

Land Use Transformations Project (JHI-C3-1)

Additional output: Policy Coherence Literature Review

Versions: first complete 7/8/2024 – revised after meeting with Scottish Government, 22/8/2024, final formatting 4/9/24.

Please cite as: Hebe Nicholson, Sam Poskitt, Kirsty Blackstock (2024) Policy Coherence Literature Review, working paper for Land Use Transformations Project (JHI-C3-1), p13.

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The James Hutton Institute is supported by the Scottish Government's Rural and Environment Science and Analytical Services Division (RESAS). Research funded through grant JHI-C3-1 and previous Strategic Research Programmes.



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1 Introduction

This study was conducted within the [Land Use Transformations](#) project as part of the Policy Coherence Analysis work. In this research we have conducted a rapid scoping review of 50 academic papers to explore how policy coherence is happening in practice across different countries and settings. We set out to answer the following questions from the literature:

- What factors lead to policy coherence occurring?
- What factors can constrain policy coherence?
- What are the policy impacts of policy coherence?
- How might policy coherence be monitored and evaluated?

Our results are set out under sub-headings, structured around these four questions.

We found these papers through a Web of Science literature search, using key words to find examples of policy coherence that are taking place, associated with topics of land use or similar issues. For the purpose of this study, we defined policy coherence as an ‘attribute of policy that systematically reduces conflicts and promotes synergies between and within different policy areas to achieve the outcomes associated with jointly agreed policy objectives’ (Nilsson et al., 2012: 396). We acknowledge that policy coherence is multi-faceted and therefore also considered examples related to ‘integration’, ‘policy mixes’, ‘coordination’, ‘synergies’ and ‘collaboration’.

We arrived at a final sample of 31 papers. Our search resulted in an initial return of 504 papers, but we found that most papers did not provide actual practical insights to help our analysis. We selected a sample of 50 papers to read in detail but did not glean any useful insights from 15 of them, whilst we were unable to gain online access to a further four. The literature covered the following topics: agricultural, food and forestry land use, climate change, health, population, urban development, water, environment and conservation, infrastructure, trade and economy. Although we made good efforts to ensure our search was rigorous, this study was conducted rapidly and while our sample is indicative, it is not exhaustive

The report has been written to inform the Land Use Strategy Team and wider Land Transformations Portfolio Board within Scottish Government as they start preparing for the 4th Scottish Land Use Strategy.

2 What factors lead to policy coherence occurring?

This section highlights six factors that seem to support policy coherence.

2.1 Including all relevant actors and brokering positive relationships between them

Policy coherence is suggested to work best when all the possible actors are involved (Schmid et al., 2016), which can be achieved by using champions to bring people on board (in the context of climate adaptation). Similarly, when exploring integrated health policy in a Dutch municipality, Mourits et al., (2024) found that it was useful to have one person whose key role is to facilitate integration between different areas.

Regional development and Nature-based solutions papers from Spain highlight it is important to include a range of actors, including civic and private sector actors within the policy considerations to make sure they are all encompassing and representative (Ahedo & Belzunegui-Eraso, 2021; Kauark-Fontes et al., 2023).

Moreover, a good relationship between different actors was discussed as imperative to building governance capacity for integrated flood risk management in England (Cumiskey et al., 2019). Papers on urban food in Rome and urban development in Tbilisi show that this can be helped when there is a shared ideology or set of values among actors (Minotti et al., 2022; Salukvadze & Van Assche, 2023). In cases where ideologies are not shared, Vezzoni et al., (2023) (environmental policies across various contexts) suggest that creating spaces for different stakeholders to discuss policy coherence can help to address conflicts, and thus build constructive relationships. Relationships can also be fostered by ensuring there is sufficient stakeholder dialogue and transparency in decision making, as suggested by studies on green innovation and urban transport in Germany (Rogge & Schleich, 2018; Scheer et al., 2022). Cinà and Di Iacovo (2015) (urban food production in Italy) and Plank et al. (2021) (climate policy integration in various contexts) state that participatory engagement of a comprehensive range of stakeholders in planning, and upholding transparency, are useful to help facilitate agreement and coherence.

Strong relationships and participation are important across policy making, but they are particularly important for coherence, as it is difficult for one person to hold all the knowledge of the different sectors. Policy coherence requires collaboration.

