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Land Use Policy 116 (2022) 106067

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

Perceived legitimacy of agricultural transitions and implications for governance. Lessons learned from England's post-Brexit agricultural transition

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ARTICLE INFO

Keywords:
Perceived legitimacy
Policy innovation
Transitions
Transition governance
Sustainability

ABSTRACT

It is widely recognized that there is a global need for a transition towards more sustainable forms of agriculture. In order for such a transition to be socially sustainable, its input (problem and goal formulation), output (policy instruments), and throughput (processes) need to be perceived as legitimate. However, we currently know relatively little on how to legitimize normatively shaped transition processes and their outcomes. We aim to address this knowledge gap by examining how the governance of agricultural transitions can be shaped to improve the perceived legitimacy of the transition. Through a combined lens of normative and sociological approaches to legitimacy we investigate the English post-Brexit agricultural transition as a crucial case-study. Building on a policy analysis and semi-structured interviews we find that in order to create perceived legitimacy of agricultural transitions, both in the English case and for agricultural transitions generally, clarity and diversity in design is essential. In addition, in order to take account of the normative and political nature of agricultural transitions, our study highlights the importance of a broad problem formulation, a diverse mix of instruments, and a process that is transparent and includes stakeholders in a meaningful and equal way. We conclude that a combined lens of normative and sociological legitimacy forms a useful framework for future research to critically evaluate the normative and power dimensions of transition processes. In addition, it can support governments in their efforts to develop policies for agricultural sustainability transitions that will be accepted by society.

1. Introduction

Agricultural systems are increasingly under pressure due to large scale drivers of socio-ecological change such as climate change, biodiversity loss, environmental degradation, and demographic change (IPBES, 2019). Simultaneously, currently dominant agricultural practices contribute to and exacerbate these challenges (Awuchi et al., 2020). In order to reduce the negative impact of agricultural practices and adapt to an increasingly unstable and unpredictable environment, it is widely recognized that there is a need for a transition toward more sustainable forms of agriculture across the globe (El Bilali, 2020; Herrero et al., 2020; Martin et al., 2018). However, what sustainable agriculture looks like and what pathways should be taken to create this transition is contested. Different people will experience the consequences of a transition in different ways and will have different perceptions on what we should be transitioning to (Leach et al., 2007; Markard et al., 2012; Meadowcroft, 2011); especially actors with vested interests in the existing system will likely be resistant to change (Geels, 2011). The perceived legitimacy of a transition pathway is therefore dependent on value based, normative, and political judgements of those who are affected by it (the stakeholders) (de Boon et al., 2022).

Ensuring that stakeholders and wider society perceive a transition as legitimate is essential for the success and social sustainability of a transition (Boedeltje and Cornips, 2004; Jaber and Oftedal, 2020;

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https://doi.org/10.1016/j.landusepol.2022.106067
Received 13 July 2021; Received in revised form 24 February 2022; Accepted 25 February 2022
Available online 4 March 2022

Vringer and Carabain, 2020). A lack of perceived legitimacy can be a hurdle to the implementation of the transition, stand in the way of compliance with the required measures, and result in societal unrest (Dehens and Fanning, 2018; Martin and Islar, 2020; Vringer and Carabain, 2020). Recent examples of this within the agricultural sector come from France (Chiarello and Libert, 2019), the Netherlands (Schaart, 2019), and India (Bhatia and Katakam, 2021). It is therefore problematic that we currently only have a limited understanding of how we can take the normative and political nature of transitions into account in governance processes. Köhler et al., (2019, p. 16) in their review of literature on sustainability transitions speak of "a moral vacuum in transition research". Consequently, questions concerning how to take account of heterogenous public opinions and how to legitimize normative sustainability transitions through governance remain largely unanswered (Hendriks, 2009; Markard et al., 2012; Upham et al., 2015; Wironen et al., 2019). In addition, while sustainability transition literature has primarily been focussed on the energy and transport sector, sustainability transitions in agriculture have only recently become a topic of scientific inquiry and insights into their workings and governance are fragmented and limited (El Bilali, 2020; Melchior and Newig, 2021). There has been considerable attention in the literature to the agricultural transition that took place in New Zealand in the mid 1980s (e.g. Gouin et al., 1994; Johnsen, 2003; Turner et al., 2020). However, the reforms leading to this transition did not come forth out of environmental concerns and were limited to a removal of subsidy programs (Vitalis, 2007). Therefore, the lessons that can be drawn from that case can only be applied to agricultural sustainability transitions to a limited extent, as sustainability transitions have specific characteristics that are different from other types of transitions (Geels, 2011).

We address this knowledge gap by examining how the governance of agricultural sustainability transitions can be shaped to improve the perceived legitimacy of the transition process and its outcomes. Developing a deeper understanding of how perceptions of legitimacy are formed in relation to agricultural transitions can support governance to navigate the transition and resistance against it. In order to do so, we investigate the English[4] post-Brexit agricultural transition from the Common Agricultural Policy (CAP) to an Environmental Land Management scheme (ELM) as a crucial case-study.

The Department of Environment, Food, and Rural Affairs (DEFRA) is using the window of opportunity created by Brexit to structurally revise agricultural policy. Instead of giving farmers subsidies based on the amount of land that they manage, as was the case with the Basic Payment Scheme under CAP (European Parliament, 2020), they propose a system where farmers are paid public money for the provisioning of public goods (DEFRA, 2020a). While the CAP has been widely critiqued for not properly addressing environmental degradation (Pe'er et al., 2020), DEFRA is hopeful that this new system will create a sustainability transition and has made it the cornerstone of English agricultural policy, replacing the Basic Payment Scheme fully by 2028 (DEFRA, 2018a, 2020a, b). This example can be regarded as a crucial case because while policy change generally happens through incremental processes (Kern and Howlett, 2009), the complete break with old policy in a relatively short timeframe in this case makes it most likely that the normative and political dynamics that are always present within transition policy processes will be amplified. Thus, if certain normative and political dynamics inherent to agricultural transitions do not come forward in this case, it is unlikely that they will be present in other (or only few) cases of agricultural transitions. In addition, because the English culture and agricultural sector have similarities with other (especially European Union) countries, it can be expected that lessons learned from this case can be relevant for other countries. We therefore contribute both to the understanding of this specific case, to the wider literature on the governance of sustainable agricultural transitions, and to our theoretical understanding of legitimacy perceptions.

[4] Agriculture is devolved in the United Kingdom, we focus on the agricultural transition in England only.

2. Three dimensions of legitimacy

Legitimacy is a contested concept with a myriad of interpretations and operationalizations (Deephouse and Suchman, 2008; Johansson, 2014; Suchman, 1995; Vringer and Carabain, 2020). Nevertheless, these interpretations can be narrowed down into two overarching ways of approaching legitimacy: a normative approach that addresses legitimacy as originating in the fulfillment of normative criteria and a sociological approach that addresses legitimacy as originating in subjective beliefs and perceptions (Bernstein, 2011; Johansson, 2012). In the sociological approach, legitimacy is broadly taken to mean the acceptance of power (Weber, 1978) or a "*generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions*" (Suchman, 1995, p. 574). It relates therefore to the willingness to comply with or support a source of power and stems from subjective evaluations (Montenegro de Wit and Iles, 2016). As such, it has been critiqued for the infinite number of criteria that people can use to subjectively define whether or not something is legitimate and the resulting difficulty to measure it (Suddaby et al., 2017). The normative approach instead starts out with a predefined set of criteria that need to be complied with in order to achieve legitimacy. Whilst the criteria themselves rest on normative ideals, whether they are fulfilled can be evaluated empirically and objectively. Examples of such criteria include compliance with the law, accountability, equality, inclusiveness, effectiveness, efficacy, and responsiveness (Boedeltje and Cornips, 2004; Schmidt, 2013; Steffek, 2019; Vringer and Carabain, 2020). However, due to the normative nature of these criteria, their fulfillment can only inform us on whether something should theoretically be regarded as legitimate by those prescribing to these normative standards, not on whether people actually perceive it to be legitimate in practice (Bernstein, 2011; Johansson, 2012; Schmidt, 2013). In order to take into account the critique to both of these approaches, this study combines them; taking the assessment of the fulfillment of normative criteria as a starting point and asking what the fulfillment or neglect of these criteria does to the perceived legitimacy of the proposed transition policy.

