UK Research and Innovation

Structural barriers to better land use decisions

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About the AFN Network+

The AFN Network+ (UKRI Agri-food for Net Zero Network+) is a unique network of over 3,100 academics, researchers, third sector organisations, policy makers, and agri-food industry professionals from farmers to retailers.

Together, we are working to identify key research gaps that may be holding the UK food system back from transitioning towards a net zero UK by 2050, while also enhancing biodiversity and healthy ecosystems, nurturing livelihoods, supporting healthy consumer habits, and minimising the environmental impacts of overseas trade. Our findings will inform the next decade of research investments in this area by UKRI (our funder and the UK research councils umbrella organisation).

Alongside our core research, we run in-person and online events, produce topical resources, and give out hundreds of thousands of pounds of funding a year.

The AFN Network+ is coordinated by the University of East Anglia, University of the West of England, University of York, and University of Leeds, and is a £5m, 3-year project funded by four research councils; the Biotechnology and Biological Sciences Research Council, Economic and Social Research Council, Engineering and Physical Sciences Research Council, and the Natural Environment Research Council.

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Aim

To uncover and highlight non-technical barriers to delivery of targets using land, particularly to understand the challenges of implementing land use decisions in place.

Methods

This project involved researching the current approaches to subnational land use governance by interviewing organisations whose role involved making and/or informing strategic land use decisions. A literature review of subnational land use governance formed the basis for semi-structured interview design. 16 interviews were conducted with people from subnational organisations engaged in cross-sectoral land use decision making and governance, including 10 local authorities (county, city, unitary, combined), 1 major landowner, 2 civil society groups and 3 National Parks. Organisations were required to be making or convening decisions about land across two or more sectors including agriculture, nature restoration, culture and heritage, energy, and infrastructure and planning. These were identified through existing professional networks, snowballing and government documents. The interviews explored the factors shaping land use decisions and delivery, especially processes, trade-offs, enablers, barriers, and potential pathways to more effective decision making. In addition, a Roundtable with 35 high-level representatives from across different sectors requiring land (farming, nature, planning, housing, rural economy, estate managers, land use data organisations, utilities and food systems) was held to discuss national policy challenges and opportunities. Notes from the event were analysed and key trends emerging from broader discussions were drawn out.

Introduction

The discussion about the importance of land use decision making has risen up the agenda in the last few years, as government, businesses and community groups recognise limits of land in the UK and the need to achieve many targets with it. As consensus has developed on the need for housing, climate adaptation, renewable energy and food security, attention has shifted away from *what* is needed from England's land, to *how* this will be achieved. In short, away from abstract targets to implementation and delivery.

A commonly agreed strategy to this end is the development of a system of governance that takes decisions and provides guidance on how best to meet multiple competing goals using limited land. The government accepted the National Food Strategy's recommendation to produce a Land Use Framework to support implementation of these targets and delivery of the policies designed to achieve them. However, as this report goes on to highlight, many organisations are already coming up against the complexities of trying to meet multiple goals in place.

The government's Consultation on Land Use in England in January 2025 included annexes of spatial data to examine productivity of different outputs across England. Similarly, various research organisations have worked up models of how to achieve so many targets on limited land. However, these primarily focus on the AFOLU (agriculture, forestry and other land use) without recognising the need to integrate with other demands of land from housing, infrastructure and energy sectors. These approaches, while strategic, miss the complexity of place-based decision-making, the possibilities of multifunctional uses and the intangible value of land.

For this reason, discussing land use change at a national level – though important for modelling and broader policy setting – misses the complexity and opportunity of making land use decisions in practice in place. Land is not just to be used for outputs – housing, energy, carbon sequestration and so on – but is the foundation of place, economy and community. People live on the land and are connected to their place; how land is used affects the nature of the local economy and therefore the wealth and deprivation of the local community. Importantly, how these decisions are made, and whether local stakeholders are bought into the process, impacts whether and how sustainably land use decisions are implemented. Social legitimacy is needed for effective and sustained delivery.

It is therefore important to recognise the practicality making of land use decision at a local or regional scale: where these decisions are confronted with the complexity of needing to provide for local communities and economies. Decisions about planting woodland on riparian borders upstream of a town that floods often has significant implications for the town as well as the landowner. Similarly, a field near a train station getting planning permission for a private housing development when it is the place where everyone in the town walks their dogs is also a matter of social value. But not only is *making* decisions about land relevant to public value, *how* those decisions are made also impacts successful implementation: are local voices being heard, are relevant stakeholders being accounted for, is the right knowledge being used to inform those decisions?

This report aims to provide insights into the complexity of taking decisions around land use in different places. It presents key insights on what is preventing England from making coherent, climate-aligned, socially legitimate land-use decisions — and what is needed next.

Policy silos create contradictory incentives and a confusion of options

Policy priorities that can be synergistic are often pitched in opposition, both in political discourse and in government departments. The most common examples from this project include nature recovery vs food production; tree planting vs maintaining historic landscapes; solar energy generation vs agricultural production; carbon sequestration vs tenant farming models; water-table management vs arable production; and planning for growth vs climate adaptation.