2.2 Clear roles for different governance levels and communication between them

Relatedly, several sources identified the existence of clear roles and relationships across different levels of governance. Clar (2019) (climate adaptation policies across contexts) emphasises the importance of clearly defined roles at different levels, with political will across all of them and agreed objectives that can be tailored to specific contexts and build on existing initiatives. Similarly, Braunschweiger and Pütz (2021) (climate adaptation policies in Switzerland) posit that central agencies taking on coordinating roles, rather than leadership roles, and spreading responsibilities across sectors can help reduce conflicts and steep hierarchies (i.e. where particular actors have substantially more power/authority than others), thus improving coherence. However, they find that distribution of responsibilities can make communication difficult at the level of implementation. In a study of regulation for small-scale dams, Pisaniello and Tingey-Holyoak (2017) suggest national level policy that provides oversight is essential for coherent on-farm implementation, and then effective communication across levels of governance (i.e. national-regional-local), including accessible and efficient reporting processes can support coherence across levels. Cinà and Di Iacovo (2015) (urban food production, Italy) suggest a need for brokerage, by public sector actors at the national level, between different levels and sectors.

Poole et al. (2018) (Afghanistan) and Persson et al. (2018) (various contexts) find that inter-governmental organisations can be important mechanisms for coordination, whilst provincial governments help to coordinate and reduce duplication and conflict. Provincial governors, committees and provincial-level sectoral working groups are useful for horizontal coherence. Takao (2017) (Japan) emphasises the important role of sub-national/provincial actors in governance, and thus their potentially important role in policy coherence and cooperation. van den Bergh et al. (2021) go further, to emphasise the importance of harmonisation between instruments across different countries, in their study of climate change policy across European countries.

2.3 Proactive facilitation, via strategic planning & effective use of tools/instruments

The importance of proactive facilitation of coherence was emphasised by several authors. In their review of integrated policy approaches, Candel (2017) indicates the need for effective leadership, strong and appropriate structures and procedures, political will, and coherent overarching ideas, whilst Rodríguez-Barillas et al. (2024) (climate change policy in Costa Rica) argued that coherence increased through involvement of ‘catalyst’ organisations who mediated between conflicting sectors and actively attempted to join up objectives and projects. Participatory engagement, mentioned earlier, is part of making proactive facilitation happen. Cinà and Di Iacovo (2015) also argue that ‘brokerage’, or active facilitation, of coherence between levels and sectors, as well as participatory processes of planning and decision-making can help improve coherence between them.

Mantino and Vanni (2019) (agriculture and ecosystem services in Europe) suggest proactive facilitation of new types of governance, by coordinated local stakeholders, who are committed to design and implementation of policy mixes to coordinate actions can help promote policy mixes and reduce conflict between different policies.

Moreover, having a mix of different types of mechanisms (Actor based mechanisms, rule-based mechanisms, resource-based mechanisms) can assist with coherence in integrated flood management in England and conservation in Michigan (Cumiskey et al., 2019; Price et al., 2016). Minotti et al., (2022) look at different urban food policy in Rome to highlight how shared administrative instruments can help foster dialogue between different departments.

Minotti et al., (2022) indicate that different types of policy might need different types of integration, for example they highlight how in the community garden movement, it is more about the coherence between the bottom up and top-down approaches instead of focusing on horizontal coherence. They suggest using policy entrepreneurs, which are place-based leaders that can be effective in promoting innovative perspectives.

Runhaar (2016) explore the use of different tools in integrating environmental objectives. They found that the presence of regulatory tools, such as environmental impacts assessment, and economic tools, such as emissions trading schemes, like the European Carbon Emissions Trade Scheme can assist with integration. However, it depends on the enforcement and legitimacy of the tool, according to an international review of tools for supporting policy integration (Runhaar, 2016). Cost effective tools are mentioned as important (Axsen et al., 2020) (transport in California). For example, Pisaniello and Tingey-Holyoak (2017) suggest that cost-effective tools for integrating data and supporting decision-making are helpful.

Facilitation could also involve the provision of training. In their review of policy instruments, Vezzoni et al., (2023) highlight how training on definitions and capacity building could help solve some of the coherence problems.

2.4 Awareness of the policy landscape to understand how coherence could, occur

The literature highlights the importance of being aware of the policy landscape, so that you know of the other related policies and policy instruments that may assist an objective (Cumiskey et al., 2019; Vezzoni et al., 2023). For example, Axsen et al., (2020) highlight how policies around active travel and public transportation will also help with the objective of reducing GHG emissions from transport. This means there needs to be good communication between different departments (Minotti et al., 2022) and an openness to an interdisciplinary approach (Scheer et al., 2022).