Both normative and sociological approaches to legitimacy have in common that they generally distinguish between different dimensions of legitimacy: input- and output legitimacy and more recently also throughput legitimacy. Based on the theoretical work of Suchman (1995), Scharpf (1999), and Schmidt (2013) and recent empirical studies on the legitimacy of transition policies, we apply these dimensions of legitimacy in the following way.

2.1. Input legitimacy

The input legitimacy of a policy rests on the extent to which it reflects "the will of the people" (Scharpf, 1999, p. 6) and relates to the problem- and goal formulation in the policy (Vringer and Carabain, 2020). If the policy goals reflect the interests of the stakeholders, they will lend the policy *normative input legitimacy*. Because policy goals generally stem from a prioritization of problems that should be addressed, agreement with the problem formulation also falls under this type of legitimacy (i.e. does the policy address the correct problems) (Suchman, 1995). The normative criteria for input legitimacy in this sense would be the consensus or alignment of the problem- and goal formulation of the policy with the problem-and goal formulation of the stakeholders (Wironen et al., 2019). Subjectively however, it is plausible that stakeholders do lend a policy input legitimacy even if the problems and goals do not reflect their self-interests. Stakeholders may also lend legitimacy to problem- and goal- formulations based on moral considerations, if they perceive them to be in the wider interest of society or "the right thing to do" (Suchman, 1995, p. 579). We refer to this as *sociological*

input legitimacy.

2.2. Output legitimacy

Output legitimacy relates to the capacity to effectively solve societal problems (Scharpf, 1999). This can be derived from indications that the policy contributes to reaching the goals that it set out to achieve (*normative output legitimacy*) and the societal acceptability of the policy interventions that are used to achieve the goals (*sociological output legitimacy*) (Suchman, 1995). The former translates into the normative criteria of goal achievement, whilst the later translates into the subjective perception of acceptability of the policy instruments (Upham et al., 2015; Vringer and Carabain, 2020). Because this study examines the legitimacy of a transition policy that is not jet fully implemented, we focus here on the perceptions of the effectiveness and acceptability of the proposed policy instruments to solve the identified problems and reach the policy goals.

2.3. Throughput legitimacy

Throughput legitimacy refers to the processes that are used to develop the content of the policy and to achieve the outcomes (Schmidt, 2013; Suchman, 1995). The normative criteria that need to be satisfied in order to obtain throughput legitimacy can be very diverse (Steffek, 2019). Because DEFRA has stressed their desire to develop ELM in an inclusive way through co-design (DEFRA, 2020b,c), we focus on inclusivity as the central normative criterion for throughput legitimacy. Objectively, this can be assessed based on the presence or absence of procedural mechanisms of stakeholder inclusion throughout the policy process and equality in inclusion (*normative throughput legitimacy*). Subjectively, throughput legitimacy here depends on the perceptions of the stakeholders on whether or not they were meaningfully included. This also encompasses having an understanding of how engagement in the process influences the final result (*sociological throughput legitimacy*).

Finally, the three dimensions of legitimacy are interlinked. Input-and output have legitimizing power of their own and can balance each other out to a certain degree in the overall legitimacy of a policy. However, they are only meaningful in relation to each other: having acceptable goals but no means to achieve them or having effective and acceptable instruments that are not linked to preferred goals will not be regarded as meaningful and thus won't create overall perceived legitimacy for a transition (Boedeltje and Cornips, 2004). Throughput legitimacy is complementary to input- and output legitimacy. A good process on its own cannot completely counterbalance illegitimate input and output, but a bad process can undermine legitimate input- and output. Therefore, throughput only becomes salient when it is perceived as illegitimate (Schmidt, 2013; Steffek, 2019; Suchman, 1995).

3. Methods

To examine the perceived legitimacy of the English agricultural transition we build on a policy document analysis and semi-structured stakeholder interviews. For the policy analysis, documents were selected in a bottom-up manner, starting from the policy domain (Ossenbrink et al., 2019). Initial documents were selected through systematic searches for agriculture related policy documents that have been published after 29.03.2017 (the date Brexit became official) on the official websites of the UK government and UK parliament. This resulted in a list of 28 documents. We sent a list of these documents to civil servants within DEFRA and the Department of Business, Energy, and Industrial Strategy[5] to reassure that there were no relevant documents missing. After this, all the documents were scanned and assessed based on their relevance to ELM, which narrowed the list down to 9 documents. In order to examine the opportunities for stakeholders to participate in the design process of ELM we also added official reports related to engagement opportunities for that section of the analysis (5 documents). As we used the policy analysis as input into the interviews, any documents that have been published after the 25th of March 2021 are not included in the analysis.[6] The selected documents are briefly described in Table 1.

We conducted the analysis of these documents in NVivo 12 along the lines of the analytical frame as shown in Table 2. While the structure of what we were looking for in the material was guided by the theoretical

Table 1
Selected documents for the policy analysis.

Date of publication	Title of document	Relation to ELM
Jan. 2018	A green future: Our 25 year plan to improve the environment (inc. Annex 1–3)	Sets out the goals that ELM is striving to fulfill
Feb. 2018	Health and Harmony: the future for food, farming and the environment in a green Brexit	Consultation document that described DEFRA's initial thinking on agricultural policy after Brexit
Sept. 2018	Health and Harmony: the future for food, farming and the environment in a green Brexit. Summary of responses	Summarizes the input that DEFRA received on the Health and Harmony consultation
Mai 2019	At a glance: summary of targets in our 25 year environment plan	Sets out goals that ELM is striving to fulfill
June 2019	National Audit Office Early review of the new farming program	A review by the National Audit Office of DEFRA's progress to date with the development of new agricultural policy
Feb. 2020	Farming for the future. Policy and progress update	Describes the current plans related to ELM & how the transition from CAP to ELM will gradually take place
July 2020	Environmental Land Management tests and trials. Quarterly evidence report. July 2020	Summarizes key findings so far from ELM Tests & Trials
Sept. 2020	Environmental Land Management tests and trials. Quarterly evidence report. September 2020	Summarizes key findings so far from ELM Tests & Trials
Nov. 2020	Agriculture Act	Provides the legal basis for ELM
Nov. 2020	The path to sustainable farming - an agricultural transition plan 2021–2024	Describes the schemes that will be available in the transition period from CAP to ELM & how the reforms link to other policies
Nov. 2020	Multi annual financial assistance plan for the plan period 2021–2027	Describes the objectives for the transition period from CAP to ELM
Jan. 2021	Test and trials – Phase 3 'Landscape Recovery'	Notifies of a next phase in the Test & Trial project under ELM
Feb. 2021	Environmental Land Management. Policy discussion document	Describes the current design of ELM
March 2021	Sustainable Farming Incentive: Defra's plans for piloting and launching the scheme	Sets out in more detail the plans for the piloting of this component of the ELM scheme

[5] All documents that we initially selected were (co-)authored by either of these departments.

[6] Since the conclusion of our policy analysis and interviews, DEFRA has started to move away from considering the ELM scheme as one coherent scheme and instead approaches it now as multiple separate environmental land management schemes, as shown for example in DEFRA (2021a). However, for the purpose of this article we hold on to the terminology of ELM and components under ELM to refer to all the schemes combined as this reflects the terminology that was used by DEFRA while we were conducting this study.

Table 2
Operationalisation of perceived legitimacy and analytical frame.

