually look like on my farm*" (P16, FG3).

Thus, participants would need to seek advice on the practicalities of scheme adoption. Information was thought to be available from different sources, but time and financial constraints often made accessing information challenging.

"*I know there's information out there, but sometimes hard push for time to go and search for it myself*' (P13, FG3).

"*Well, me and the other partners in my business know nothing about planting or maintaining trees. So I guess that would be another like expense*" (P18, FG3).

Facilitators of adoption

Knowledge exchange

Although the discussions were centred on challenges faced by farmers regarding agroforestry adoption and implementation, some perceived facilitators were also described. Peer support and knowledge exchange activities were identified as making it easier to visualise what was possible and help with support for any application processes.

"*Further funding into further investment into trials for people to be able to then see how it's going to work*" (P10, FG2).

"*…just opportunities for farmers to talk to farmers and hear your stories of how things have worked and how things haven't worked*." (P12, FG2).

Having knowledgeable advisors to provide information and advice for farms was also mentioned as important.

"*Obviously, the most important thing is the payments that we get from the government. But I think almost equally from my perspective is the training and education and information …*" (P1, FG 1).

Being able to work with those knowledgeable of agroforestry and of different farming contexts was perceived as important.

"There's a knowledge gap amongst farmers with how to incorporate trees and how to put scheme into place, but also there is equally as much of a knowledge gap with the NGO's, the people who are putting this funding out there and trying to get out on farms and find projects, they're just not up to date enough on the pressure. You know the financial sort of situation around modern farming, productivity machinery" (P14, FG3).

Practicalities and flexibility in planting and policy support for agroforestry

Overall, despite the perceived barriers identified, some participants expressed the view that "*trees in the right place are a very good thing*" (P3, FG1). The 'right place' was a term used across the focus groups,

with tree planting done well perceived to be associated with a range of benefits, including regulatory and supporting ES delivery or enabling use of land which was not suitable for other forms of agriculture.

"*…if you get trees in the right places, you're improving your soil. You're evening out your moisture because it should hold it in and dry weather … and it's good for the wildlife.*" (P24, FG4).

"*…I've got bits of land which I will never ever be able to silage you know it's sort of like that [gestures to it being steep] those bits definitely*." (P11, FG2).

Incorporating trees into hedgerows and existing boundaries, in field margins, along water courses, and steeper banks, was perceived to be important including from a practical point of view.

"*But we do try and plant as many trees in those hedgerows or new hedgerows as much as we can do so, that's kind of where we can marry the two together. We're not sacrificing any land, but adding those trees into the landscape*" (P12, FG2).

Thus, participants valued flexible agroforestry schemes which account for variability in farm environments while acknowledging the need for farm businesses to be profitable.

"*I'd say sort of flexibility around any initiatives that have put out, it's very rarely, very rarely one system fits all*" (P21, FG4).

"*…because we need the land to work, and we need to be able to like work around* it." (P17, FG3).

Schemes which accommodated farm business contexts and environments were therefore thought to facilitate agroforestry practices.

Summary of issues identified

Table 4 identifies ten key issues arising from the thematic analysis. Several of these interrelated challenges to adoption stem from a mismatch between the long-term nature of agroforestry systems, particularly the time required for trees and hedgerows to mature and deliver benefits, and the short-term orientation of current policy and incentive schemes. While farmers recognised both farm-level and societal benefits of agroforestry, these were not always sufficient to overcome practical, financial, and institutional constraints. Importantly, our results suggest that increasing agroforestry adoption will require more than financial incentives. Greater flexibility in scheme design, improved trust in scheme providers, clearer

Table 4 Ten key issues identified by farmer participants when discussing agroforestry adoption in England

Key Issue	Summary
Environmental Stewardship	Farmers value agroforestry for its contribution to the environment, including biodiversity, water quality, and carbon sequestration
Financial Viability	Adoption depends heavily on financial support, covering both short-term costs and long-term maintenance
Knowledge Gaps	Lack of practical knowledge and visualisation of agroforestry systems discourages adoption. Time and cost to access advice are barriers
Livestock Benefits	Agroforestry is seen as particularly beneficial for livestock farms in the UK, providing shade, shelter, parasite control, and natural fencing
Low Trust in Government	Farmers expressed distrust in government schemes due to changing policies and unreliable payments
Market Uncertainty	Farmers are concerned about the long wait for returns and the lack of or unstable markets for agroforestry products
Peer Learning as a Facilitator	Knowledge exchange and peer support were seen as effective ways to build confidence and understanding of agroforestry practices
Support Scheme Flexibility	Rigid scheme requirements (e.g., tree density, layout) are barriers. Flexibility to adapt to farm-specific contexts is essential for farmer engagement
Tenure and Farm Size Constraints	Tenant farmers and those with small farms face limitations due to short leases and the need to maximise productive land use
Terminology Confusion	The term 'agroforestry' is often misunderstood or politicised, leading to misalignment between farmers' practices and government definitions

