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Regional scale integrated land use planning to meet multiple objectives: Good in theory but challenging in practice

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A B S T R A C T

Pressure is increasing globally to deliver integrated land use at large spatial scales (10–100 s km^2) to address the climate and biodiversity emergencies through delivery of nature-based solutions. There is also pressure to decentralise land use decision-making to sub-national levels of government and multi-stakeholder partnerships, with the aim of improving policy targeting, coordination and participation. Whilst there has been significant research on these issues at smaller spatial and administrative scales, it is limited at larger scales. This paper addresses this gap, investigating whether the introduction of additional regional institutions can help address these challenges. It draws insights from Scotland's decade old Land Use Strategy (LUS) and evolving Regional Land Use Partnerships (RLUPs) that aim to mitigate climate change through encouraging improved and integrated land use and land management. We find that despite considerable stakeholder support, such approaches may not deliver on their ambitions. An overarching finding relates to the importance of political commitment to implementation at these larger scales, which is crucial for establishing clear objectives, giving regions authority to respond to regional priorities, and ensuring adequate resourcing. This affects buy-in from stakeholders and the resolution of policy coordination challenges that the partnerships are meant to address. It has wider implications for the delivery of national climate policies, given the importance of land management in most climate change strategies. The insights, and the analytical framework used, are relevant for any country grappling with the challenge of implementing nature-based solutions at ever larger scales whilst bridging local and national land use priorities.

1. Introduction

There are unprecedented and competing pressures on the way land is used and managed globally (IPBES, 2019). Ambitious climate change targets are driving interest in land for carbon sequestration and storage (Carter et al., 2017; McMorran et al., 2022); and concerns around biodiversity loss are driving interest in land for biodiversity conservation (Bruna, 2022; Holmes, 2014). Concurrently, political instability and uncertainty (e.g. due to the Ukraine war; Brexit; COVID-19) are contributing to changes in commodity prices and the profitability of farming, altering the decisions made by land managers with wide ranging effects on rural economies and environmental outcomes (Arnott et al., 2021; Ben Hassen and El Bilali, 2022). These competing pressures and the need for economic stimulus following the COVID-19 pandemic, have brought the land sector into focus as a potential part of green

economic recovery strategies (Galanakis et al., 2022; Mansuy, 2020). Such approaches require major changes in how land is used and managed to balance competing pressures and meet multiple objectives.

One such change could be the decentralisation of land use planning and policy from central to sub-national levels of government, which has become a common governance strategy over the past few decades to help manage the competing pressures on land (Leventon et al., 2019; Mann et al., 2018; Ribot et al., 2006; Sharma et al., 2023). Drivers of decentralisation of land use policy are often founded in arguments about effectiveness, efficiency and equity that underlie arguments for decentralisation more generally. Centralised, state-led or even authoritarian natural resource management has frequently been shown to be ineffective, exclusionary and inefficient (van Oosterzee et al., 2014). Decentralisation is often a reaction to such approaches and promoted as a method of reforming the public sector to improve efficiency, for

example, through increasing coordination for tackling 'wicked' problems (Duckett et al., 2016; van den Ende et al., 2023), integrating activities of diverse public and private actors, instruments and institutions (Cohen and Bakker, 2014; Howlett and Rayner, 2006; McGonigle et al., 2020), policy innovation (Cohen and Bakker, 2014), and curbing growth in public spending. Decentralisation is also linked to arguments about increased equity, through the potential to improve the accountability and transparency of governance, reduce corruption and improve participation (Cohen-Shacham et al., 2019). Indeed many governments and environmental organisations promote more locally driven, participatory and 'place-based' approaches based on the assumption that they will increase benefits for more marginalised groups and in the process deliver more effective and sustainable solutions (Barca et al., 2012; Kapoor, 2005; Newig and Fritsch, 2009). A decline in the power of the nation state, austerity, and a rise in the power of markets and civil society have also driven decentralisation (Kirsop-Taylor et al., 2020; Lockwood et al., 2009; Ros-Tonen et al., 2018) and emphasise that it is not only a scalar phenomenon between central and sub-national levels of government, but a scaling outwards beyond government to the private and third sector and upwards to international networks that control many of the incentives that exist at sub-national levels (Kirsop-Taylor et al., 2020; Sharma et al., 2023).

Concurrent with this scaling down and out of land use governance (Bee, 2019), are calls for spatial planning at larger 'landscape' (Hamilton and Selman, 2005) or 'catchment' spatial scales (Mann et al., 2018; McGonigle et al., 2020). The spatial scale that these terms refer to is rarely defined (Martín-López et al., 2017). However, they often stem from a reaction to fragmented local policy delivery targeting 'isolated pockets of the countryside, ignoring the relationships within the 'wider countryside' (Hamilton and Selman, 2005, p. 549), so implying a scale that is beyond that of single rural land managers. Such an 'integrated' approach is now common in many countries (Reed et al., 2015) and is justified by the potential to: better target funding for environmental land management (Hamilton and Selman, 2005); enable decision-making at 'ecologically scales (Cohen and Bakker, 2014, p. 129); encourage inter-agency collaboration and participation (Linnenluecke et al., 2017; Rockloff and Moore, 2006); and provide a framework for monitoring change.

The 'region' has emerged within this context as an important spatial and administrative scale of land use governance (Lockwood et al., 2009; van Oosterzee et al., 2014). This is of course not new, with many countries having some form of regional governance structure that sits 'between the local and national levels with a capacity for authoritative decision-making' (Hooghe, Marks and Schakel, 2009, p. 9). Regionalisation is a growing trend worldwide (Hooghe, Marks and Schakel, 2009). There is evidence that regionalisation can improve economic outcomes, for example through increases in efficiency of public service provision (Rodríguez-Pose and Tselios, 2019) and increased public engagement (Michelsen, Boenisch and Geys, 2014). However, there are also significant risks, such as the potential for rent capture by elites at regional level, resultant increases in inequality, and poorer public service provision due to corruption (Ribot and Larson, 2006). There remain large gaps in knowledge as to whether greater 'polycentricity' of governance increases environmental effectiveness (Newig and Fritsch, 2009; van Oosten et al., 2018). Exact outcomes are dependent on how decentralisation is implemented. Key issues relate to inadequate design of reforms, resulting in unclear allocation of responsibilities between central and regional authorities, a lack of capacity to deliver at regional level in terms of finance and expertise, and maintaining a role for central government in coordinating service delivery (OECD, 2019; Yang et al., 2015). Politics is also key and is often missed in both the implementation and evaluation of decentralisation programmes (Myers et al., 2018). Scotland is currently pursuing a regionalisation agenda related to its national Land Use Strategy (LUS) through the establishment of pilot Regional (generally Local Authority area or multi-Local Authority area) Land Use Partnerships (RLUPs) to develop collaborative and strategic