Operationalization		Empirical questions		Questions asked to the material	
		Normative legitimacy	*Sociological legitimacy*	*Question*	*Empirical expression*
Input legitimacy	Problem formulation	Do the problem formulations in the policy align with the problem formulations of the stakeholders?	Does the stakeholder find the problem formulations acceptable (even if they may not be aligned with their own)?	What problems are stated? Are there any problems mentioned as missing or out of place?	Risk/challenge/problem/needs to change/needs to be tackled/threat/ danger/harm/action needed/ pressure/concern/cannot continue
	Goal formulation	Do the goal formulations in the policy align with the goal formulations of the stakeholders?	Does the stakeholder find the goal formulations acceptable (even if they may not be aligned with their own)?	What goals are stated? Are there any goals mentioned as missing or out of place? Are the goals perceived as being achievable?	Goal/target/aim/objective/seek to/ ambition/vision/achieve/we will or want to reach/sets out (to deliver)/to build/strive to/to make sure/we must (ensure)/work toward/commitment to/determination to/pledge/outcome
Output legitimacy	(perceived) Efficacy	Are the policy instruments (perceived to be) capable and effective in reaching the policy goals?	Does the stakeholder think that these policy instruments are acceptable?	What solutions are offered to overcome the problems/reach the goals? What do the stakeholders think of the design of the scheme and the different instruments?	References to types of policy instruments, e.g., financial (dis) incentives, regulations, information sharing, collaboration
Throughput legitimacy	Inclusiveness	Are there mechanisms in place that allow for stakeholder inclusion?	Does the stakeholder feel like they had the opportunity to meaningfully contribute to the development of the policy?	What opportunities are there to be included in the policy processes? Do the stakeholders feel like they had an equal chance to contribute?What do they think of the role of other stakeholders in the process? Do they feel like they had influence in the process? Do they understand how their input is being used?	References to possibilities to be involved/how stakeholders have been included in the process/expressions of experiences of participation

framework, the codes that we used within this structure were generated inductively to reflect the content of the policy.

To identify potential stakeholders for the semi-structured interviews, we focussed on self-proclaimed stakeholders who are publicly listed as such: those who gave input to DEFRA's 2018 consultation related to ELM or sent in evidence to the process leading up to the Agriculture Act. This resulted in a list of 589 self-proclaimed stakeholders. We grouped these into four overarching categories based on primary interest type: social interests (soc.; including food security, historical heritage, human health, recreation, rural life, and other social charities), environmental interests (env.; including environmental organizations and trusts and farm-animal welfare organizations), economic interests (econ.; including consultants, fertilizer/pesticide/insecticide industry, food processing industry, food standards, grant providers, organizations and companies focussing on increasing farm productivity, supermarkets, seed and crop industry, and trade), and farmer, forestry, and land-owner interest (ffl; including farmer associations, unions, and collaboration groups between farmers, forestry organizations, churches, and educational institutes with an agricultural focus). The farmer, forestry, and land-owner interests received their own category because they are the central stakeholders who have to actively adapt to ELM. For the interviews we focussed on stakeholder groups rather than on individual stakeholders as these groups are representative for a wider array of stakeholder interests and speak on behalf of all their members. To select which stakeholder groups to invite for interviews in each category we created a purposive sample by focussing on the organizations' reach across England, aimed to include a wide range of different interests to capture the diversity within each interest category, and included stakeholder groups with different degrees of engagement with the process. We continued contacting stakeholder groups until we fulfilled these criteria and reached data saturation in the responses of the interviewees. This strategy of stakeholder selection meant that we contacted a total of 54 stakeholder groups and conducted 14 interviews (two in the economic interest category, four in all other categories). Those who did not take part in the interviews either did not respond to our repeated requests (24), stated that ELM was not their main priority (6), or did not have the capacity to participate (10).

The interviews received ethical clearance, took place between the 8th of April and the 1st of June 2021, lasted between 55 and 90 minutes and were all conducted, transcribed, and analysed by the first author. An overview of which interview covered which interest category is provided in Annex A. All the interviewees work directly with ELM for their organization and have therefore first-hand experience and knowledge of their organization's views on the content of ELM and the process by which it is being designed. Prior to the interviews we sent them a summary of our findings from the policy analysis so that they had the opportunity to reflect on their organization's views on these specific aspects of ELM. This summary was also used during the interview as an anchor point for the conversation. The handout and a list of the main questions that were used to structure the interviews is presented in Annex B and C. The transcripts of the interviews were analysed by summarizing the main arguments of each interviewee in an excel table along the lines of the analytical frame of this article.

4. Results

4.1. Input legitimacy

4.1.1. Problem formulation

The problem formulation used in the policy documents as the argumentative base for why ELM is needed sets out multiple interlinked challenges. The majority of them can be grouped under an environmental banner: biodiversity loss, climate change (including drought, extreme weather, flooding, and rising sea levels), invasive species, land use change, over exploitation of resources, pests and diseases, all forms of pollution, and soil degradation. They are presented as requiring action and current agricultural practices are identified as one of the underlying causes. Besides the environmental problems, the documents raise two overarching social problems: social inequality and demographic change. Social inequality is raised in the context of disadvantaged people in society having less access to nature and being more exposed to pollution. Demographic change is primarily mentioned as a factor that will put more pressure on natural resources and food security (DEFRA, 2019, 2020a, b, c, d; HM Government, 2018).

All the interviewed stakeholders stated that the problems identified by DEFRA largely reflect their own problem formulation. However, they raised additional challenges, of which the systemic problems of market failure and a siloed approach were most prominent. Market failure was

mentioned by at least one stakeholder of each interest category, but in different ways. One of the farming, forestry, and landowner stakeholders (interview 2) and economic stakeholders (interview 1) and two of the environmental stakeholders (interview 9 and 13) see it as a market failure that farmers are pressured into producing cheaper food without reflecting the cost of higher environmental standards or the environmental clean-up costs related to food production:

> "it's about market failure in some respects. The market doesn't tend to pay higher for higher environmental standards. [.] and that's where ELM should step in, is to be that bit of the market that would not get paid by consumers." (interview 2).

One of the social stakeholders (interview 14), however, pointed out that it is a market failure that the public is paying multiple times for farming: through subsidies to farmers, food prices, and measures to repair the environmental damage caused by food production.

The challenge of a siloed approach was identified by all but the economic interest stakeholders and discussed in three different ways: production versus nature (interview 2, 5, 6, 7, 8, and 13), nature versus culture (interview 4 and 12), and a disconnect between multiple policies (interview 4 and 12). For example:

> "So it's absolutely fundamental that those first two [biodiversity loss and climate change] are done together. And then within ELM that needs to be done with being able to continue to produce food and fuel. And so you can't separate them out and mustn't silo them" (interview 13).

Taking into account the stakeholders' general recognition of DEFRA's problem formulation and these additional challenges, the stakeholders largely perceive DEFRA's problem formulation as normatively legitimate, but see some room for improvement. In addition, all stakeholders stated that they find DEFRA's problem formulation acceptable regardless of the challenges that are currently not included, because they recognize the importance of addressing these challenges. They therefore lend the problem formulation sociological legitimacy.

4.1.2. *Goal formulation*

The overarching goal of ELM is to improve the environment within one generation. It is underpinned by its core aim

> "to deliver environmental benefits, paying farmers, foresters and other land managers for interventions and actions that improve and enhance our environment, or for maintaining current land management practices that secure environmental public goods" (DEFRA, 2020a, p. 7)

and two strategic objectives:

> "1. To secure a range of positive environmental benefits, prioritising between environmental outcomes where necessary 2. To help tackle some of the environmental challenges associated with agriculture, focusing on how to address these in the shorter term" (DEFRA, 2020a, p. 8).

This overarching goal is further broken down into nine sub-goals, as displayed in Table 3.