As well as understanding the link between different topics, such as nature-based solutions and human wellbeing (Kauark-Fontes et al., 2023; Minotti et al., 2022; Rogge & Schleich, 2018), Mourits et al., (2024) found that a willingness to collaborate with people with different knowledge strengths was equally, if not more, important.

Moreover, a systematic assessment of the synergies, conflicts and overlaps between different instruments can help improve the way they work together and ensure they have a cumulative positive impact, according to van den Bergh et al. (2021). Ex-ante analysis of policies could therefore be useful to minimise risk and assess how well policies can work together (Scheer et al., (2022)), whilst monitoring and feedback could be useful for checking coherence and its effects over time (Vezzoni et al., 2023).

2.5 Consistency in time frames for policy development

The literature reiterates that policy coherence occurs throughout the policy cycle, not just during the implementation phase (Runhaar, 2016). Therefore, it is helpful for coherence if policies are prepared, monitored and up for renewal at the same time. This enables them to feed into each other (Cumiskey et al., 2019).

2.6 Starting small, for example using regional policies to manage complex issues

Candel (2017) advocates for tackling simpler and more obvious coherence challenges at the outset, rather than trying to take on too much, too soon, or creating 'integrated' strategies that are glamorous but overly complex and ambitious. Clar (2019) suggests it is important to tailor efforts to specific contexts and to build on existing initiatives, rather than starting things afresh.

Working within geographical boundaries has been found to assist with policy coherence, as working at a slightly smaller scale (e.g. nature-based solutions in Barcelona, Lisbon and Turin) can help to bound the complexity (Kauark-Fontes et al., 2023). This was similarly found in China, where Regional Innovation Policies maximised effectiveness by breaking resource dilemmas felt at the national scale (Li et al., 2022).

3 What factors can constrain policy coherence?

Here eight factors that have been found to constrain policy coherence are summarised.

3.1 Poor relationships between actors or inhibited collaboration of actors

Lack of strong relationships between actors (Cumiskey et al., 2019), or having disagreement among actors (Li et al., 2022) is shown to make coherence difficult. Similarly, having too many actors involved (Bojinović Fenko & Osrečki, 2019) can make it difficult to foster strong relationships. This suggests that there might be a tricky balance between involving all the relevant actors involved but not being overwhelmed by the amount of actors involved. Indeed, the literature highlights that including actors for tokenistic participation can also make achieving coherence difficult (Rodríguez-Barillas et al., 2024).

What's more, collaboration can be fragile, especially when there is a turnover of people and new personal relationships need to be formed. It is not enough to have a shared goal – collaboration must constantly be activated, supported and maintained in various ways (Mourits et al., 2024).

3.2 Unclear and unfavourable relationships across different sectors

Different sectors operating in siloes and competing against each other, with different objectives can pose a major challenge to coherence (Poole et al., 2018; Rodríguez-Barillas et al., 2024), even if this is one of the very challenges that coherence seeks to address (Candel, 2017). Plank et al. (2021) find that such contestation often results from power relations, and that even where several policy fields are centralised in one ministry, some interests can still dominate over others. Therefore, if one area is prioritised over another, it can limit the coherence between the two as one policy area is taking precedence (Cumiskey et al., 2019). For example, Plank et al. (2021) finds that climate policy integration is often implicitly at odds with economic growth. Likewise, vertical integration can also be constrained by power struggles between different levels. Plank et al. (2021) argue that actors are often more focused on avoiding conflict than on the goals of policy integration.

3.3 Disconnected levels due to actors, resources & institutional dynamics

Similarly, Persson et al. (2018) and Poole et al. (2018) indicate that coherence may be hindered by unfavourable institutional dynamics across different levels, as well as insufficient resources, and fatigue, at the level of implementation. Rodríguez-Barillas et al. (2024) also find that limited capacity at the level of implementation, and top-down implementation that fails to reflect local realities can hinder coherence across levels. They indicate that mechanisms for coordination were created, by decree, but were unable to follow-through to implementation. Cinà and Di Iacovo (2015) suggest that this is particularly the case where national governance is not designed or is unwilling to engage with local level initiatives and the private sector. Clar (2019) argues that coordination is often sidelined by a lack of political will and limited capacity (including limited experience of coordination in practice among policymakers and practitioners) and resources, at the level of implementation. They find that there is often a gap between conceptualisation and practice, because there is limited evidence for the effects of coordination in practice or indeed what it should look like. Independent action therefore often precedes international and national commitment, which leads to unclear roles of actors at different levels, tension between levels, and limited salience of higher-level commitments at the local level.