land use plans. The aim is to decentralise decision making to deliver more integrated and participatory land use planning at a regional level that is based on a 'natural capital' approach (Scottish Government, 2021b). RLUPs also represent an effort by government to deliver integrated land management 'at scale' in response to the economic, climate and biodiversity crises (Scottish Government, 2021d, p. 15). While there have been some commissioned reviews of the LUS (Phillips et al., 2014; Stevens et al., 2022), there has been little critical analysis of the approach linking to broader questions of land use governance and decentralisation in Scotland. This is important for Scotland's current policy process but also has wider relevance, particularly given that Scotland's approach claimed to be the 'first of its kind in Europe' (Scottish Government, 2011) or possibly the world (climateXchange, 2022). It has been cited for providing lessons for the evolving English Land Use Framework (Defra, 2022; FFCC, 2022). It is also globally relevant as countries increasingly look to plan land use at larger spatial scales in response to the climate and biodiversity emergencies (Mansuy et al., 2020; Mori, 2020; Taylor et al., 2013), often drawing insights from project scale (e.g. multiple farms or small catchments) pilots (Salafsky et al., 2021).

This paper considers the opportunities and challenges presented by establishing regional institutions for integrated land management, drawing insights from Scotland. The key questions addressed are:

(1) Can regional scale land use planning help link national and local environmental objectives, increase policy coordination, and enhance participation?
(2) What challenges emerge in this process and how are they likely to affect success?
(3) What are the broader lessons for global debates about delivering integrated land management at larger spatial scales?

2. Governance of land use in Scotland

2.1. Decentralisation and regional governance in Scotland

Scotland has devolved status within the United Kingdom (UK), with devolved powers over, among others, spatial planning, agriculture, and the environment. As in many other European countries (McCann and Ortega-Argilés, 2013), Scotland increasingly promotes a 'place-based' approach, encapsulated in policy, for example through the 'Place Principle' statement, the 'Community Wealth Building' approach, and the Land Rights and Responsibilities Statement (Scottish Government, 2017, 2019c, 2022b). Regional governance structures such as Regional Councils (larger than most current local authorities) have existed in various forms in Scotland since the 1970 s in response to government attempts to decentralise and recentralise and past institutions still have an influence on more recent approaches (Clelland, 2020). Currently, much economic development policy is delivered through a network of city deals, regional growth deals and regional economic strategies (Copus et al., 2022). Decentralisation of power and responsibility to these regional bodies has in practice been limited compared to England, where new forms of devolved government (e.g. mayoralities) have been created (Copus et al., 2022). Rural areas are less prominent in the regional economic landscape and rural policy has remained centralised. In summary, Scotland currently has piecemeal regional scale governance structures, driven in part by the historic institutional landscape, which has been dominated by an urban agenda and a complex web of partnerships and networks.

2.2. Land use planning in Scotland

As in much of Europe, the Scottish planning framework is characterised by separate planning regimes for urban, rural and semi-natural land use systems (Duckett et al., 2016; Warren, 2009 p 37). The latest draft National Planning Framework (NPF4) aims to take a more strategic

approach with links to rural land use planning made through Regional Spatial Strategies (RSS), which are expected to set out a clear place-based spatial strategy (Scottish Government, 2021c). Rural land use planning is guided by the Climate Change (Scotland) Act 2019, the Land Use Strategy (LUS), the EU's Common Agricultural Policy (CAP), Scotland's Forestry Strategy, the National Islands Plan, the Rural Economy Action Plan and the Land Rights and Responsibilities Statement (RTPI, 2021). Several other policies are aimed at protecting biodiversity, including the Scottish Biodiversity Strategy, Local Biodiversity Action Plans, National Parks, National Scenic Areas and Local Landscape Designations. The resulting planning policy and regulatory framework for managing Scottish landscapes is fragmented, and dominated by strategic national/regional policy instruments that exist in tension with a political discourse that favours bottom-up approaches (Blackstock et al., 2020; Duckett et al., 2016).

Since the 1970 s there have been growing calls for more a more integrated rural land use policy framework, driven primarily by arguments about increased efficiency and more effective environmental protection (Warren, 2009). However, sectoral approaches still persisted in the 2000 s (OECD, 2008) and to the present day. European policy has maintained a strong influence on Scottish policy, particularly through the CAP. This also promotes decentralisation to transfer powers, competencies and resources to sub-national government in order to enhance participation, for example through programmes such as LEADER, the Scottish Rural Development Programme(SRDP) and the Water Framework Directive (Beckmann et al., 2009; Pollermann et al., 2020; Rouillard and Spray, 2017; Yang et al., 2015). Following the UK's exit from the EU, Scottish agricultural support policy is in a transition period with the expected introduction of a Scottish Agriculture Bill through the Scottish Parliament in 2023, which will set out a post-CAP framework for Scottish agriculture.

2.3. Scotland's Land Use Strategy

Scotland's Land Use Strategy (LUS) emerged as a response to the challenges of improving participation, and the integration of land use, in decision-making (Table 1). The LUS forms part of the Climate Change (Scotland) Act 2009 with the aim of establishing a long term vision for the sustainable use of Scotland's land, based on an integrated ecosystems approach (Scottish Government, 2011). As stipulated by the Act, it is reviewed every five years and is now in its third iteration (Scottish Government, 2021d). In theory, the LUS should guide other more sectoral policies and help to integrate decision-making at multiple levels, with regional scale land use planning and partnership working is a key part of its approach. The first LUS piloted the development of a land use framework using an ecosystems approach across two Local Authority areas of Scotland, with the aim to 'consider existing and future land uses in a collective and integrated way' (Kirkup et al., 2016. p. 1). Subsequently Regional Land Use Partnerships (RLUPs) and Frameworks (RLUFs) were proposed in the second LUS (2016 – 2021): 'In order to progress better integration of land uses' (Scottish Government, 2016, p. 25). They are part of government policy, as they are specified in the Programme for Government, but they are also a planning process (the RLUPs' main objective is to develop an RLUF) and a delivery mechanism for government climate and biodiversity targets. They will initially deliver the RLUF but potentially also changes to land use (e.g. through guiding rural public finance), although their future role in delivery is debated.

Little happened on RLUP implementation between 2016 and 2020, despite significant interest, particularly among environmental groups (Wilson, 2018). However, the 2019–2020 Programme for Government reaffirmed the Government's commitment to RLUPs and RLUFs (Scottish Government, 2019b) and in 2020 the Scottish Land Commission was asked to lead a consultation and make recommendations on RLUP development. The Commission recommended that RLUPs be established in line with the new Regional Spatial Strategy (RSS) areas (Scottish Land

Table 1
Policy timeline for Scotland's Land Use Strategy and Regional Land Use Partnerships.

