Achieving more sustainable British beef and sheep food systems in a changing environment

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RESEARCH BRIEF 3

Exploring opportunities and risks of the Environmental Land Management schemes (ELMs)

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SERIES INCLUDES

Research Brief 1 – Transparency in the beef and sheep meat food systems enables agency and fairness
Research Brief 2 – Exploring opportunities and risks of the Animal Health and Welfare Pathway (AHWP)

KEY FINDINGS

1. Environmental Land Management schemes (ELMs) are complex and potentially confusing for farmers.
2. ELMs could jeopardise food production.
3. ELMs may have unintended environmental outcomes.
4. How the success of ELMs will be measured is unclear.
5. ELMs may reduce the competitiveness of British livestock farmers at the international level, who may find themselves undercut in the market following trade deals.
6. The UK has enough land available to support its own production of beef and sheep meat domestically.
7. ELMs will promote environmentally sustainable farming methods, but there will be a shift away from beef and sheep production.
8. Funding may be insufficient to drive uptake by farmers.

An unprecedented set of challenges now confronts livestock food systems in Britain. With household budgets being squeezed, producers, processors, retailers and wholesalers are under increasing pressure to maintain the affordability of their products despite rising input costs. At the same time, the need to achieve and demonstrate high standards in environmental sustainability, animal health and welfare, and nutritional quality only adds to the difficulties. Meanwhile, uncertainties over potential future trading, legal, and political arrangements following the UK's departure from the EU represent a yet further layer of complexity.

A research project focused on beef and sheep production and marketing systems in Great Britain jointly led by the University of Hertfordshire and the Royal Veterinary College, has been looking at how the sector might maintain and improve its economic, social and environmental sustainability in the face of these multiple challenges. A key issue being explored are the implications of the UK government's recently launched ELMs: specifically, will it actually lead to measurable improvements and what might be possible downsides for the beef and sheep sector?

01

About our project

Achieving more sustainable British beef and sheep food systems in a changing environment is a four-year project funded by the Cadogan Charity and jointly led by the University of Hertfordshire and the Royal Veterinary College. The work investigates how ruminant production and marketing systems in Great Britain can maximise quality food production and economic viability, while promoting sustainable land use and management, including environmental and antimicrobial stewardship. The **overall aim** is to identify public policies and private sector strategies to support the provision of reasonably priced beef and sheep products that are profitable, equitable and sustainable across the food value chain, in the post-Brexit agricultural and food policy context.

Adopting an interdisciplinary, multi-method approach, including literature reviews, modelling, value chain analyses, surveys and case studies, the project explored a wide range of topics, from farm-level decision-making, livestock production capacity and the use of antimicrobials and anthelmintics, to consumer preferences and government policy.

ACHIEVING MORE SUSTAINABLE BRITISH BEEF AND SHEEP FOOD SYSTEMS IN A CHANGING ENVIRONMENT

The following activities were conducted to explore how beef and sheep meat production and marketing can maximise quality food production and economic viability, while promoting sustainable land use and management including environmental and antimicrobial stewardship:

Literature reviews

Overview of production systems, metrics and disease impacts

Grassland modelling

Beef cattle and sheep production capacity on existing grassland

Case studies

Animal health management and farm-level decision making; antimicrobial and anthelmintic surveillance

Policy and governance

Analysis of existing and upcoming policies and governance mechanisms

Value chain analysis

Beef and sheep meat value chains

Surveys

Consumer perceptions and preferences

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Three important interconnecting themes emerged during the research, each influencing the economic, social and environmental sustainability of the beef and sheep meat sector:

1. Transparency and agency
2. The Animal Health and Welfare Pathway (AHWP)
3. The Environmental Land Management schemes (ELMs)

In this research briefing we discuss our work on the implications of the ELMs, and how negative impacts might be minimised.

02

What are the issues with the Environmental Land Management schemes?