Relatedly, if policy instruments are not understood in relation to other relevant policy instruments it can cause problems. For example, Runhaar (2016) highlight how if using economic tools, they need to be part of a package of instruments, otherwise the rationale behind the economic tools may be unclear.

3.4 Poor/un-strategic planning, leading to conflicts

Several papers indicated that poor planning and a lack of strategic awareness could lead to or exasperate conflicts between policies. van den Bergh et al. (2021) suggest that the effectiveness of instruments is hindered when they are added without due consideration for their cumulative effects with other instruments. Similarly, Candel (2017) find that integrated approaches can be constrained by poor design, and poor/incompatible choices of instruments, whilst Rodríguez-Barillas et al. (2024) find that internal contradictions in principle, for example between promoting Climate Smart Agriculture and maintaining incumbent agricultural regimes, can impede coherence.

3.5 Inadequate knowledge held by actors of the topic or policy landscape

Schmid et al., (2016) and others (Kauark-Fontes et al., 2023) highlight how it is important for all the actors involved to have the appropriate knowledge, i.e. to be aware of the other policies that may help their cause, this requires a strong knowledge of other policy areas (Axsen et al., 2020) and be able to communicate sufficiently. Put more simply, if there is limited capacity or resources policy coherence is difficult to facilitate (Cumiskey et al., 2019).

3.6 The complexity of trying to incorporate multiple different topics

The complexity of the topic trying to cohere was identified as a significant constraint (Vezzoni et al., 2023). This can also lead to ambiguous definitions within policy that try to capture complexity simply but lead to ambiguity over what is included. Additionally, this makes it hard to consider different scales, such as the local, which could help to assist policy coherence (Kauark-Fontes et al., 2023).

Price et al., (2016) set out how the complexity, particularly of environmental issues, can make it hard to ensure that another environmental factor is not negatively impacted through a policy development – i.e. it is hard to be aware of all the possible trade-offs/knock-on impacts involved.

The complexity can make policy coherence quite time consuming (Cumiskey et al., 2019) and difficult to know where and how to allocate resources (Li et al., 2022; Scheer et al., 2022). This reiterates the need for resources to deliver policy coherence.

3.7 Political acceptability of a topic can make it harder for coherence

This can particularly be the case if aspects that might improve policy coherence, could be viewed negatively by the general public, such as some pricing mechanisms (Axsen et al., 2020).

Political sensitivity is highlighted as making a topic a political burden, which can make it harder to cohere with other areas (Bojinović Fenko & Osrečki, 2019; Scheer et al., 2022). In their study of cooperation across the Mediterranean region, Bojinović Fenko & Osrečki (2019) highlight how this occurred in the EU around the issues of immigration and terrorism. Bojinović Fenko & Osrečki (2019) also suggest that external influences could impact the political acceptability and therefore coherence, such as 9/11.

3.8 The presence of spatial and temporal differences between policies

Policies may have spatial and temporal differences that can make cohering them difficult, e.g. if one is for 5 years and another for 10 years (Scheer et al., 2022; Vezzoni et al., 2023).

Rodríguez-Barillas et al. (2024) find that dependence on external implementing partners in Costa Rica, and their objectives, reduced temporal coherence, as their projects were short term and lacked continuity over time, leading to uncertainty.

4 What are the possible impacts of policy coherence?

Identifying and assessing the impacts of policy coherence was not a primary aim of this exercise. Evidence for the impacts of policy coherence also remain scarce, largely because there are still

limited examples of successful coherence in practice. Nonetheless, we managed to glean some possible impacts that were indicated in the papers we read, as follows:

- **Effective and efficient decision making** (Cumiskey et al., 2019; Vezzoni et al., 2023)
- **Overcoming complex challenges** (Vezzoni et al., 2023)
- **Increased stakeholder cooperation** (Cumiskey et al., 2019)
- **Reduced conflicts and inconsistencies between policies** (Cumiskey et al., 2019)
- **Reduce conflicts and improve coordination and complementarity** (Braunschweiger & Pütz, 2021; Clar, 2019; Mantino & Vanni, 2019)
- **Improved public trust** (Cumiskey et al., 2019)
- **Enhanced implementation success** (Bojinović Fenko & Osrečki, 2019)
- **Improving environmental outcomes (according to computer modelling)** (Li & Jia, 2017; van den Bergh et al., 2021).
- **A political signal to trigger further development** (Greco et al., 2022)