Date	Key policies / processes	Key commitments and objectives
2009	Climate Change (Scotland) Act 2009	Scottish Ministers required by law to produce a Land Use Strategy (LUS) every 5 years, setting out objectives, delivery mechanisms and timescales.
2011	1st Land Use Strategy (LUS1) published 2011 - 2016	LUS is first stage in a process of change in the management of land in Scotland, setting high-level national policy agenda, encouraging partnership working across land-use sectors.
Dec 2011	Land Use Strategy Action Plan	Sets out how the proposals in LUS will be taken forward, including use of demonstration projects applying an ecosystems approach.
Feb 2013	LUS1 Pilot projects announced	Two pilots launched in Scottish Borders and Aberdeenshire using an ecosystem approach to produce a regional land (Local Authority scale) land use framework. These were evaluated in January 2016.
March 2016	2nd Land Use Strategy (LUS2) published 2016 - 2021	Commits to encourage establishment of RLUPs and RLUFs to progress better integration of land uses and bring people together.
Oct 2019	Climate Change (Scotland) Act 2019	Climate Change Plan to set out proposals and policies for establishment of RLUPs and the support and resourcing of RLUPs and RLUFs
Sept 2019	Programme for Government 2019–2020	Make regional land use plans to contribute to the fight against climate change. Do this through 'working to enable' RLUPs (by 2021) and RLUFs (by 2023).
Sept 2020	Programme for Government 2020–21	'Make use' of RLUPs from 2021
Nov 2020	Scottish Land Commission Advice to Government on RLUPs	Advises using RLUPs to drive a collaborative approach to land use decision-making, setting up 12–15 Partnerships covering all of Scotland and ensuring they comprise an appointed board to be accountable and sufficiently independent.
Dec 2020	3rd Land Use Strategy (LUS3) published 2021–2026	Reaffirms commitment to RLUPs through developing pilots that balance interests of national and local government, land-based sectors and local communities. Purpose to ensure that all land use and land use management activities support climate change objectives.
May 2021	RLUP Grant Agreements (unpublished)	Grant agreements finalised with 5 regions to take forward pilot RLUPs with lead entities establishing governance structures, developing and implementing a stakeholder engagement plan, and developing a RLUF.
Aug 2021	Bute House Agreement	If pilots can meet expectations, government will ensure they consider the delivery of statutory climate and nature targets on a regional basis, and consider how they influence public funding streams.
Sept 2021	Programme for Government 2021–22	Commitment to test and develop new approaches to governance and decision-making, and adopt a natural capital approach to land use change. Develop plans for a second phase from 2023 should pilots be successful.

Commission, 2020). Most of these are significantly larger in spatial scale than the original LUS pilots but 'reduce duplication and help align planning and land use decision making, while linking with wider regional work on economy, growth deals and transport.' (Scottish Government, 2021b. p. 3). The Scottish Government invited regions to bid to become RLUP pilots, with regional groupings defined a priori as those developing RSS. In the RSSs, regions are self-assembled (Scottish Government, 2020a), mostly consisting of groups of local authorities, but in some cases (e.g. Highland) single local authorities. The difference between 'local' and 'regional' is therefore not clearcut but is linked to three main concepts: 1) groups of local authorities working together (although this does not necessarily have to be met); 2) taking a strategic spatial planning remit at least at the authority scale, rather than planning at more local levels such as council wards or parishes; 3) rural land use planning at a larger 'landscape scale' than is currently the case (e.g. multiple landowners and whole catchments), although this is not defined spatially. Five new pilot partnerships were announced in early 2021 and these are still in development (Scottish Government, 2021e).

They include: Cairngorms National Park; Highlands Council Region; Loch Lomond and the Trossachs National Park; North East Region (Aberdeenshire and Aberdeen City Councils); and South of Scotland (Dumfries and Galloway, Scottish Borders Councils and South of Scotland Enterprise) (Fig. 1).

Each pilot was asked to 'establish a partnership structure able to deliver a collaborative approach to land use change decision-making involving national and local government, land owners and managers, communities and stakeholders' (Scottish Government, 2021b, p. 4). They were also asked to 'outline in a Framework (RLUF) how to use a natural capital approach to identify and agree upon current and potential land use changes across the region that support the delivery of Scottish Government's climate change targets and other environmental objectives, including improving biodiversity' (Scottish Government, 2021b, p. 4). The pilots are funded with small (~£50,000) annual budgets (re-negotiated each year).
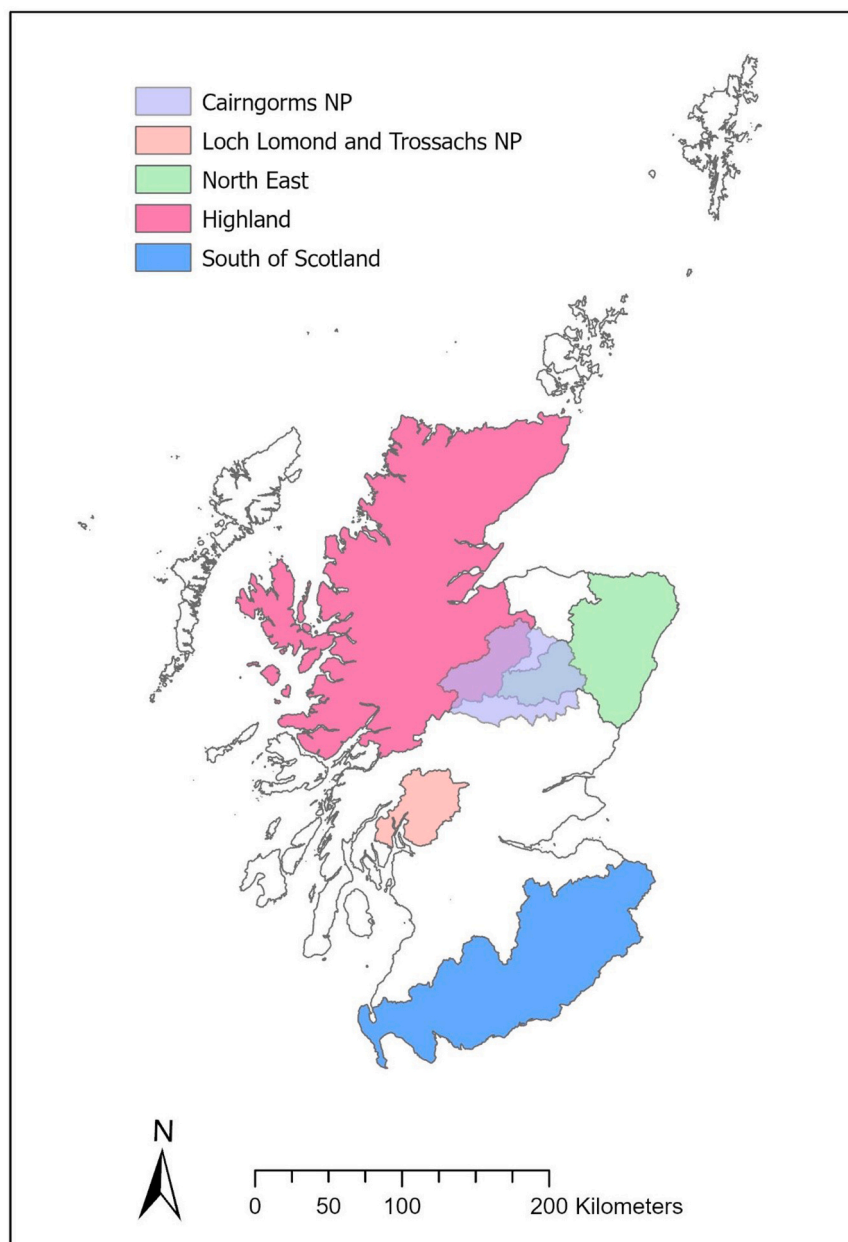