communication of terminology, and enhanced opportunities for peer learning and practical support are all critical to enabling wider uptake.

Discussion

This research explored English farmers' views on agroforestry and the characteristics of incentive schemes designed to support its adoption. It contributes to a growing but still limited body of literature examining UK farmers' attitudes toward agroforestry and the factors influencing uptake (Felton et al. 2023; Graves et al. 2017; Tosh and Westaway 2021). Several considerations in relation to this analysis are addressed in the following subsections.

Long-term considerations

Farmers' acceptance of agroforestry was closely tied to its perceived ability to add value to existing operations and support farm profitability through marketable outputs (e.g., fruit, wood) or through payments for ES, such as carbon sequestration. Participants emphasised that incentive schemes must cover both the upfront costs of establishing agroforestry systems and the longer-term costs associated with maintenance and delayed returns. However, current schemes were widely viewed by participants as financially unviable, offering only short-term support. This supports findings by Hood et al. (2025) who found that while there are many agroforestry schemes available, awareness of them and what they include is low. Additionally, there was limited information and confidence in market opportunities for agroforestry products. Farmers expressed concern about broken, inaccessible or a lack of knowledge on supply chains. Markets were perceived as disconnected from primary producers, which further undermines the economic case for agroforestry adoption (Areal et al., in review).

As of 2024, 14% of English farms were wholly tenanted and 31% were under mixed tenure, in total representing 48% of agricultural land (Department for Environment Food & Rural Affairs, 2023a). The long-term nature of tree planting, both in terms of ecological maturity and financial return, often conflicts with the short-term commitments typical of tenancy arrangements. Although not all tenanted land may be suitable for the adoption of agroforestry, tenant farmers may require landowner permission to plant trees, further complicating participation. These challenges are not unique to agroforestry and mirror issues seen in other environmental financing schemes, such as green finance (Hu and Gan 2025) and biodiversity net gain (Hoffmann 2022).

Awareness of environmental benefits

Participants demonstrated a clear awareness of agroforestry's potential to deliver a wide range of ES, although not always articulating them in technical term. This recognition suggests a foundational understanding that could support future engagement with both public and private environmental finance initiatives, such as biodiversity-linked payments (Jonäll et al. 2025), despite current uncertainty around their practical implementation (Christiansen et al. 2025; Hutchinson and Lucey 2024).

In relation to cultural ES, participants acknowledged that agroforestry could enhance the visual appeal of farmland and potentially support tourism-related diversification. However, the success of such diversification depends on public appreciation of agroforestry landscapes. Research by Tindale et al. (2025) indicates that while the public supports increased tree planting, there is a preference for diverse, naturalistic planting schemes over monocultures or rigid layouts. This presents a challenge for policy design, as schemes promoting structured agroforestry systems may face resistance if aesthetically intrusive.

At the same time, increased biodiversity resulting from agroforestry could attract ecotourism, offering new income streams for farms (Weyland et al. 2021; Balázsi et al. 2021). However, this must be balanced with the need to protect sensitive habitats from overuse. Ensuring that agroforestry schemes deliver across all ES categories, while maintaining ecological integrity and supporting farm profitability, may be key to unlocking the potential of farm-based tourism and broader diversification strategies (Joshi et al. 2024; Hatan et al. 2021).

Community and extension support

Our study highlights the critical role of community-based support and accessible information in enabling agroforestry adoption, echoing findings from previous

research on farmer-led innovation and participatory learning (Louah et al. 2017; Lucas et al. 2019; Rois-Díaz et al. 2018). Participants emphasised the value of peer-to-peer networks, where farmers act as both knowledge holders and recipients, fostering practical learning tailored to real-world farm contexts. Demonstration farms and knowledge exchange hubs were previously identified as particularly effective tools for showcasing agroforestry across diverse farm types and systems (VAN Ewijk et al. 2024; Várallyai et al. 2015). These platforms not only provide good examples of implementation in familiar settings but also help demystify agroforestry for farmers unfamiliar with its principles. Advisors are typically seen as key facilitators of farmer-to-farmer learning, supporting the diffusion of practices and helping to build trust in agroforestry schemes (Proctor et al. 2018).