5 How might policy coherence be monitored and evaluated?

5.1 Empirical evidence - case studies, interviews, document analysis

Empirical case studies are used by a range of studies to assess coherence (Clar, 2019; van den Bergh et al., 2021), including comparative case studies of coherence between different states (Pisaniello & Tingey-Holyoak, 2017). These often involve document reviews and interviews with key informants (Candel, 2017; Clar, 2019), sometimes with reference to an analytical framework (Rodríguez-Barillas et al., 2024).

5.2 Modelling the effects of combinations/coherence

Some studies use statistical modelling to assess the potential effects of synergies and conflicts between policies. For example, in managing water in dryland USA and across climate policies in Europe (Langarudi et al., 2021; van den Bergh et al., 2021).

5.3 Analysing against an analytical framework/set of goals

Assessing coherence against a framework or a set of objectives is used by Rodríguez-Barillas et al. (2024), and others (Candel, 2017; Plank et al., 2021; Pröbstl et al., 2023). Specifically, Candel (2017) assesses policy outcomes from both a perspective of objectively identifying whether a policy objective has been met or not, and also from a constructivist perspective regarding how policies are perceived to have performed. They consider both intermediate and eventual outcomes. However, whilst this approach may enable assessment of the impacts of coherence, it doesn't explicitly assess coherence itself. Plank et al. (2021) assesses integration of climate policies against five criteria: policy integration (basically horizontal and vertical coherence), reporting of evaluation, visions of future effects, uncertainties related to change. Similarly, in their study of biodiversity strategies in Germany, Pröbstl et al. (2023) suggest evaluating policy coherence against a framework of four hypotheses for leveraging integration of biodiversity in policy: inclusive (coherent vision), integrative (integrated policy support), accountable (social capital), adaptive (adaptive learning). They find that these are all present in the case they examine, and that they support integration, but that integration is still lacking.

Vezzoni et al., (2023) suggest that policy coherence could be monitored through the use of metrics and indicators, as well as periodic reviews and comparative analysis. They highlight how stakeholder engagement is essential for this, as they suggest the relationship of the stakeholders is important for coherence and they should therefore be part of the reviews and analysis.

6 Conclusion

Throughout this study, we found that evidence of policy coherence occurring, in any context, remains limited. There are few papers that explicitly discuss and analyse policy coherence in practice. Much of the literature we found was speculative and aspirational, which indicates that policy coherence is the aim but not the norm. In the few instances where literature did empirically examine coherence, we found that good knowledge of the policy environment, building constructive relationships between stakeholders, and fostering a willingness to collaborate were all important factors for encouraging policy coherence for the actors involved. Strategic design with clear roles of different policies, across sectors and at different levels, in sync timings, and a mixture of policy instruments were important factors. Proactive facilitation of coherence, including brokerage and creation of spaces for participation and conflict resolution between different actors, can help to overcome political differences and conflicts. Public-sector actors at the national level can be useful in initiating and resourcing such facilitation. Starting small can be an effective way to get started with policy coherence. Concentrating on policy coherence at the regional level can also be fruitful but may still be hindered by a lack of coherence at the national and local levels. Many of the aspects that constrain policy coherence were flipsides of the factors that lead to coherence. It is well recognised that the complexity of trying to cohere multiple policies is challenging. Researching the effects of policy coherence is an important way to assess whether policy coherence is occurring and how effective it is. This may be achieved through collecting empirical evidence, through document analysis, interviews and case studies. Future-focused modelling may also be useful for identifying and plotting the future effects of coherence. Additionally, designing and evaluating policy coherence against an analytical framework can be a useful way of monitoring progress.

6.1 Implications

- The scarcity of empirical examples of successful policy coherence indicates that efforts to assess policy coherence, and explore pathways towards improving it, remain important.
- The insights presented here can be used to highlight areas of importance that can guide planning of policy coherence in Scotland.
- In this study, we have only been able to identify factors that encourage policy coherence, rather than discrete solutions to gaps and conflicts that have been tried and tested. Developing, trialling and testing such solutions would therefore be a useful area of future research.

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