Fig. 1. Boundaries of the five RLUP pilots. NP refers to National Park.

3. Methods

3.1. Participatory Action Research

The research was part of a participatory action research (PAR) project implemented by the lead author with policy makers to support RLUP development. PAR involves researchers and participants working together to examine a problematic situation or action to change it for the better (Kindon et al., 2007). The process of PAR is cyclical, with researchers and participants identifying a problem, and then initiating research that helps develop solutions. The PAR approach has been critiqued, for example in terms of the ambiguity it establishes in the role of the researcher (Jacobs, 2018). PAR was considered appropriate in this context because of the early stage of policy development; the complexities of the land use agenda in Scotland; the need to incorporate existing evidence into new policy design; and the aims to explore the issue from beyond a purely technocratic angle. The approach provided an opportunity for broad reflection on the evolution of the LUS, whilst at the same time benefitting from an improved understanding of complex issues gained through deeper engagement.

3.2. Process evaluation framework

Given the ongoing development of the RLUPs, we used a process evaluation framework to investigate the likely performance of the approach, highlight challenges and identify potential solutions as done in other process orientated studies (e.g. Lafferty and Hovden, 2003). The framework has three performance dimensions (Table 2) that draw from the Scottish Government's objectives for the RLUPs, but have strong similarities to the objectives of decentralisation programmes in general (Ebinger et al., 2011). Building on approaches used to study the performance of decentralisation and collaborative planning strategies (Ebinger et al., 2011; Faehnle and Tyrväinen, 2013), we developed broad success criteria under each performance dimension, drawing on relevant literature.

3.3. Data sources

We began the research in October 2020 with a policy review in which we collated all relevant documents linked to the LUS since the Climate Change (Scotland) Act (2009), and creating a timeline of key events, decisions and activities (summarised in Table 1). We also reviewed policy documents explicitly linked to the LUS. For example, the Programme for Government, National Economic and Planning strategies, and agricultural policy, as well as policies linked to decentralisation (e.g. community planning). We used a key word search for the LUS and RLUPs to gain an initial indication of links between policies and how the LUS/RLUPs are framed. We returned to the policy review periodically throughout the research process to provide further insights on the themes explored using the framework in Table 2.

We drew insights from primary data from three main sources during June 2021-June 2022: 1) key informant interviews with 'national' stakeholders; 2) key informant interviews with 'regional' stakeholders independent of the RLUP project team in one RLUP pilot region; and 3) two workshops with stakeholders from the five RLUP pilots (see Table 3 and Supplementary Information). This enabled insights from different spatial and administrative scales and across different sectors. Working with one pilot in detail enabled deeper learning around policy implementation, complemented by the multi-pilot workshops to triangulate results. Interviewees were chosen based on having had long term (>10 years) involvement in land use or regional policy and ensuring a balance of sectoral interests. We used a semi-structured approach, allowing interviewees to raise issues that they felt were most important (Longhurst, 2010).

In subsequent sections, sources are abbreviated as follows: Sector: Public (Pu), Private (Pr), Third (Th); Administrative level: National (N),

Table 2
Decentralisation objectives and indicators for the ex-ante evaluation of decentralisation programmes.

Performance dimensions	Criteria	Explanation
Balancing national and local priorities	Regions gain political competencies	Greater political and administrative decentralisation increases ability of regional actors to establish regional priorities (Ebinger et al., 2011; MacKinnon and Shaw, 2010; Yang, Rounsevell, Haggett et al., 2015). Fiscal decentralisation increases ability of regional institutions to support prioritisation process and get buy-in (Ribot, 2004; Tacconi, 2007).
	Regional partnerships fit within a clear nested policy framework	National priorities on integrated land use need to be clearly articulated and supported by strong high level political commitment and leadership (Kusters et al., 2018; Persson and Runhaar, 2018). Relationships between national priorities and regional/local priorities need to be clearly outlined, with broad national priorities supporting regional flexibility (see e.g.MacKinnon and Shaw, 2010; and parallels with forest decentralisation e.g. Ribot, 2004)
Increased participation of local stakeholders	Stakeholders incentivised to join participatory processes	Stakeholders need to want to be involved in participatory processes, which depends on them seeing the process as legitimate, worthwhile, influencing decisions etc. (Faehnle and Tyrväinen, 2013; Reed, 2008)
	Procedures promote inclusion in participatory processes	Stakeholders need to be able to engage, which is dependent on substantive factors such as power and politics, their rights etc. as well as procedural factors such as how they are identified, their resources, information provided and language used etc. (Faehnle and Tyrväinen, 2013; Flannery et al., 2018; Raymond et al., 2022; Reed, 2008; Turnhout et al., 2020)
Better coordination of land use decisions	Policies, incentives and regulations are aligned across sectors	Avoiding contradictory sectoral policies or compensating for adverse environmental consequences of sectoral policies (e.g.Persson et al., 2018). Reduced overall number of policies, incentives and regulations and/or institutions (Ebinger et al., 2011).
	Conflicts between sectors managed	Improved policy coordination requires trade-offs to be understood and conflicts resolved, with reduced frequency and intensity of disputes between stakeholders (Ebinger et al., 2011).

Regional (R); Method: Interview (I); Workshop 1/2 (W1, W2).

3.4. Data analysis

To analyse data from the interviews and workshops we used an

Table 3
Summary of participants in interviews and workshops.