All the stakeholders were supportive of the overarching goal formulation. However, all the farming, forestry, and landowner stakeholders would like to see it turned into a dual goal that also covers viable farm businesses:

> "we want to see that generational change, but can we add on to that, that we also want to see thriving sustainable farm businesses as part of that solution." (interview 8)

When it comes to the sub-goals, all stakeholders agreed that they are at least partially reflective of their own goals. However, one main sub-goal that was stated as currently missing in ELM was a separate goal on productivity (interview 5, 8, and 11), as expressed by one of the economic stakeholders:

> "There's still a polarity shown in ELM. It is the polarity of environment over production. And farmers want to know how to manage the environment and productivity hand in hand, and ELM is not helping them do that entirely" (interview 11).

Table 3
Sub-goals of the ELM scheme in alphabetical order. Based on Agriculture Act (2020), DEFRA (2019, 2020a,b,c,d) and HM Government (2018).

Sub-goal	Additional details
Clean & plentiful water	
Clean air	
Enhanced beauty of the natural environment & heritage	Connecting more people (from all backgrounds) with the environment
Enhance biosecurity	
Minimizing waste/pollution	Effectively manage noise & light pollution; Eliminate all avoidable plastic waste; Eliminate waste crime; Minimize (chemical) pollution; Reducing food waste
Mitigating & adapting to climate change	Improving resilience of nature & society; Reduce greenhouse gas emission
Reduced risk of harm from environmental hazards	
Sustainable & efficient use of resources	Sustainable growth; Increased productivity; Increased resource efficiency; More dynamic, self-reliant agriculture industry
Thriving plants & wildlife	Improved (species) biodiversity (incl. soil); Improved health & welfare of livestock; More trees; New/restored habitats for wildlife (incl. increasing protected areas)

Apart from the missing sub-goal, the stakeholders felt that their own goals aligned with DEFRA's goal formulation and it can thus be stated that the overarching goal and sub-goals largely fulfill the criteria to be normatively legitimate.

However, regardless of this, the stakeholders found the goals only conditionally acceptable. Their main concerns were not so much related to the type of goals, but to their emphasis, phrasing, lack of interlinkages, and their credibility. Regarding the emphasis of the goals, some stakeholders are concerned that the goals focus too much on iconic landscapes and species and therefore will not create ecosystem wide environmental improvements (interview 8 and 9) and that there is not enough emphasis on access to nature and cultural heritage (interview 2 and 4). When it comes to the phrasing of the goals, stakeholders from all interest categories (interview 1, 2, 7, 9, 10, 12, 13, and 14) are concerned about the way that the goals are formulated. They state that for these goals to be useful they need to be broken down into specific measurable targets, with specific timelines, and with further clarifications on some of the wording. As expressed by one of the environmental stakeholders:

> "it's pointless having a goal that's called thriving plants and wildlife. Unless you know how many, what kinds of plants, and what kind of wildlife, and how much, what's the improvement that you want to see, what's the goal? Actually, these aren't goals. In my mind, they are not meaningful because they need fleshing out." (interview 7).

Closely related to this, half of the stakeholders (interview 4, 7, 10, 11, 12, 13, and 14) had concerns about a lack of clarity on how the goals fit alongside each other, how they relate to the problem formulation, how they are linked to specific actions and measures within ELM, and how the goals relate to other activities of the government:

> "we support the goal of an improved environment in a generation. It's just not clear to us how the steps set out in policy so far will achieve that. They will obviously play a roll, but there's no big guiding vision that we can see that will deliver that." (interview 4)

In addition, one of the environmental stakeholders (interview 10) and one of the social stakeholders (interview 14) question the credibility of the goals:

> "I think the problem with any target like that is you're aware that when government is used as these kind of targets is that they can never really mean what they say on the tin" (interview 14).

Because these concerns negatively influence the stakeholders' perceptions on the acceptability of the goals, the sociological legitimacy of DEFRA's goal formulation is also negatively affected. Thus, whilst there is the potential for these goals to be sociologically legitimate due to their content, this is currently not adequately fulfilled.

4.2. Output legitimacy

As ELM is currently under development, there is still considerable uncertainty over the exact shape of the policy instruments that will be used. However, the overarching mechanisms are set. The scheme currently consist of three components: (1) Sustainable Farming Incentive (SFI), where farmers will be paid for specific environmentally-sustainable land management actions, (2) Local Nature Recovery, where farmers and other land managers are paid to support targeted nature recovery that is adapted to the local circumstances, and (3) Landscape Recovery, where farmers and land owners are paid for the delivery of large scale, long-term, land use change projects. The first component will initially be open to those who received Basic Payments under CAP and is envisaged to be open to all farmers once the scheme is fully expanded in 2024 (DEFRA, 2021d). Eligibility to the second and third component are currently envisioned to be dependent on the project, the characteristics of the landscape, and potentially be competition based. Central to all components is the use of the policy instrument of financial incentives in the form of 'public money for public goods' (DEFRA, 2020b, c). An overview of the instruments currently under consideration is provided in Table 4.

All the stakeholders thought that the three component design of ELM is a useful way of structuring the scheme, but several (interview 3, 4, 7, 8, 9, 10, 11, 12, 13, and 14) raised concerns in relation to the lack of interlinkages between the components and a proper and enforceable regulatory baseline: *"I think there should be a level of regulation beneath the Sustainable Farming Incentive"* (interview 12); especially the environmental stakeholders saw this as a crucial requirement. In relation to the SFI, the stakeholders were concerned about a lack of ambition (interview 10, 11, and 13) and incompatibility with some types of farming, e.g. small scale farming and organic farming (interview 1, 3, and 14).

In regard to the specific instruments, all stakeholders agreed that a mixture of the different instrument types could potentially be effective in reaching the goals, with financial incentives and information sharing being the most crucial. However, they were all skeptical about the effectiveness of the current design of the individual instruments, as shown in Table 5.

More general concerns regarding the overall effectiveness of the scheme were a lack of a sufficient, long term budget and unclarity about how that budget will be distributed across the three components (interview 2, 8, 10, 13, and 14), a lack of clarity in what happens after the end of an agreement under ELM (interview 10, 11, and 12), the complexity of the scheme (interview 9 and 12), and a lack of a systemic approach (interview 3, 7, 9, 11, and 14):

> "all we've got is a notion towards collaboration and a notion towards an incentive to do specific things, but not a plan towards transition to more sustainable farming. We've still got a very linear, not a systems approach to achieving end goals. Sustainable farming and the delivery of the environment plan goals requires a change to systems. Using money to fund aspects of farming or land management that don't link together, don't achieve the end goal." (interview 11).

Table 4
Overview of policy instruments under consideration for ELM. Based on DEFRA (2019, 2020a,b, c,d) and HM Government (2018).

Instrument type	Component		
	Sustainable Farming Incentive	*Local Nature Recovery*	*Landscape Recovery*
Financial incentives	Payments will only be made for actions or targets that are not required through domestic regulations & that are not already supported through other public funds The duration of agreements will be flexible, dependent on what the agreements set out to deliver & the individual circumstances of the farmers		
Payments for:	Specific actions	Initially actions, over time outcomes	Specific projects (grants for upfront costs + payments for ongoing maintenance)
Payment rate:	Income foregone + costs, or adjusted over time based on uptake of the actions	Income foregone + costs, based on the degree of environmental benefits, or marked-based	Negation based & set on an individual basis or through reverse auctions
Financial disincentives	Penalties for regulation breaches or non-compliance with ELM But: main emphasis on support to achieve & maintain compliance		
Regulations	Should sit alongside ELM (e.g. bans, legally binding targets, zoning)Compliance with regulations as entry requirement into the scheme		
	Use of land management plans to support applications & agreements & to support and check progress and compliance	Applicants might need to demonstrate that they fulfill SFI standards	
Collaboration		Stimulating farmers & land managers to work together Including local residents, local workers, & farmers in local planning & decision making	
Information sharing (guidance & advice)	Written (online) information Self-declared information from farmers to support applications, agreements, & compliance checks	One-on-one advice to land managers, group based training & advice, facilitating peer-to-peer learning, online & telephone support, & (primarily online) written information	

All these concerns, together with the concerns over the lack of clarity in the goal formulation, negatively influenced the stakeholders' perceptions on the achievability of the overarching goal. The economic, environmental, and social stakeholders were particularly skeptical about the capability of the current plans to fulfill the goals:

> "So at the moment, I think we have no policies in place to deliver it at all. Absolutely none. And therefore I think it's highly unlikely that we're going to succeed, unless there is a massive intervention and turn around. […] the goal is brilliant, but we have absolutely no means of meeting it at the moment." (interview 9).