These conflicts are reflected in siloed policy architecture, which makes it difficult to fairly and effectively address multiple demands of the same land. With ambitious targets and limited resources in each department, local government departments are so focused on meeting their goals that there is limited capacity to plan land use decisions that support the targets of multiple departments – even if this would lead to saving resources overall.

The planning system is widely recognised as the most developed, spatially explicit governance system in local government. However, the planning system is also regarded as unable to sufficiently provide for nature, climate, agriculture or water interactions. Planning must 'have regard' to natural environment concerns, but this does not reach the necessary weighting and integration. This leads to friction and contradictory decisions for effective land use: for example, though developed by local authorities, the Local Nature Recovery Strategies sit "alongside" but are not integrated with Local Plans.

Fundamentally, food, water, energy, nature, planning and growth are all treated separately, with no central coordinating mechanism to discuss how land is used in a place. Respondents described constant pressure to "trade off" objectives without clear mechanisms or principles for how to make these decisions.

Fragmented governance with unclear mandates

The profusion of multiple agencies and governance organisations leads to a fragmented governance structure with no clear vision or arena for engagement.

Interviewees described overlapping and conflicting roles between nationwide government agencies, notably Department for Environment, Food & Rural Affairs (Defra), Rural Payments Agency (RPA), Natural England, Forestry Commission, Environment Agency, Ofwat, Department for Science, Innovation and Technology (DSIT), and Ministry of Housing, Communities and Local Government (MHCLG). The confusion of multiple agencies offering different approaches to the same issue made it difficult for stakeholders on the ground to understand where guidance should come from.

There were other examples of the confusion of different local authority structures creating friction in decision making, particularly in information gathering, process and sign off. Different regimes at county and district level could create additional friction in decision making, while in some cases Combined Authorities would take on new strategic roles without clear interfaces with counties or districts.

Water and Land: two sides of the same coin

Across places, water management was a consistent concern that was not being coherently integrated into land use decisions. From flooding and drought cycles, to salinisation and water tables, to river catchment planning and infrastructure, to peat hydrology, water was a consistent concern. Some respondents described farmer or farm cluster discussions with water companies around green infrastructure on their land for improved water outcomes. However, these discussions happened in a haphazard manner and typically for specific interventions (like planting riparian borders), and did not allow for broader strategic decision making for water across a landscape.

Water policy is disconnected from land, food and community priorities, which is a rising risk for resilience. The increasing risk of flooding and drought cycles was frequently discussed in the context of increasing climate impact and the inability of existing institutions to manage long term risk: eg, Internal Drainage Boards having a ten-year timeframe for future planning, where a much longer planning horizon is needed to build resilience.

Cultural and trust barriers undermine engagement

Many respondents reported mistrust by their constituents of national policy intentions and a broad perception of 'top-down' environmental agendas with little recognition of place and its complexities. This had implications for how different organisations approached implementation, as the lack of 'buy-in' created additional work.

Farmers were often highlighted as a critical constituency for delivering land use change, but one that also faced trust barriers and therefore a reduced legitimacy for government policy. Many respondents highlighted a lack of trust in government agencies and advisers, noting that farmers were more likely to trust the advice of their vets, suppliers and estate advisers, but these groups are not engaged with delivering environmental outcomes. Market pressures and supply chains holds greater influence over farm decisions more than national policy, and environmental incentives require a shift in knowledge and skills as well as buy-in to the intended outcomes. Farm clusters are noted as a positive amplifier for farmer knowledge of environmental interventions that can benefit the farm and at a landscape scale, but there are limited options for individual farmers to easily access this information.

In addition, though the advantage of private finance to supplement public funds was well recognised, there is broad mistrust in green finance markets. This is primarily due to lack of transparency and standards of carbon markets, which increased fears of exploitation given the high risk incurred by farmers making significant land use changes over a 20+ year period. This was further exacerbated by carbon audits and calculators offering inconsistent results, thereby reducing trust in the outcomes of interventions for environmental benefit.

In terms of local government or other organisations' decisions, interviewees reported that the format of land use decision processes did little to encourage trust in the process and intended outcomes. Weak or inconsistent engagement from statutory bodies, siloed processes across sectors, and changing personnel due to political cycles reduced clarity and transparency of process. The lack of regular community and stakeholder engagement (primarily due to resourcing constraints) also eroded trust. The single opportunity consultation on a plan at the end of formal decision making, rather than continuous, upfront engagement, further reduced trust and engagement in the process and intended outcomes, and therefore the legitimacy of decisions.

Tenants need better opportunity to access environmental schemes

Approximately 45% of England's farmland is wholly or partially tenanted, but tenants face greater structural barriers to accessing environmental schemes. The shorter term of Farm Business Tenancies (~5-10 years) makes it difficult to commit to longer term environmental schemes (20-30+ years); invest in soil recovery, infrastructure or diversification; and transition to regenerative agriculture that takes many years to 'pay off'. Most environmental schemes and private finance products require the landowner's agreement, rather than the business owner, and therefore many tenants do not trust that they can meaningfully gain from environmental schemes. Furthermore, the possibility of natural capital mapping or carbon auditing can spark fears of rising rents or further conditionality on the tenancy.