Group	No. participants	Category	Format	Aims
'National'	10	Public, Private, Third Sector	Semi-structured ~60 min duration	Discussion of opportunities and challenges surrounding the LUS, views on RLUP governance structures, regional coordination and added value.
'Regional'	13	Public, Private, Third Sector	Semi-structured ~60 min duration	Discussion of opportunities and challenges surrounding the LUS, views on RLUP governance structures, regional coordination and added value.
RLUP pilots	~15 per workshop	Public, Private, Third Sector (Local Authority planners, National Park Officers, NGO staff, Scottish Government)	2 × 2-hour online workshop	Discussion of opportunities and challenges in establishing RLUP governance structures. Prior learning from earlier pilots.

iterative process similar to the general inductive approach (Thomas, 2006), but guided by the criteria established in the evaluation framework. The stages included: 1) transcribing interviews and workshop proceedings into text; 2) close reading of the text; 3) grouping of key words and phrases into common themes, and sub-themes guided by the evaluation framework criteria; 4) linking cross-cutting themes; and 5) continued revision and refinement of the themes and the selection of quotes. In parallel, we reviewed existing literature and case studies to help refine themes and explain patterns in the data. Similar approaches have been applied in other environmental governance studies (Blackstock et al., 2020; Talbot and Boiral, 2015; Wesselink et al., 2011).

4. Findings

The analysis identified several themes relating to opportunities and challenges that are likely to influence the performance of the LUS and RLUPs. We present these findings below in accordance with our framework and provide a summary in Table 4 at the end of the section.

4.1. Balancing national and local priorities

4.1.1. Do regions gain political competencies?
The Scottish Land Commission recommended that RLUPs should 'prioritise and target delivery of specific public funding streams' and 'that a statutory footing should be considered for Regional Land Use Frameworks' (Scottish Land Commission, 2020, p. 7). However, central government has committed only to ensure that if the pilots are successful, future regional partnerships will take into consideration the delivery of statutory targets and 'consider how RLUPs can influence public funding streams' (Scottish Government and Scottish Green Party., 2021, p. 43).

Most participants expressed concern about central government retention of decision-making powers and finance. They suggested that this situation needs to change for future land use planning to respond to regional priorities. As one interviewee put it: *'It really needs a very clear signal from central government that these are important, they're here to stay, and that they have a decision-making function, they have an authority which enables them to make decisions'* (Pu, N, I). Another suggested that *'RLUPs live or die based on their statutory backing and cannot be progressed without saying out loud that they will devolve decision-making'* (Pu, N, I). Several participants also suggested the importance of learning from previous 'regionalisation' programmes such as the LEADER programme and the RPACs, *'where everyone just goes 'Oh regional is great', and then actually the central government effectively erases the regional component of things'* (Th, N, I).

Current low levels of resourcing and annual budgets for the RLUPs are also likely to limit regional influence over land use change priorities and have led to risk aversion among some RLUPs so that they do not *'set [themselves] up to fail'* (Pu, R, W2). To manage budget uncertainty, some RLUPs have established interim Boards, which can be formalised or dissolved depending on their future direction. RLUPs may also be likely to be subsumed into existing, more powerful, and better resourced regional structures such as National Park Boards, which may limit their added value (Pu, R, W2). Such structures are also an exception in most of rural Scotland, suggesting that this is not a widely applicable solution.

In summary, there is currently little indication that RLUPs will gain political competencies if they are rolled out more widely across Scotland, which is likely to have a strong bearing on how national and local priorities for land use are balanced in practice. In other words, the regional planning tier does not have associated regional political powers, limiting its opportunities to achieve the bridge between national and local issues.

4.1.2. Do regional partnerships fit within a clear nested policy framework?
The first LUS established a high-level vision (to 2050), principles and objectives for land use in Scotland, which along with the *'mere existence'* (Ts, N, I) of a national LUS, were mentioned by several participants as positive outcomes. Within the framework of the LUS, the RLUPs introduce a tier in land use governance that some participants suggested is necessary to bridge national and local priorities. The high-level objectives of the RLUPs themselves are also set out in various documents linked to RLUPs (see Section 2).

We found that a lack of clarity in objectives emerged as a strong theme. A specific issue surrounds a lack of clear objectives and guidance from government on how the RLUF will be used, and where it fits within a wider strategic land use policy. As one interviewee put it *'there's been a real state of desire from the Scottish Government that this is community led. That's really vital, I understand why they're wanting that. But there's a difference between abandonment, which is what I think has really happened, versus [giving some criteria and guidance]… that just seem like reinventing the wheel in each part of Scotland'* (Th, N, I). The result is differing interpretations of the scope of RLUPs, with interviewees citing a wide range of objectives. Another interviewee raised a concern about mission creep and the *'expectation that taking an RLUP approach is going to deal with everything'* (Th, N, I) which could lead this policy approach to become highly inefficient and struggle to be successful (cf. Warren, 2009, p39).

The lack of clarity in objectives has links to deeper political and technical issues. Participants suggested that there is a reluctance by government to define the key challenges that the LUS and RLUPs are meant to address, with a tendency to suggest *'everything is awesome'* (Th, N, I). Another suggested that pressure from civil society groups to implement RLUPs *'slightly took government by surprise'* and resulted in a reluctant commitment to them as *'something that had to be done'* (Th, N, I). Without stronger central leadership the issue is likely to *'get lost'* among other policy initiatives such as the future Agricultural Bill, despite the importance of integrated land management within that agenda (Pu, N, I). Furthermore, a lack of an integrated land use political agenda is likely to feed into this problem. One interviewee summarised this as a *'lack of political leadership at the moment, made even worse by the*

Cabinet and ministerial portfolios. There is no obvious place where land use comes together centrally, except under land reform, which is under a junior minister' (Pu, N, I). Without a strong national position on integrated land use, it is difficult to see how regional governance mechanisms can address policy coordination.

In summary, the RLUPs do fit within a clear nested policy framework for land use governance in Scotland. However, whilst there is some clarity about the long-term vision and high-level principles guiding the development of this nested framework, there is much less clarity about the detailed objectives of the RLUPs, the RLUFs and how they are co-ordinated with other extra-sectoral policies.

4.2. Increased participation of local stakeholders

4.2.1. Are local stakeholders incentivised to join participatory processes?

Many participants were positive about the early stages of LUS development (c. 2010), which involved extensive engagement, but this appears to have tailed off in recent years. Early enthusiasm for the new approach being developed in the LUS, in combination with significant resourcing and piloting, incentivised extensive participation from a wide range of stakeholders. The two earlier regional pilots carried out in the Scottish Borders and Aberdeenshire prior to 2016 involved a thorough though *'pretty laborious'* (Pr, N, I) process of consultation and are widely agreed to have provided useful lessons.