While previous studies have acknowledged the importance of technical advice (Ingram et al. 2018), this research highlights the need for guidance that is explicitly adapted to the biogeographic zone, farming system, and business model of each farm. Advice on "the right tree in the right place" (Bateman et al. (2023) was seen as essential not only for ecological success but also for ensuring compatibility with farm operations. Despite this, knowledge exchange remains peripheral in current UK agricultural policy (Venn and Burbi 2023). This gap suggests a missed opportunity to embed collaborative advisory models into agroforestry support structures.

Scheme complexity was another significant barrier identified by participants, consistent with earlier findings on woodland expansion and AES uptake (Lawrence and Dandy 2014; Valatin et al. 2016, Areal et al., in review). Excessive paperwork, unfamiliar terminology, and limited support from government and extension services were seen as deterrents. This study adds nuance by showing how these barriers intersect with farmers' time constraints and lack of confidence in navigating bureaucratic processes.

Simplifying application procedures and embedding advisory support into scheme design were proposed as practical solutions. For example, advisors could assist with identifying suitable agroforestry options for specific farm contexts and help optimise both environmental and economic outcomes (Falconer 2000). Participants also suggested that specialist training and accreditation schemes could ensure the availability of qualified tree maintenance providers. These services could be listed in a government-approved directory and costed into grants. The PA4 Agroforestry plan (capital grant) was introduced in 2024 to support farmers in planning, designing and maintaining an agroforestry system.

Building trust

Participants had a widespread lack of trust in key stakeholders, particularly those associated with government and its AES. Our findings align with existing literature, which has shown that low levels of trust among farmers and land managers can reduce participation in AES (Sander et al. 2024; Micha et al. 2015). However, this study also illustrates how distrust extends beyond government institutions to include advisory services and consultants, especially when these are perceived as lacking farming credibility or impartiality. Previous research has suggested that participatory approaches to knowledge exchange can help build trust between farmers and other stakeholders (Podruzsik and Fertő, 2024; Emery and Franks 2012). This is supported by our findings, which indicate that farmers are more likely to engage with schemes when they are facilitated by advisors who are embedded within the farming community or by trusted individuals via established reputations and practical experience. This suggests that trusted third-sector organisations could act as bridge builders between farmers and government.

However, contrasting evidence from Schaub et al. (2023) suggests that trust alone may not be the strongest predictor of scheme participation. Their systematic review found that factors such as market conditions, profitability, implementation effort, and contract flexibility were more influential, with trust playing a context-dependent role. Our findings support this view to some extent, particularly in relation to farmers' concerns about scheme design and economic viability. Nonetheless, trust appears to be a foundational condition that shapes farmers' willingness to engage with schemes in the first place, especially when long-term commitments are required.

Farmer identity

Farmer identity played a central role in shaping attitudes toward agroforestry. Many participants saw themselves primarily as food producers rather than

environmental stewards. Perceived loss or uncertainty regarding food productivity caused by agroforestry is therefore more likely to result in reluctance among participants whose *food produce* identity is dominant, consistent with previous studies on farmers' adoption of sustainable practices (Burke and Stets 2009; Dixon et al. 2022; Jin et al. 2024). This does not imply that farmers disregard the environmental benefits of agroforestry. Rather, participants valued ES mainly when these aligned with and supported their core farming activities. This pattern aligns with the salience hierarchy of identity (Stryker and Serpe 1994), which posits that individuals prioritise decisions consistent with their most salient identity. Some participants, however, identified as "*good farmers*" in the context of agroforestry, prioritising long-term resource conservation and biodiversity. These individuals were more receptive to systems such as wood pasture and parkland, which align with their stewardship values (Dixon et al. 2022, Areal et al., in review), and indicate the growing importance of public good delivery in shaping their "*good farmer*" identity (see also Matthews et al. (2025)). Overall, these findings highlight the need for an in-depth understanding of the diversity and hierarchy of farmer identities, and how these evolve within specific farming and social contexts in relation to farmers' internalised norms and perceptions of their own roles. Recognising and incorporating these identity dynamics and the heterogeneity of farmers into agroforestry policies and strategies may enhance their effectiveness and increase agroforestry uptake among farmers.