In some places, stories were mentioned of major landowners committing to 'rewilding' or woodland recovery by taking a percentage of land from each of their tenants, to make up the critical mass for that nature recovery scheme. Many tenants expressed fears of how this risks the viability of their businesses by reducing the land available to them for agricultural production. Such stories lean into the 'environmental land grabbing' concerns, and emphasise the need for established mechanisms for tenants to have greater security and opportunity with.

Capacity shortages at local level

Local authorities highlighted capacity issues as a core challenge to making and delivering more effective land use decisions. Though many recognise the need for convening and engagement to support better mutual understanding and trust, the lack of statutory recognition of their importance capacity for engagement and consensus building was highly constrained. Where funding was available for convening and engagement, this was typically only available for short term projects. Short term contracts and lack of resources can lead to local authorities borrowing staff time across services in order to make progress, but inevitably this lack of resourcing is not sustainable for the long term.

Instead of the cross-sectoral and convening roles being recognised as fundamental to effective delivery and therefore being resourced and embedded in the systems, there is an over-reliance on individual champions to 'make it work'. This does not translate into sustainable attention for effective delivery. Finally, the underfunding of local authorities had led

to the cutting of in-house expertise. Many recognised the former role of in-house ecologists to inform across council work, thereby reducing access to appropriate information and impediments to delivery.

Data exists but is inconsistent and inaccessible

Accessible, robust data is widely held up as a necessary conduit to better land use decisions. It does this in multiple ways: making different datasets spatially explicit can inform decision makers on the opportunities and trade-offs of different interventions in place (rather than in abstract). Making spatially explicit datasets transparent and accessible to stakeholders and communities can test assumptions and evidence for decisions, offers a starting point to source more granular detail for interventions, and builds trust (and therefore legitimacy) in the intentions, process and outcomes. In addition, reliable and trustworthy data is necessary for monitoring and reporting.

However, despite robust data being essential to ensuring better land use decisions in practice, there is a lack of consistent, accessible and interoperable data to support better land use decisions. Water, soil, carbon, biodiversity and heritage data are contained in different and incompatible datasets, reducing their utility for coherent land use decisions. Many datasets are locked in PDFs, which adds further friction to data sharing and reduces the efficiency and openness of sharing information.

Many local authorities have developed their own systems for integrating and accessing the appropriate data, but these are time-consuming and costly to produce, as well as being specific to that place and not easily replicable. This in turn means that cross-boundary issues are not easily recognised or managed. Broadly, the lack of modern and coherent digital infrastructure creates friction and slows down data sharing, while the lack of transparent and accountable data governance reduces trust in the systems.

What is needed: pathways to better land use decisions

National clarity and vision

To ensure local action can reach national targets, national government must set clear principles for land use decision making; mechanisms and processes for trade-offs; and aligned incentives to encourage coherent decisions for land in place. It is clear that places don't want prescription — they want a "handrail".

→ The long-awaited Land Use Framework offers an opportunity here, but this must be integrated with land use concerns beyond Defra: energy, infrastructure and housing particularly.

Larger-than-local scale for integrated decisions

Different decisions will need to be made at different scales: energy grid infrastructure is necessarily a national government decision, while a land manager can choose where to plant trees on her farm. However, for the purposes of strategic land use decision making, a middle tier to integrate decisions about strategic land, water, food, climate, energy and planning (housing, infrastructure, etc) is needed. Land use decisions must reflect the needs of local people as well as what the landscape capability: a middle tier scale offers the opportunity for granular stakeholder engagement and strategic decision making in place.

→ The new Strategic Authorities, as set out by the English Devolution and Local Communities Bill, could offer this scale. However, they would need to include powers and resourcing for climate and environment

Local resourcing for capacity and trust building

Ensuring that Strategic Authorities (or similar) are able to deliver across multiple sectors requires appropriate resourcing to support in-house expertise as well as the mechanisms for stakeholder engagement and generative consultation. Trust, relationships, legitimacy and shared understanding are critical to the effective implementation of land use transitions. Long term stewardship of evidence, relationships, monitoring and delivery must be embedded in land use governance structures.

Data standards and modern digital infrastructure

Interoperable datasets are necessary to ensure that cross-sectoral, transparent tools can be built to support better land use decisions. This overhaul of digital infrastructure must be undertaken by central government, to ensure that data is interoperable both horizontally across sectors and vertically at different scales. Reducing friction in data reporting will allow central government better monitoring of land use transitions. In addition, to encourage private and blended finance for land use transitions, markets need clear data standards to develop trust in markets.

→ Land Use Framework data will be managed by Defra, but this must be interoperable with other spatially explicit datasets for other land use, particularly that held by the National Infrastructure and Service Transformation Authority (NISTA).

Credits

About the Author

Georgie is the Land Use and Countryside lead at the Food, Farming and Countryside Commission, focusing on how a Land Use Framework can support better food systems and the transition to net zero. Focusing on governance of climate transitions, her previous advocacy and research has included international advocacy on the Convention on Biological Diversity and China's overseas food footprint, as well as working on climate issues at the European Parliament.

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