Thus, although the stakeholders recognize a potential for the proposed instrument types to be effective, they do not consider their currently proposed design to be effective and, therefore, there is a lack of perceived normative output legitimacy.

In regard to the perceived acceptability of the instruments, all the stakeholders thought that the instruments are going into the right direction. However, some raised concerns regarding the transition management (interview 2, 7, and 10), the fairness of the scheme (interview

Table 5
Overview of the stakeholders' main concerns regarding the proposed instruments.

Financial incentives: public money for public goods	Information sharing: advice & guidance	Regulations: minimum environmental standards	Financial disincentives: penalties	Collaboration: between farmers & local communities
Can potentially address market failure (all)	Is essential to help change attitudes & make farmers use the scheme in the best possible way (all)	Essential as a basis underneath the scheme; which is currently not sufficient (all)	A necessary instrument, as a final resource, to give the scheme teeth (all)	Effective to create integrated landscape scale change and shifts in attitudes (all)
Income foregone + cost too low of an incentive to be effective; payment rates have to be fair (all)	Need for multiple methods of information sharing to be effective, online advice alone won't be effective (all)	Need to be enforceable and understandable to be effective, which is currently not the case (ffl; env.; soc.)	Needs to take account of external impacts that influence results on the ground to be fair (ffl)	Needs to be voluntary, facilitated, & funded (all)
Mix of payments for actions & outcomes would be most effective, if time lags and external impacts on outcomes are taken into account (all)	Different types of advice is required for different public goods to be effective (all)	Changing attitudes will be more effective in the long term (as no need for enforceability) (env.; soc.)	Only effective if compliance can be monitored, which is currently difficult (ffl; econ.)	Needs to be clarified how financial incentives will be distributed within a collaborative project (ffl; env.)
Won't be effective if it pushes out the public market to invest in public goods (all)	Needs to be (partially) funded through ELM to be fair and effective (all)	Need for an understanding how ELM relates to regulations from other sectors as well to be effective (e.g. forestry), which is currently not the case (ffl; env.)		
→ Current design is not effective	→ Current design is not effective	→ Current design is not effective	→ Current design can be effective, if properly monitored	→ Current design can be effective, if funded

1, 2, 3, 5, 7, and 14), and worried that the instruments will not deliver on the promises that were made (interview 4, 5, 7, 8, 9, 11, 12, 13, and 14). The concerns in regard to the transition management related to unnecessary pressure on farm businesses and rural communities due to strong cuts to basic payments while ELM is not yet fully operating and unclarity about how the previous environmental schemes will be carried over into this new scheme. The concerns regarding the fairness of ELM were identified in relation to the scheme currently being too narrow, creating a loss of income for some farmers, excluding certain farmers, and not properly incorporating non-farmed land and forestry: "*at some point someone will say that it's not fair and it's not wide enough scaping.*" (interview 1). In addition, it was pointed out that ELM will only be fair to society if it will deliver on the goals. Yet, it is precisely this aspect where stakeholders from all interest categories were concerned that the scheme will fall short and why they thought that its current design is not acceptable. Nevertheless, there was a general optimism that with more clarity and changes to the design the scheme can still become acceptable:

> "But I think there is still time to put that right. If there's clarity on the goals and if there's clarity on the instruments and actually the detail of how they work. And I don't think we're there yet. But I think, it doesn't mean that all hope is lost." (interview 4).

Overall, it can therefore be stated that the instrument types per se are perceived as sociologically legitimate, but not their current design.

4.3. Throughput legitimacy

DEFRA has set up a number of engagement activities in order to include stakeholders in the development of ELM, as described in Table 6. Some of these were disrupted by the COVID-19 pandemic and there has been a renewed effort to attend farmer events since the lifting of lockdown restrictions from May 2021. Whilst several of these activities were open to all, most of them have been targeted towards specific stakeholders and were based on selection procedures. In addition, the majority of the interviewed stakeholders noted that the engagement process has not been equal for all. There was

disagreement over whether the farming organizations or the environmental organizations have had more influence, but the social stakeholders were unanimous in their opinion that they have had a more disadvantaged position in the process in comparison to both of these: "*I dread to think that others have had a similar experience. And actually, I would hope that they would have had a better one.*" (interview 4). It was

Table 6
Overview of activities to include stakeholders in the ELM design process. Based on Defra (2018a, b, 2020a, d, e, f, 2021b, c, d).

Engagement activity	Who can take part
Consultation (Feb.-May. 2018)	Anyone
Consultation (Feb.-July 2020 – paused between April 8-June 25 due to Covid-19)	Anyone
Policy roundtables, regional events, & interactive webinars accompanying the consultations	Targeted at farmers, land managers, landowners, agronomists, environmental specialists, & other 'interested stakeholders'
ELM stakeholder engagement group	Invited stakeholder organizations only
Test & Trials	Selected projects
National pilot focussing on SFI	Initially farmers who previously received basic payments & whose land has certain characteristics, the final phase should be open to all farmers
National pilot of other components of the scheme	Details are not yet available
Workshops & webinars on specific sections of the ELM scheme	Anyone
Submitting written evidence to the Agriculture Bill	Anyone
Submitting written evidence to the Environment, Food and Rural Affairs Committee (EFRA) inquiry into ELM	Anyone
Presenting oral evidence to the EFRA inquiry into ELM	Invited speakers only

also pointed out by several stakeholders (interview 2, 5, 11, and 14) that some stakeholders receive information earlier than others and that there are sometimes additional conversations, where not everyone gets included:

> "So if DEFRA want to get something from that meeting, then a lot of other thought might be closed down and picked up outside of the meeting, which can disadvantage people if you're not privy to the secondary conversation." (interview 11).

In addition, several of the stakeholders mentioned that they have been included only at a late stage. Additional stakeholders that were not sufficiently engaged with according to our interviewees included individual farmers (interview3, 9 and 13), minority interest groups and groups with limited resources for engagement (interview 2 and 14), the general public (interview 4 and 10), and local authorities (interview 4 and 12). Thus, whilst there are multiple opportunities to be involved in

the design of ELM, due to the multiple dimensions of inequality within these activities, the criteria for normative throughput legitimacy are only partially fulfilled.

When it comes to the stakeholders' perceptions on whether or not they have had an opportunity to meaningfully contribute to the design of ELM, we noticed a disparity. Whilst all stakeholders were happy that there have been possibilities to engage, they were critical about the effect of that engagement. One of the farming, forestry, and landowner stakeholders (interview 2) and one of the economic stakeholders (interview 11) stated that expectations of the engagement process have not been well-managed and all of the stakeholders expressed frustration and disappointment on the lack of action that has been taken on their input:

> "I think where it's not working is that clearly the group has sometimes reached a consensus on particular things and then doesn't feel that it's been actioned at all. […] Many people said don't use income forgone plus costs, and we're using income forgone plus costs. Most people said we need more advice to farmers in SFI particularly, and there isn't an advice stream set in place for SFI. […] So that's frustrating." (interview 14).

They further expressed frustration about a lack of transparency and communication regarding how decisions are made, which decisions are already made, and which are still open for debate:

> "And I think that is the crooks of the problem basically. You engage with them and you feed into them and then you don't often hear how they've assessed your engagement. But they decided against it anyway. So that pathway isn't clear" (interview 6).