Recommendations

Findings from our research highlight a range of interconnected barriers and opportunities influencing farmers' engagement with agroforestry. These include practical, financial, and institutional factors, but also deeper issues related to trust, identity, and scheme design. Based on the perspectives shared by participants and reflecting existing literature, the following recommendations aim to support more effective and equitable adoption of agroforestry practices.

Align agroforestry messaging with farmer identity

Agroforestry should be framed as a multifunctional practice that supports food production while delivering environmental benefits. Recognising farmers primarily as food producers, and integrating ecosystem service delivery within this identity, may enhance engagement and reduce resistance to schemes perceived as purely environmental. Moreover, regional variations in farmer identities and their divergence from national patterns should be considered to tailor communications to local contexts.

Build trust through embedded and credible advisory support

Work with trusted, locally embedded advisors who understand local farming contexts and are perceived as impartial and "pro-farming." Trust in scheme providers and advisors is essential for uptake, especially given farmers' long-standing scepticism toward government-led initiatives.

Strengthen peer-to-peer learning and knowledge exchange

Support farmer-led networks, demonstration farms, and knowledge hubs to facilitate practical learning and social validation. Peer-to-peer exchange helps farmers visualise agroforestry in action and builds confidence in its relevance to their own operations.

Increase scheme flexibility and long-term support

Design agroforestry schemes that reflect the long-term nature of tree planting. This includes offering flexible planting requirements, longer contract durations, and ongoing maintenance support to ensure schemes viability across different farm types and tenures.

Simplify scheme access and application processes

Reduce administrative burdens and improve clarity in scheme terminology. Provide tailored advisory support during application stages and consider integrating tree maintenance services into grant structures to ensure farmers have access to qualified expertise.

Development of support for key end-markets

Uncertainty over end-markets for agroforestry goods can make growers less inclined to shift towards

agroforestry. Some key end-markets are important not only for domestic UK food security (e.g. fruits, nuts) but also for the UK's low-carbon industrial strategy (e.g. biomass). Policies that facilitate the development of end-markets achieve multiple policy objectives.

Limitations and future research

The relatively small sample size and reliance on online discussions may constrain the generalisability of findings, particularly across diverse farming contexts. Moreover, the focus on England means that perspectives from the devolved nations of the UK, where agricultural policy and land use priorities may differ, remain unexplored. Future research should aim to expand the geographical scope to include other UK nations or EU countries (for CAP relevance), enabling a more comprehensive understanding of agroforestry attitudes and informing a wider policy approach. Additionally, further investigation into tangible adoption schemes, including farmers' preferences for agroforestry characteristics such as payment levels and contract duration, would provide valuable insights for designing future support mechanisms.

Conclusion

This study offers insights into farmers' perceptions of agroforestry in England, showing a complex interplay between perceived benefits, practical challenges, and government support schemes. Farmers recognised the potential of agroforestry to deliver both farm-level benefits as well as the broader environmental contribution. This shows that agroforestry is viewed positively by farmers when its communication is aligned with existing farming values and its implementation complements existing practices.

However, significant barriers to adoption remain. Farmers expressed concerns about the financial viability of agroforestry, particularly in relation to long-term maintenance costs, opportunity costs of land use change, and the adequacy of current incentive schemes. The lack of clarity around scheme requirements, limited access to practical knowledge, and short-term tenancy agreements further complicate decision-making. Importantly, farmers' identities as food producers influenced their views on agroforestry, with some perceiving tree planting as potentially conflicting with core production goals.

Finally, trust in government and flexibility in support scheme design emerged as critical factors influencing uptake. Farmers valued schemes that allowed for context-specific implementation, such as adaptable planting layouts and species selection, and were more likely to engage when they received support from trusted advisors and peers, including environmental NGOs. These findings underscore the importance of designing agroforestry policies that are responsive to farm-level realities, support long-term planning, and foster meaningful knowledge exchange.

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Data Availability The focus group data that support the findings of this study are available from the corresponding author, but restrictions apply to the availability of these data in order to product participant anonymity and confidentiality. An edited form of the data will be available on request, which will have sections redacted to maintain participant anonymity.

Declarations

Conflict of interests The authors declare no competing interests.

Ethical approval This study received ethical approval from the lead author's institution. All participants provided informed consent to take part.

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