We found that a lack of visible outcomes from the implementation of the now decade-old LUS is a reason for greater stakeholder reticence about being involved. The lack of clear direction for how policy would build on the outcomes of the earlier pilots, few policy developments until 2020, and the perception of low prioritisation of the new pilots by government, has led to concerns about participation fatigue; issues raised as early as the 2014 pilots (Aberdeenshire Council and James Hutton Institute, 2015). One interviewee described a growing sense of apathy since the first LUS because *'they're just fed up with endless pilots'* (Th, N, I) despite significant early interest in the policy. Interviewees representing farmers and private land managers, highlighted how this has led to a lack of interest in engaging, as they do not currently see how the RLUPs will affect their day-to-day decision-making: *'until it gets to point where it [the LUS] is saying no to things, it will be fairly detached from any land manager decisions'*. Those representing environmental and public sector organisations were more positive, saying they would continue to engage at a high level because of their broad agreement with the overall objectives of the RLUPs, although the *'goodwill[…] is not limitless'* (Pr, N, I).

A lack of trust among some stakeholders surrounding the underlying agenda of those promoting the LUS and RLUPs was another theme that emerged as a barrier to participation. One interviewee suggested *'getting the Land Commission involved is one reason why the agricultural community has retrenched and doesn't want to have anything to do with Land Use Strategy'* (Th, N, I), because of links to land reform and the pushing of a community land ownership agenda. Similarly, involving local authorities in managing these processes was questioned as they are not seen as neutral; they will focus on planning agendas where they have statutory responsibilities which will *'skew things in a way that isn't helpful'* (Th, N, I).

Many, but not all, key stakeholders are currently incentivised to join participatory approaches to develop RLUPs. Interest appears to be higher among public and third sector organisations where there is clear alignment with their objectives, rather than the private sector and private land managers who make many of the land use decisions.

4.2.2. Do participatory processes enable diverse participation?

Participatory processes under the LUS have involved wide online consultation at the national level (166 and 86 responses from individuals and organisations for LUS2 and LUS3 respectively; there is no public record of responses for LUS1). The earlier LUS pilots also involved extensive local stakeholder engagement with land managers particularly

in the Scottish Borders (Scottish Borders Council, 2014) and several participants referred to the benefits of the 'ecosystem approach' that helped to ground discussions. The 'natural capital' approach that is planned for current pilots may offer similar potential to broaden participation, although this new language may alienate some land managers (escom, 2016).

Several participants highlighted that the low resourcing of the pilots relative to the spatial scale of the RLUPs raises challenges for ensuring diverse participation. The current RLUP pilots are using standard procedures to increase representation (e.g. stakeholder mapping and local community consultation meetings) or incorporating consultation into larger processes (e.g. the development of the new National Park Plan in the Cairngorms). However, there are challenges in ensuring intra-regional representation with current budgets due to the limited local level consultation that can be carried out.

Several participants raised concerns about procedural barriers to participation (e.g. limited resources with which to attend stakeholder meetings, or the language used) in similar processes leading to participation only by relevant public sector organisations, powerful NGOs, interested private sector organisations and wealthy locals, with everyone else under-represented. Several interviewees, particularly at the regional level, highlighted how the term 'natural capital', 'framework' and for those outside the sector, even what is meant by 'land use', are exclusionary for many stakeholders.

The LUS and RLUPs as they are currently set up, have the aspiration to engage widely with stakeholders at multiple levels and are doing well within the confines of limited resources. However, they have limited resources to overcome familiar engagement challenges, which raises the risk of considerable inequity in how the policy is shaped and delivered.

4.3. Better coordination of land use decisions

4.3.1. Is there potential for RLUPs to align policies across sectors?

Several participants suggested that the LUS has potential in helping coordination of national policy design through the introduction of an ecosystem-based approach and establishing high level principles that can underpin any major new land management support policy. The RLUPs could help coordinate the implementation of national policies, incentives and regulations at a regional level. Several participants suggested that the RLUPs could add value through providing regional co-ordination of the multitude of different regional land management initiatives and emerging instruments such as Biodiversity Net Gain policies and carbon finance. However, the ability to coordinate implementation relies on having a mandate – and the voluntary nature of the RLUPs combined with the uneven participation of land managers suggests this may be difficult.

We identified the dependence of successful regional coordination on effective coordination at the centre of government as a key issue. Since its inception, the LUS has struggled to engage key sectors. One interviewee described how in their opinion, those involved in the planning system have not engaged heavily with the LUS because of a perceived risk of *'muddying the waters'* with the planning system due to potentially competing remits (Pu, N, I). The agricultural sector has also been reluctant to engage because of the links between the LUS and land reform and a historically *'transactional'* (Pu, N, I) and production orientated approach that is focussed on complying with the Common Agriculture Policy. Current debates about future agriculture policy and land reform reference integrated management plans at the farm level, but make little reference to the broader role of the RLUPs in coordinating policy (e.g. Scottish Government, 2022c; Scottish Government, 2022a; Scottish Government, 2021a; Scottish Government, 2022d). One interviewee summarised this as: *'So, yeah, I think a big, for me a big red flashy light is you've got Land Use Partnerships here …[for] which the biggest reason for having them is so that you can steer something with the post-CAP funding and yet over here the post CAP funding is going on a completely different track through a different Minister I presume as well'* (Pu, N, I).

Another issue we identified concerns the impact a lack of resources and power within local government will have on the ability of RLUPs to improve coordination. Several participants noted that many local authorities and agencies involved in the RLUPs have lost key expertise to implement more holistic planning, such as mapping and environmental management expertise due to austerity cuts. Furthermore, the lack of powers among the RLUPs to influence incentives is also likely to hamper their ability to coordinate regional land use planning.

Finally, one participant raised a concern that the introduction of the RLUPs as a new institution could exacerbate existing regional coordination challenges: *'we've got a range of organisations already that don't seem to quite tie so introducing another one that maybe has got a differing viewpoint without really having a good communication stream or indeed a consultation [could exacerbate coordination challenges]'* (Pu, R, I).

There is clearly a need for greater policy alignment at regional and local levels, which the RLUPs could help provide. This is, however, unlikely to emerge without greater coordination of policy at central government level, the integration of RLUPs/RLUFs into central planning frameworks and regional institutions that are better resourced to help coordinate policy.

4.3.2. Do RLUPs have potential to manage conflicts between sectors?

Several interviewees suggested that the LUS has been a step forward in terms of recognising conflicts between sectors. RLUPs will need to build on this and manage conflict to effectively coordinate relevant policy instruments. Several interviewees highlighted the challenge posed by conflict avoidance in current programmes and suggested that this will be a particular problem in the RLUPs given their broad scope. For example, one described how *'usually in these meetings you have half the stakeholders from various Scottish Government agencies, because somehow you have to have them all there, and then… half a dozen broadly speaking agricultural stakeholders, a couple of foresters and a couple from the environmental sector, and eventually they all end up agreeing to disagree'* (Th, N, I). Another described how participants left a multi-stakeholder process on regional land use planning when it moved from a discussion of strategic issues to discussions about particular land parcels (Th, R, I).