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The UK government's Basic Payment Scheme (BPS) for farmers is currently being phased out. It will be 'delinked' to production in 2024 with continuous reductions thereafter, and final payments to take place in 2027. ELMs are part of a broader post-Brexit shift in UK agricultural policy towards the paradigm of 'paying farmers public money for public goods', a philosophy which also underlies the new Animal Health and Welfare Pathway (AHWP).

ELMs, whose dual objectives are to protect the environment while producing food, have three main elements:

- **Sustainable Farming Incentive (SFI)** – to pay farmers for taking actions above minimum legal requirements to promote wildlife diversity, use water efficiently, enhance hedgerows and manage croplands and grasslands, while continuing to use their land for production.
- **Countryside Stewardship Scheme (CSS) Plus** – to reward farmers for action to help nature and support climate-change adaptation. (Replacing the local nature recovery scheme, removed in Dec 2022).
- **Landscape recovery** – to support long-term changes to land use, such as large-scale tree planting and peatland restoration project, involving either massive reductions to - or complete cessation of - farming on the affected land. It will be open to projects for land areas of between 500 and 5,000 hectares, with proposals sent in by individuals or groups and Defra[1] selecting those with the most potential.

In January 2023, the government provided an update on ELMs stating that payments will be made to farmers for 280 different actions which protect the environment. Some 40,000 agreements in Countryside and Environmental Stewardship schemes are now established, covering

[1] *Department for Environment, Food and Rural Affairs*

about 34% of agricultural land. This represents a 94% increase in such agreements since January 2020. By 2028, Defra wants to see:

- A renewed agricultural sector, producing healthy food for consumption at home and abroad, where farms can be profitable and economically sustainable without subsidy.
- Farming and the countryside contributing significantly to environmental goals including addressing climate change.

To this end, Defra hopes that at least 70,000 farms will be enrolled in schemes by 2028, covering 70% of farmed land and 70% of all farms, so that 'farmers and land managers can collectively deliver our ambitious targets for the environment and climate, alongside food production'.

As implementation of the ELMs accelerates, a key goal of the research was to consider the implications for the beef and sheep meat food systems, and how negative impacts might be minimised.

03 What did we do?

To better understand the implications of ELMs for the British beef and sheep meat value chain, we reviewed the development of post-Brexit schemes in England, Scotland and Wales, and held a roundtable discussion with stakeholders in the beef and sheep production system. We also undertook land use modelling to calculate the actual livestock units (LU) of cattle and sheep in the UK; the meat yield per LU and total meat yield for beef and sheep; and the potential availability of dry matter, based upon the amount of grassland, and how many LUs this could support based upon their metabolisable energy needs. We used these findings to suggest pathways to change for discussion in a stakeholder workshop with representatives from the Animal Health and Welfare Board, National Farmers Union, National Beef Association, Pasture for Life, Sustainable Control of Parasites in Sheep, British Cattle Veterinary Association, British Meat Packers Association, Euro Quality Lambs, MSD Pharmaceuticals, Ruminant Health and Welfare Group, Animal and Horticulture Development Board, and beef and sheep farmers. Their reflections are summarised below (Section 05).

04 What did we find?

ELMs are complex and potentially confusing for farmers.

With many agri-environmental options from which to choose, our document review suggests that livestock producers may struggle to understand how to maximise the financial opportunity alongside supporting environmental goals. Farmers are confused about the payments offered for certain actions and how the government's income foregone assessment is applied; and some question whether the payments offered reflect the true cost of delivering on the public good.

ELMs could jeopardise food production.

The document review finds that food production in the UK may be at risk should Defra reach target recruitment for ELMs. This is supported by participants in the roundtable discussion on land use who say that multiple schemes encourage

land to be let out of production and used for alternative environmental initiatives, reducing the total area of crops annually. On the other hand, some UK land is unsuitable for growing crops for human consumption.

ELMs may have unintended environmental outcomes.