They also stated that this lack of transparency negatively impacted the acceptability of the decisions that are being made. In addition, stakeholders from all interest categories (5, 11, 12, and 13) expressed concerns about the policy making process being too siloed. It can thus be stated that whilst there is a potential for sociological throughput legitimacy, at the moment the stakeholders have a largely negative perception of this.

4.4. Overall legitimacy

Overall, when considering both the problem formulation, goal formulation, instruments, and design process, all the stakeholders are supportive of the idea behind ELM and therefore perceive it to be normatively legitimate. However, the stakeholders differ in the degree of their overall support to the scheme in its current form. Two of the farming, forestry, and landowner stakeholders (interview 5 and 6) and one of the economic stakeholders (interview 1) support the scheme without hesitation and thus perceive it to be sociologically legitimate. The majority of the other stakeholders (interview 2, 4, 8, 10, 11, 12, and 13) give general support to the scheme but express a lack of support to (some of) the details and the proposed level of funding. They therefore see a potential for sociological legitimacy, but the potential is currently not adequately fulfilled:

> "we're a critical friend at the moment. We are trying hard to be supportive in the process and constructive in the process to some things we're hearing which we like. But as I said, details, timelines, we will take the government to task on that because that's not working at the moment." (interview 8).

The other stakeholders (interview 3, 7, 9, and 14) do not support the overall scheme in its current form due to a lack of confidence in its impact and concerns about a dissonance within government regarding what they really want to achieve and therefore do not perceive the scheme to be sociologically legitimate. Table 7 provides a simplified overview of the main perceptions of the stakeholders in each of the legitimacy dimensions.

Table 7
Simplified overview of the stakeholders' perceptions of the legitimacy of ELM and the process by which it is being designed.

		Normative legitimacy	Sociological legitimacy
Input legitimacy	Problem formulation	Largely overlap between DEFRA & stakeholders (all) Main problems missing: market failure (all) & siloed approach (ffl; env.; soc.) → ***largely normatively legitimate***	Recognize importance of DEFRA's problem formulation, regardless of missing problems (all) → ***sociologically legitimate***
	Goal formulation	Largely overlap between DEFRA & stakeholders (all) Main goal missing: productivity (ffl; econ.) → ***largely normatively legitimate***	Accept idea behind the goals, not how they are formulated (all) Concerns over emphasis (ffl; env.; soc.), phrasing (all), lack of interlinkage (econ.; env.; soc.), & credibility (all) → ***potential for sociological legitimacy, currently not adequately fulfilled***
Output legitimacy	(perceived) Efficacy	3 component design & mix of all instrument types could be effective (all) Concerns over insufficient regulatory baseline underneath the scheme (all), lack of interlinkage across components (env.; soc.), lack of ambition & exclusion of some under SFI (econ.; env.; soc.); no sufficient incentives & limited funding (all), lack of focus on information sharing (all), lack of clarity on long term plan (econ.; env.; soc.); complexity (env.; soc.), & no clear linkage between instruments, goals, actions, & problems (econ.; env.; soc.) → ***potential for normative legitimacy, but current design lacks normative legitimacy***	Instrument types are acceptable (all) Current design of instruments is not acceptable: bad transition management (ffl; env.), concerns over fairness (all), & will fall short of reaching goals (all) → ***sociological legitimacy of instrument types, lack of sociological legitimacy of their current design***
Throughput legitimacy	Inclusiveness	Multiple opportunities to be engaged in the process, but some only open for selected stakeholders Inequality in the process (all) Some stakeholders are not sufficiently included (all) → ***partially normatively legitimate***	Happy with opportunities for engagement (all), but: expectations were not well managed (ffl; econ.), frustration & disappointment on lack of action on input (all), lack of transparency & communication (all), siloed approach (all) → ***potential for sociological legitimacy, but currently not fulfilled***
Overall legitimacy		Agree with idea behind the scheme (all) → ***Normatively legitimate***	Different perceptions on acceptability: Three stakeholders (ffl; econ.) support it without hesitation → ***sociologically legitimate***
			Seven stakeholders (all) support it conditionally, based on changes to details & increased clarity → ***potential for sociological legitimacy, but not yet fulfilled***
			Four stakeholders (env.; soc.) do not support it due to structural concerns → ***lack of sociological legitimacy***

Note: the description in parenthesis indicates that at least one stakeholder of a certain interest category had this perception.

5. Discussion

The results of this study present deeper insights into aspects influencing perceived legitimacy and highlight that there are several critical points that need to be taken into account in the governance of agricultural sustainability transitions in order to improve their perceived legitimacy. We discuss theoretical insights, elucidate lessons for policymakers in general, and provide specific policy recommendations for the English transition.

5.1. Advancing understanding of perceived legitimacy

Combining normative and sociological approaches to legitimacy within one study allowed us to deepen our understanding of what things people consider when they build their perceptions of the legitimacy of an agricultural transition. In relation to perceived input legitimacy, our study shows that it is not only important to aim for alignment between the problem formulation of the policy and the stakeholders as generally highlighted in the legitimacy literature (Johansson, 2014; Vringer and Carabain, 2020), but also to recognize the structural, systemic underlying causes of the problems. Recognizing these is perceived as important because it enables to address a problem by its roots rather than by its symptoms. Our results thus reemphasize the point made by Suchman (1995) about the importance of addressing the correct problems in the eyes of the stakeholders. In addition, our results indicate that there is a stronger negative effect if certain problems are not included in the problem formulation than if there are additional problems included. As previous legitimacy literature has primarily been focussed on alignment of problem formulations, this result provides a more nuanced insight into the relative importance of problem formulation alignment for perceived input legitimacy.

In relation to the perceived legitimacy of the goal formulation, our analysis shows that where the legitimacy literature so far has put most emphasis on the importance of goal alignment and the recognition of the importance of the goals for society at large (Scharpf, 1999; Schmidt, 2013; Suchman, 1995; Wironen et al., 2019), these two criteria on their own are not sufficient to create perceived legitimacy of the goal formulation. When the content of the goals are perceived to be acceptable, perceived input legitimacy can still fall short due to the way the goals are phrased and their perceived credibility. Our results indicate that in order to gain perceived legitimacy, any goal that is part of an agricultural transition needs to be specific, measurable, set on a specific timescale, clearly linked to the problems that it aims to solve, and in line with wider governmental activities. As this presents new criteria for perceived input legitimacy that so far have not been highlighted in the legitimacy literature these aspects should be given more attention in future research on perceived legitimacy.

When it comes to perceived output legitimacy, our results reiterate the importance of perceived effectiveness of the design of the transition and the policy instruments (Scharpf, 1999; Suchman, 1995). For instruments to be perceived as effective, our results indicate that, at a minimum, it needs to be clear how they work in practice and how they will be enforced. In addition, in line with findings from Boedeltje and Cornips (2004), we found that for the instruments to be regarded as meaningfully contributing to the achievement of goals, they need to be clearly linked to each other and to the problem and goal formulation. Perceived output legitimacy is therefore in part dependent on the clarity of the problem and goal formulation. This result highlights the importance of assessing the perceived legitimacy of a transition as a whole, connecting problem and goal formulations with the proposed policy mix rather than evaluating individual policy instruments disconnected from their context and purpose (Rogge and Reichardt, 2016; Wanzenböck et al., 2020). We therefore argue that this should be a central focus in future research on the legitimacy of agricultural transitions.