We identified a lack of strong political leadership as a risk to effective conflict management mechanisms that can help change the status quo. For example, one regional participant emphasised, based on experience with conflict around deer management, that strong leadership will be required to ensure that RLUPs are bold in their approach in advancing an

Table 4

Summary of pros and cons of the approach to implementing the Land Use Strategy (LUS) and Regional Land Use Pilot (RLUPs) and how this is likely to influence the performance. Whether the current policy is likely to meet performance criteria is indicated by (+) (+/-) or (-).

Performance objective	Criteria	Findings		Evaluation
		Pros	Cons	
Balancing national and local priorities	Regions gain political competencies	• RLUP pilots given flexibility to identify local priorities	• RLUPs have few policy or political powers meaning: difficulties in establishing regional priorities; role as weak consultative bodies • Low resourcing leading to difficulties in running regional prioritisation process and lower innovation (subsumed into other bodies)	(+/-) Regions may gain competencies in future rollout, but limited commitment by national government suggests this is unlikely
	Regional partnerships fit within a clear nested policy framework	• LUS has established a long-term vision to 2050 where one did not previously exist	• Unclear how RLUPs/RLUFs link to national targets or how the national targets are regionally distributed • Objectives of RLUPs are unclear • Government perceived as reluctant to define challenges and lead on the LUS/RLUPs as key policy • Lessons lost from earlier pilots	(-) LUS and RLUPs/RLUFs require a clear land use policy framework which is not yet fully established
Increased participation of local stakeholders	Incentives to join participatory processes	• LUS has historically involved extensive engagement and had strong government backing, incentivising participation	• Participation fatigue and scepticism about impact of LUS over what is now a significant timescale leading to lower participation and only usual suspects joining participatory processes • Lack of relevance to individual land managers	(-) There are few incentives for some important stakeholder groups to engage meaningfully
	Procedures promote inclusion in participatory processes	• Ecosystem approach (in earlier pilots) and natural capital approach in current pilots helping to promote good practice in consultation through providing a more standardised process for engaging stakeholders in discussions about the multiple benefits of land.	• Participatory processes are under-resourced meaning only those with resources will turn up • Language is exclusionary	(+/-) Procedures designed to promote inclusion, but resourcing issues could limit this in practice
Better coordination of land use decisions	Policies, incentives and regulations are aligned across sectors	• LUS formally introduced the Ecosystems / Natural Capital approach that could help with alignment • LUS principles useful for underpinning major new land management support policy. It is a start at bridging silos.	• Lack of coordination in central Scottish Government (e.g. planning, environment, agriculture) prevents coordination regionally • RLUPs as a regional steering mechanism for other policies, but currently siloed due to lack of political commitment • RLUPs risk complicating rather than complementing existing institutional landscape	(-) Coordination likely to be significant ongoing challenge that regional processes struggle to address
	Conflicts between sectors managed	• LUS is a step forward in acknowledging conflicts between sectors and highlights that status-quo is not sufficient to respond to climate and biodiversity crises	• No clear conflict resolution mechanism, resulting in inability to make decisions or reform status-quo • Lack of clarity on burden sharing – how the benefits and costs of change are distributed	(-) Conflicts unlikely to be addressed unless regional institutions have strong mandate

integrated land use agenda, and win over sceptics by linking to much wider agendas such as reskilling, training, the future of communities, land rights and responsibilities (Pu, R, W1). Another summarised this as a challenge of moving beyond generality: *'one of the things the RLUPs are going to grapple with the whole time is people saying, 'Hang on, that's not fair to me, I'm losing out, I don't want to lose out so change your system so that I can benefit as well', and therefore we get back to this sort of generality and blandness. And I don't know how you address that but if we're going to make a difference we're going to have to address that, it's going to have to be tough, because it's public money that's being spent'* (Th, R, I).

The potential of RLUPs to help manage conflicts between sectors is strongly linked to their powers, resourcing, and leadership in terms of their appetite to take difficult decisions, suggesting that these challenges need to be addressed as a priority. Conflict management procedures will be required for the RLUPs to alter the status quo around strategic land use decision-making; as the distribution of costs and benefits arising from the RLUFs is not equal across sectors or regions.

4.4. Summary of findings

Table 4 provides a summary of the findings presented above. It represents the authors' evaluation of what was expressed in the data (interviews and workshops). It does not reflect the position / views of the Scottish Government and may not reflect the full range of views from communities within the regions involved.

5. Discussion

5.1. Regional Land Use Partnerships risk failing to deliver their potential

In relation to our first research question on the potential of regional scale approaches, we found widespread support among stakeholders for the idea that a regional collaborative approach could improve integrated land management in Scotland. Many stakeholders see added value in helping to fill a gap in national strategic land use planning and related incentives/regulations, particularly outside urban areas, which are not covered by the national planning framework. A regional approach could link national and local priorities around land use, as well as providing an institutional framework through which to devolve decisions around incentives and regulations to regional and local levels. This has the potential to increase policy coordination, given that there are many existing national, regional and local initiatives, but these are still often sectorally driven. It could also enhance local participation in decisions, by establishing a governance framework that includes a variety of stakeholders (e.g., RLUP Board) and consultation processes that guide these decisions. The approach has the potential to improve environmental outcomes, although this will depend strongly on how it is implemented (Hodge, 2019; Liu and Li, 2019).

Despite potential, in its current form the RLUP approach faces considerable challenges in meeting the performance objectives established by government and defined in literature on decentralised environmental governance. We identified three main challenges (the theme of our second research question).

Firstly, the lack of clarity at national level about the aims of the RLUP and RLUF approach and where it fits given the lack of a national integrated land use policy, will lead to implementation challenges. Without more clarity, for example, around how the priorities determined by RLUPs and RLUFs at regional level are linked to national priorities, and relationships to other plans, incentives and regulations, it will be difficult to design an effective policy instrument (Larson and Ribot, 2009). The earlier LUS pilots reached similar conclusions, with stakeholders suggesting that they were a good start, but that the future direction of national policy would ultimately determine their success (Kirkup et al., 2016). In some other regionalisation initiatives, coordination and policy phasing challenges have led to piecemeal networks of regional institutions and 'gap filling', reducing their effectiveness (Copus et al.,

2022; MacKinnon and Shaw, 2010; McGuinness and Mawson, 2017). The lack of clarity is also likely to make engagement with stakeholders more difficult, with the process potentially being seen as a 'talk shop' subject to stakeholder fatigue (Wesselink et al., 2011). Studies on comparable processes outside Scotland have reached similar conclusions - for example, in the addition of a new regional tier in the English planning system (Ebinger et al., 2011).