For instance, upland grasslands have unique ecosystems yet participants at the roundtable discussion on land use report that vast areas of upland farms are being planted with trees to the diminishment of upland ecosystems.

How the success of ELMs will be measured is unclear.

The objective suggests an outcomes-based approach, but the schemes reward action instead. According to the document review, farmers and land managers are therefore uncertain how the government plans to monitor schemes and define and measure success.

Further challenges and considerations.

Other challenges to the success of ELMs highlighted in the document review include the short time frame for implementation; the fact that collaborative approaches between tenant and landlord are not the norm; and difficulties in achieving landscape recovery given that cooperations on a large scale can be problematic.

Other critical considerations in terms of land use raised at the roundtable discussion include the fact that pasture and feed land do not always compete; that returning cattle to arable land reduces the amount of nitrogen-phosphorus-potassium fertiliser needed (due to their being a source of manure); and that stocking densities are expected to decrease under ELM Higher Level Stewardship schemes.

Free Trade Agreements may undermine Britain's environmental and animal health and welfare standards and reduce the competitiveness.

Within the context of new trade deals with Australia and New Zealand, UK producers may believe that in order to compete with cheaper imports they will need to reduce the costs of production by adopting more industrial methods or exit from beef and sheep farming altogether. The adoption of industrial methods may reduce the uptake of ELMs as a source of income. In 2021, the National Food Strategy recommended that the government define, and defend in any future trade deals, a set of core minimum standards intersecting across animal health and welfare, antimicrobial resistance and the environment.

The UK has enough grassland available to support its own production of beef and sheep meat domestically.

Our modelling[2] shows that on average only 52% of the annual potential livestock carrying capacity on all grassland is being used for the annual beef and sheep meat production (in 2011-2020). Therefore, there is enough grassland to continue meeting the UK's consumption of red meat, thus encouraging livestock production, including pasture-fed only initiatives, while utilising the spared grassland for other environmental initiatives.

[2] https://www.mdpi.com/2813-3463/2/3/15/review_report

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In summary, the key positive outcomes of ELMs include the shift in focus towards environmentally sustainable farming methods and targeted financial incentives/payments. Probable negative outcomes may include farmers shifting away from beef/sheep production due to new payment schemes incentivising reduced stocking densities, insufficient funding to drive uptake by farmers, and the risk that Australia and New Zealand trade deals undercut British farmers in the market.

05

What issues emerged at our stakeholder workshop?

At a workshop held in London in June 2023, leading stakeholders[3] were invited to comment on and critique our research, with discussions guided by the following questions:

1. How will ELMs affect production decisions – i.e., create more or less production of beef and sheep?
2. What do you expect in terms of Defra's target uptake of ELMs and what do you think needs to happen for the positive effects to be maximised and the negative ones to be minimised?
3. How do you see the AHWP and ELMs working together? How can they complement each other and what trade-offs, if any, do you expect?
4. How will the skills gap among farmers looking to transition be addressed and supported?
5. How can we better capture consumer willingness to pay for certain bundles of services (public goods) that sustainable livestock systems will deliver? (Understanding consumer willingness to pay for these services will be beneficial, especially in relation to considering farmer uptake across the schemes).

[3] Workshop participants included representatives from Defra (Department for Environment, Food and Rural Affairs), farmers, NFU, SCOPS, processors, pharmaceutical industry, health and welfare groups.

KEY FINDINGS FROM THE WORKSHOP

- ELMs may have unforeseen impacts due to insufficient engagement with the farming sector.
- The ELMs application process is too competitive and complicated.
- ELMs and the AHWP are too disconnected, with no mention of livestock and lost opportunities for synergies and trade-offs.
- Changes in upland use due to ELMs are likely to lower overall sheep production.

The following critical issues and reflections emerged during the discussion:

ELMs may have unforeseen impacts due to insufficient engagement with the farming sector.