Another point that we found to be important for the perceived effectiveness of the instruments is that the instruments need to be diverse enough to be able to speak to a wide variety of people who will have different behavioral motivations and learning styles. This point has to date received little attention in research focussing on the effectiveness of policy instruments (Pedersen et al., 2020), and is thus an interesting new indicator that increases our understanding of how people form their perceptions on output legitimacy. We therefore argue that this should receive more scrutiny in assessments of perceived output legitimacy. Beyond the perceived effectiveness of the instruments, our results show that fairness of the instruments and the transition design are additional factors that influence perceived output legitimacy. Fairness of the instruments has been previously highlighted as an important factor (e.g. Valkeapää et al., 2013; Vringer and Carabain, 2020), but fairness of the overall transition design has been less prominent in legitimacy literature.

Finally, in relation to perceived throughput legitimacy, our results reemphasize the importance of meaningful inclusion and transparent processes (Bierman and Gupta, 2011; Steffek, 2019; Upham et al., 2015) and function as a reminder that the legitimizing power of inclusion depends on how that inclusion is shaped (Braun and Busuioc, 2020). For inclusion to generate perceived throughput legitimacy, our results indicate that attention needs to be paid to differences in power, including differences in access to resources to invest in engagement activities, expectation management, and communication and transparency regarding how the input from the stakeholders is used in decision-making. Especially the latter point was highlighted as a factor that can contribute to improve the acceptance of decisions, even when they go against the interests of the stakeholders, indicating that creating transparency in the process can have a positive influence not only on perceived throughput legitimacy but also on perceived input- and output legitimacy.

5.2. Critical points for the governance of agricultural transitions

Generally, our results show that across all dimensions of perceived legitimacy, clarity and diversity in design and processes is essential. When stakeholders underwrite the spirit of a transition but do not have faith in the policies that should bring about that transition and do not understand how specific decisions have come about, the perceived legitimacy of the transition will be negatively affected.

In relation to perceived input legitimacy, the wider lessons that we can draw from these results for the governance of agricultural sustainability transitions more generally are the importance of identifying all underlying causes of the problems that the transition aims to address from the outset and developing a wide problem formulation. Whilst it is necessary to set priorities to move a sustainability transition forward (Meadowcroft, 2011), when there are heterogenous opinions about the main problems, incorporating these diverse views rather than setting a parsimonious problem formulation will be beneficial for the perceived input legitimacy of the transition. Furthermore, in relation to the goal formulation, specificity both in terms of formulation, timescale, and measurability are key in setting the direction of the transition and limiting contestation over what the goals entail. Besides improving the perceived input legitimacy this can also contribute to streamline the transition and ensure that all involved actors work to fulfill the same societal mission (Hekkert et al., 2020; Klerkx and Begemann, 2020).

In relation to perceived output legitimacy, our results highlight the importance of building the transition around instruments that are predictable and known to be effective. Using a voluntary scheme without a clear and enforceable regulatory baseline as the central mechanism to guide the transition will have difficulty in gaining perceived output legitimacy because it cannot guarantee that steps will be made toward goal achievement. Likewise, a transition that is built around a policy instrument that does not have a precedent will have more difficulties in obtaining perceived output legitimacy than a transition that is built on well-tested instruments, as new instruments come with many uncertainties regarding their functioning in practice. In addition, paying

attention to how the instruments interact with each other and clearly stating how they relate to the goal and problem formulation has the potential to considerably contribute to overall perceived legitimacy. Finally, creating a diverse mix of policy instruments that can appeal to a diverse range of people will likely be more effective in bringing the transition forward than building on a narrow set of inflexible instruments. This can also help to some extent in ensuring that the overall transition design does not explicitly excludes or disadvantages certain groups of people from the outset.

In regard to enhancing the perceived throughput legitimacy of the transition from the outset and throughout the transition period, the wider lessons that we can draw from these results for the governance of agricultural transitions are that clear communication and transparency on what stakeholders can expect from their involvement in the transition process, how input is used, and how decisions are made is of key importance. Furthermore, taking actions to mitigate power imbalances, for example by supporting stakeholders with limited resources to take part in the process, will also likely contribute to improve perceived throughput legitimacy.

5.3. Improving perceived legitimacy of ELM

Specifically related to ELM, our results show that the English agricultural transition in its current form risks insufficient support from its stakeholders to be sustainable in the long term. However, there is scope for improvement within the structures that DEFRA have laid out.

Perceived input legitimacy could be improved by recognizing and incorporating the market failures and the siloed approach to nature, production, and culture as underlying problems and clarifying unclear language in the goal formulation, such as 'enhanced beauty' or 'thriving plants and wildlife'. As part of this clarification the goals need to be broken down into measurable targets with a specific timescale that are directly linked to the problem formulation. In addition, it should be clarified how ELM sits alongside other government activities that might affect the environment or agricultural sector.

In relation to perceived output legitimacy, the proposed ELM design currently falls short on all the identified criteria. Especially the regulatory baseline underneath the scheme and the two instruments that the stakeholders regarded as most important in this transition, public money for public goods and information sharing, need considerable clarifications and alterations to be perceived as legitimate. The provision of information, advice, and guidance, needs to be diversified and be given a more prominent role within the transition. As the instrument of public money for public goods is a new approach that does not have a precedent in this context and at this scale, more research and clarity is required on how the monetary value of public goods can be assessed in order to set effective and fair payment rates, whether it is most effective to pay for specific actions or for outcomes and, in the case of the latter, how outcomes will be measured, and how time-lags between actions and outcomes and external impacts that negatively influence the outcomes will be taken into consideration. In addition, it needs to be clarified how this instrument relates to the private market. If it will push out the private market from investing in public goods, rather than helping to solve the underlying problems, it might perpetuate them by further institutionalizing market failures. In terms of the overall design and transition management, more attention should be given to how farmers that are currently excluded by design can be better supported throughout the transition and how it can be ensured that no-one, including nature, falls between the gaps when the old schemes are gradually replaced by the transition policy. It also needs to be clarified how all different aspects of ELM sit together and contribute to the overarching goal. It is therefore worrying for the perceived output legitimacy of the scheme that rather than clarifying how the different components of ELM are integrated, DEFRA has been moving to separating the components further by now regarding them as separate schemes (DEFRA, 2021a).

Finally, to maximize the positive potential that DEFRA has created through the multiple engagement activities, several changes to the ELM design process are required to enhance perceived throughput legitimacy. First, more efforts should be made to create equal inclusion, including providing support to those who wish to engage but do not have the resources to do so and creating more activities that are open for all rather than by invitation only. Whilst it will be difficult in practice to include everyone who wishes to be included equally (Boedeltje and Cornips, 2004), efforts should be made to come as close to this ideal as possible. Second, more attention should be given to power imbalances between stakeholders, for example by reducing the number of secondary conversations outside of the official meetings and communicating information to all stakeholders at the same time. Third, it should be clarified what the stakeholders can expect from their engagement. Fourth, and finally, communication and transparency regarding how input is used, how decisions are made, and which aspects of the scheme are still open for debate needs to be improved. This latter point has also been highlighted in written and oral evidence provided to the EFRA inquiry into ELM (EFRA, 2021).

6. Conclusion

Agricultural sustainability transitions promise to be one of the key solutions to society's grand challenges. However, in order to fulfill that promise, they need to be designed in a way that can ensure widespread societal support. In this article, we analysed the proposed English agricultural transition with the aim to examine how the governance of agricultural transitions can generate such support. We focussed specifically on how the normative and political nature of transitions can be taken into account in order to improve their perceived legitimacy. Whilst the analytical application of perceived legitimacy and its division in multiple dimensions tends to create artificial boundaries in an indivisible empirical phenomenon (Deephouse and Suchman, 2008), our operationalisation of the concept was able to show how the dimensions interact in practice. In addition, whilst the results of an analysis of normative legitimacy depends on pre-set indicators (Vringer and Carabain, 2020) and can only show if a certain transition should be regarded as legitimate in theory (Johansson, 2014; Schmidt, 2013), combining pre-set indicators with an assessment of perceived sociological legitimacy allowed us to examine the perceptions on the ground and capture additional factors that have so far received limited attention in the literature. Our operationalisation of perceived legitimacy therefore proved to be a fruitful tool in examining what aspects need to be considered in the governance of agricultural sustainability transitions to take account of their normative nature and increase their societal acceptability and support. It enabled us to gain deeper theoretical insights into what aspects people use to form their legitimacy perceptions in relation to agricultural transitions and to provide practical advice for the governance of agricultural transitions in general and for the English transition specifically. As countries around the globe start to think about how to transition their agricultural sectors toward more sustainable forms of agriculture, the framework that we applied in this study can be used in future research to critically evaluate the normative and power dimensions of transition processes and support governments in their efforts to develop policies for agricultural sustainability transitions that will be accepted by society.