A second challenge surrounds the limited power and influence of these new regional institutions. Partnerships can be helpful in building consensus, but they are limited in effectiveness unless they are integrated into local governance decision structures (Carley, 2006). This is likely to create difficulties for regions in establishing regional priorities. It may risk a re-concentration of powers centrally whilst the policy is purportedly decentralising, with potentially negative impacts on regional priority setting, participation and environmental effectiveness as has been found in similar policies (Hambleton, 2017; Harrison, 2008; Pearce et al., 2005; Ribot et al., 2006; Selfa and Endter-Wada, 2008; Yang et al., 2015). It may also create challenges to engaging a wide range of stakeholders, and crucially land managers, because of a perception that the outcomes will have little material impact on their activities. Extensive experience from multi-stakeholder processes, including those for other regional planning initiatives in Scotland and the earlier LUS pilots, suggest that this can result in a bias toward engaging only the more powerful stakeholders (Kirkup et al., 2016; Reed, 2008; Yang et al., 2015).

A third challenge relates to a lack of funding, resources, and short budgetary timescales. Complex multi-stakeholder processes are costly (Kusters et al., 2018); this was a key area of learning in the earlier LUS pilots (Kirkup et al., 2016; Scottish Borders Council, 2014). Low resourcing raises implementation challenges around conducting thorough and consistent engagement across large geographic areas, inhibiting effective local stakeholder participation. A lack of resources also creates challenges in implementing resource-intensive approaches, such as applying a natural capital approach to the development of the RLUF (WBCSD, 2016). Integrated, holistic and participatory approaches tend to take more time, energy and support than more focussed approaches (Waylen et al., 2015) and require new skills and competences (Oliver et al., 2021).

The evidence from our interviews and policy review suggests that limited political commitment to an integrated land management approach underlies many of these challenges. A key reason for this is limited government budgets and complex demands following the COVID-19 pandemic. Despite the rhetoric of a green recovery (Scottish Government, 2020b), evaluation suggests limited prioritisation of spending on the environment (Green Finance Institute, 2021). Political commitment is also being diminished due to political differences between sectors, which are not being addressed through current structures (e.g., ministerial portfolios), resulting in limited coordination and commitment (Mann et al., 2018). The effects of historically siloed institutions dealing with different aspects of land management exacerbate these problems. The complexity of the concept of integrated land management, and particularly how this is applied at spatial scales larger than individual land holdings, also appears to be a barrier to political buy-in (Sinner et al., 2022). Finally, power dynamics between central government and powerful non-governmental actors appear to play a role, for example in the perception that government reluctantly adopted this policy mechanism (see Section 4).

This is important learning in the pilot phase, but if these issues are not addressed there is a risk that the policy fails to meet its potential. This would be a major setback after ten years of the LUS and jeopardises the success of Scotland's net zero policy. Agriculture, forestry and other land uses (AFOLU) represent 50% of Scotland's net GHG emissions (CCC, 2021). AFOLU is also a key part of national climate change adaptation strategies, for example through integrated land management to increase the resilience of the natural environment, natural flood management, and peatland restoration (Scottish Government, 2019a).

Integrated land management that improves coordination across sectors and scales of government, and improves local participation in decision-making is widely agreed to be an important factor in delivering emissions reductions from AFOLU, as well as reducing negative impacts of climate response options and increasing co-benefits (IPCC, 2019; Seddon et al., 2020).

5.2. Delivering integrated land management at larger spatial scales

Our third research question surrounded the broader learning on scaling up integrated land management. Analysis of the Scottish RLUPs provides an example of a formal institution attempting to implement regional integrated land management and provides a much needed learning on this theme. There is currently significant global interest in upscaling and mainstreaming integrated approaches to tackling the climate and biodiversity emergencies. However, in many countries, integrated land management (a key component in the implementation of many nature-based solutions) remains in pilot project form and is still implemented at small spatial scales (e.g. across a few individual land managers). This is unlikely to deliver sufficient environmental benefits to address the climate and biodiversity emergencies, may struggle to address underlying drivers of land use change and management, and struggle to attract funding (Seymour, 2020). To understand how these approaches can be delivered it is important to look beyond smaller scale projects that remain the focus of much research and practice. The greater numbers of stakeholders involved and more complex drivers of land use decision making, mean that lessons may not transfer easily to larger spatial and administrative scales (Fastenrath et al., 2020; Salafsky et al., 2021; UNEP, 2022).

Our analysis of the LUS and RLUP pilots provides insights into the complexity of land use planning at larger spatial and administrative scales, and hence lessons for scaling up integrated land management. Our findings suggest that power, authority and the 'messiness' (Myers et al., 2018) of the process need to be a key focus in the development of bigger and more complex cross-scale institutions, and a lack of authority of any new institution is likely to be a significant barrier (Fastenrath et al., 2020). They also suggest that clarity of objectives and leadership are even more important when planning at larger spatial and administrative scales while also accounting for multifunctionality and opening processes to a wider set of stakeholders. Specifically, there is a need for crystal clear links to government incentives and regulations and how regional institutions and frameworks use these to influence decision making. These findings raise questions about how increasingly popular technocratic tools for large-scale landscape planning (e.g. natural capital and nature-based solutions) account for these complexities (Portugal Del Pino and Marquez, 2023). Further international comparative research on attempts to deliver integrated land management, and related instruments such as nature-based solutions, at large spatial and administrative scales, would be instructive for overcoming these challenges.

6. Conclusions

The regional delivery of Scotland's Land Use Strategy could be considered as another manifestation of the search for the 'missing middle' - 'for a level of regional strategic governance between fragmented local government and the "national" as an appropriate scale of intervention' (Clelland, 2020, p. 21). This study has illustrated the potential added value in devolving decision making structures to improve policy prioritisation, participation, and coordination surrounding land use and management. New regional institutions such as Scotland's RLUPs and RLUFs could provide a potential instrument for managing such processes in countries lacking governance structures at this scale. However, the study demonstrates that scale alone cannot guarantee effective delivery and overcome the many implementation challenges. An overarching finding relates to the importance of political commitment to such an approach, which is crucial for establishing clear

objectives and a guiding policy framework, giving regions the political authority to respond to regional priorities, and ensuring adequate resourcing for delivery. The findings are important in the context of current global debates around how to successfully implement nature-based solutions at larger spatial scales, which require increased coordination across many more land managers.

The conceptual framework provided an opportunity for broad reflection on the evolution and direction of the LUS and RLUPs in a structured way using high level performance criteria. This could provide a useful framework for longer term evaluation of such policy approaches. The PAR approach also proved useful for understanding the complexities and detail that may not be gained so easily with other methods. However, it required constant attention in terms of balancing independence with access to the process, and in balancing delivery on shorter term policy needs identified by partners and the opportunity to take a broader perspective. Further comparative case study research in other countries using a similar framework and methods would be useful to provide much needed lessons for the delivery of integrated land management at large spatial and administrative scales.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

The authors do not have permission to share data.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.envsci.2023.06.022.

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