Workshop participants felt that while there has been some co-design in pilots, the ELMs policy is not as well-designed as the AHWP due to less engagement with farmers. This can lead to unintended consequences, such as farmers choosing to intensify pesticides use on the land that is kept in production outside of ELMs, or to plant non-native trees or wildflowers, a proportion of which are reportedly poisonous to livestock.

The ELMs application process is too competitive and complicated.

Workshop participants corroborated the research finding that ELM schemes are too complex and confusing, whose lengthy application documents are time-consuming to complete and difficult to understand, especially for small farmers. As one put it, *"You can spend weeks getting up to date, and it's competitive and then you are told you're not going to get your money."* In practice, some farmers pay private consultants for advice (and in the SFI scheme, Defra will also provide consultants to advise on soil and water management), while others are discouraged from applying

at all. A solution would be more support for farmers, including on theoretical aspects of ELMs. This could be provided by advisory services, or via a community of practice where advice can be sought from others who have successfully applied for ELMs funding. Furthermore, Defra does not explain sufficiently how elements of the ELMs policy (i.e., SFI, CSS Plus, Landscape recovery) are nested and linked, which could be solved with a visual representation.

ELMs and the AHWP are too disconnected, with no mention of livestock and lost opportunities for synergies and trade-offs.

ELMs and the AHWP are being introduced simultaneously and have significant areas of overlap; as it was phrased in the workshop: *"If you reduce disease, it will automatically improve environmental outcomes."* Yet, said workshop participants, the policies appear to have been developed in silos, leading to missed opportunities for synergies and co-ordination. It was also noted that the ELMs policy has no mention of 'livestock' at all. Simplified communication regarding these policies is needed, including perhaps an organogram showing where ELMs sit in relation to the AHWP to help *"join the dots for farmers," and ensure "AHWP and ELMs actions stack up and complement each other."*

Changes in upland use due to ELMs are likely to lower overall sheep production.

Workshop participants felt that despite its dual objectives ELMs seemingly prioritises environmental protection at the expense of food production. In the context of livestock production, there would be significant changes to the current stratified sheep system, in which animals are moved between hill, upland and lowland farms. The financial incentives for repurposing uplands for tree-planting, rewilding and other climate change mitigation schemes – which are allegedly encouraging large companies to buy upland areas and evict farming tenants – means a decreased supply of breeding hill stock, while at lower elevations arable lands would be converted to wildflower meadows restricting access to feed in certain seasons. The overall effect would be a decline in overall production of sheep and beef sucklers because suckler cows consume pasture grasses as a significant portion in their diets. There was even a concern that 'micromanaging farms' in this way could result in an economic crash. A solution may be to foster relationships whereby arable farmers finish others' livestock on some of the crops they are growing (e.g., brassicas) – although the timing may not always align.

Photo by Candine Dufant on Pexels.

06

To conclude

Our research indicates that while efforts to address the negative environmental impacts of agriculture are welcome, the ELMs policy has been implemented with insufficient engagement with beef and sheep producers. Moreover, the connections between ELMs and the AHWP being rolled out in parallel are unclear, with lost opportunities for synergies and trade-offs. The result is that schemes are overly complex and confusing for farmers, discouraging uptake. At the same time, ELMs are likely to cause significant changes in upland management practices with major repercussions for the sheep sector in particular. Although our research suggests that the UK has enough land available to support its own production of beef and sheep meat domestically, there is a concern that ELMs could reduce the competitiveness of British livestock farmers in the post-Brexit international trading environment. Given that further unintended consequences and unforeseen issues will almost certainly emerge with greater adoption of ELMs across the UK, any efforts to address these should be informed by far closer cooperation with stakeholders in the food systems and greater awareness of possible pitfalls.

Acknowledgements

Edited by Dan Eatherley, Consultant and Writer.

Further information

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https://www.rvc.ac.uk/research/projects/veeph/sustainable-beef-sheep-food-systems