Funding details

School of Agriculture, Policy and Development, University of Reading.

Declaration of interest

No potential conflict of interest was reported by the authors.

Ethics approval statement

This study received ethical approval by the University of Reading.

Submission declaration and verification

We confirm that our work is original. Our manuscript has not been published, nor is it currently under consideration for publication, elsewhere.

Author contributions

Auvikki de Boon: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing, Visualization. **Camilla Sandström:** Resources, Writing – review & editing, Supervision**, David Christian Rose:** Resources, Writing – review & editing, Supervision, Funding acquisition.

Acknowledgements

We would like to thank the interview participants for their time and contribution, Johanna Johansson for our discussion on ways to operationalize perceived legitimacy, and the three anonymous reviewers for their valuable comments on the manuscript.

Annex A. Interview key

Interview 1: Economic interest.
Interview 2: Farming, forestry, and landowner interest.
Interview 3: Social interest.
Interview 4: Social interest.
Interview 5: Farming, forestry, and landowner interest.
Interview 6: Farming, forestry, and landowner interest.
Interview 7: Environmental interest.
Interview 8: Farming, forestry, and landowner interest.
Interview 9: Environmental interest.
Interview 10: Environmental interest.
Interview 11: Economic interest.
Interview 12: Social interest.
Interview 13: Environmental interest.
Interview 14: Social interest.

Annex B. Interview handout

Summary of ELM scheme as currently proposed

This handout provides a summary of the ELM scheme as it is proposed at this moment. It contains the problem formulation, goals, and proposed instruments to achieve the goals. The interview will evolve around the views of your organisation on the acceptability of the ELM scheme in its current form and the processes through which it is being developed. Before the interview we would like to ask you to reflect on your organisation's views on these aspects. To help your reflection, for each theme, please consider what your organisation's stance is: are these proposals acceptable or are there aspects that your organisation would like to see changed? Please bring this handout with you to the interview.

Problem formulation

The main problems/challenges that are brought forward as reasons why the ELM scheme is needed are, in alphabetical order:

Overarching problem	Specification
Biodiversity loss	
Climate change	Incl. costal erosion, draught, extreme weather, flooding, ocean acidification, & rising sea levels
Demographic change	Putting pressure on food security and other resources and change in the age structure of the population
Invasive species	
Land use change	
Over exploitation	
Pests & diseases	Animal related, plant related, & human related
Pollution	Incl. plastic waste, air pollution, soil pollution, water pollution, light pollution, & noise pollution
Soil degradation	
Social inequality	Inequal access to nature & inequal exposure to pollution

Goals

The overarching goal that the ELM scheme is aiming to achieve is to improve the environment within one generation. This goal is supported by several smaller goals and sub-goals, shown here in alphabetical order:

Goal	Additional sub-goal
Clean & plentiful water	
Clean air	
Enhanced beauty of the natural environment & heritage	Connecting more people (from all backgrounds) with the environment
Enhance biosecurity	
Minimising waste/pollution	Effectively manage noise and light pollution; Eliminate all avoidable plastic waste; Eliminate waste crime; Minimise (chemical) pollution; Reducing food waste
Mitigating & adapting to climate change	Improving resilience of nature & society; Reduce greenhouse gas emission
Reduced risk of harm from environmental hazards	
Sustainable & efficient use of resources	Clean/green/sustainable growth; Increased productivity; Increased resource efficiency; More dynamic, self-reliant agriculture industry
Thriving plants & wildlife	Improved (species) biodiversity; Improved health & welfare of livestock; More trees; New/restored habitats for wildlife (incl. increasing protected areas)

Instruments

The overarching design of ELM is a three component system:

1) Sustainable Farming Incentive: targeted at individual farmers and their land management actions
2) Local Nature Recovery: targeted at farmers and other land managers to support targeted nature recovery that is adapted to the local circumstances
3) Landscape recovery: targeted at farmers and landowners, aiming for the delivery of large scale, long-term, land use change projects.

Across these components, the overarching instruments that are being considered to be used in the ELM scheme and the mechanisms behind them to reach the goals are, in alphabetical order:

Instrument type	Currently considered ways this instrument could take shape
Collaboration	Encouraging farmers and land managers to work together & submit group-applications (for component 2 & 3) Giving local areas, residents, workers, & farmers a role in deciding local priorities and local planning (primarily for component 2)
Financial disincentives	Monetary penalties in case of failure to comply with regulations or non-compliance with ELM scheme agreements
Information sharing	Providing advice and guidance to support compliance (e.g. how to navigate the scheme, how to carry out land management actions): • Group based training and advice • One-on-one advice • Online & telephone support • Peer to peer learning • (online) written information Using information supplied by farmers (self-declared information, e.g. self-assessments, photo & video evidence) to support applications, agreements, & compliance checks (especially for component 1)
Paying public money for public goods	Payments for concrete actions Payments for results Grants for upfront costs vs payments for ongoing maintenance Payment rates based on income forgone & incurred costs Payment rates flexible/market based Payment rate negotiation based Payment rates set through auctions (or reversed auctions)
Regulations	Compliance with regulations (incl. legally binding targets & bans) as minimum entry requirement into the scheme (for all components) Flexibility of agreement duration Fulfilment of component 1 standards as entry requirement for component 2 Using land management plans to map and record the baseline condition of the land, plan future management activities, & support applications to, & agreements under, the scheme (central to component 1) Increasing the proportion of protected sites & the use of conservation covenants (especially for component 3)

Annex C. Interview guide

Context

1. Can you give me a brief introduction to your organization and its purpose?
2. What is your role and position within the organization?

Main part

A. Problem formulation.

1. What does your organisation see as the main problems that need addressing in relation to agriculture?
2. The ELM scheme is brought forward as a means to address multiple problems. We summarized them for you in the handout that you received prior to the interview. Does your organisation think that there are any other problems that are currently not included in ELM that should be included or problems that are included that should not be?
3. Does your organisation find these problems an acceptable ground to argue for the need for an ELM scheme?

B. Goal formulation

1. Can you expand on what the goals of your organization are and in how far your organization feels like these goals are reflected in the ELM scheme?
2. In the current proposals for the ELM scheme, the overarching goal is to improve the environment within one generation. What does your organization think of this goal?
3. There are nine smaller goals that ELM is striving to achieve, which we summarized in the handout. Does your organization think that these goals are acceptable?

C. Policy instruments

1. What does your organization think of the three component design of the ELM scheme?
2. Out of the potential instruments that DEFRA is considering to use in the ELM scheme, is there any instrument type that your organization prefers over the others?
3. What does your organization think of the potential design options of these individual instruments? Can they be effective and capable in solving the problems and reaching the goals that the ELM scheme is aiming to achieve?

D. Process

1. Does your organization feel like it had the opportunity to contribute to shaping the ELM scheme?
2. Does your organization feel like you had an equal chance to influence the development of the scheme in comparison to other stakeholders?
3. What does your organization think about the role of other organizations that you align with or who represent other interests than your own in the development of the ELM scheme?
4. Did your organization feel like the right people were and are included in the development of the ELM scheme?

Overall

1. Does your organization support the ELM scheme in its current form?

Ending

1. Is there anything that we have not touched upon that you would like to bring forward?

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