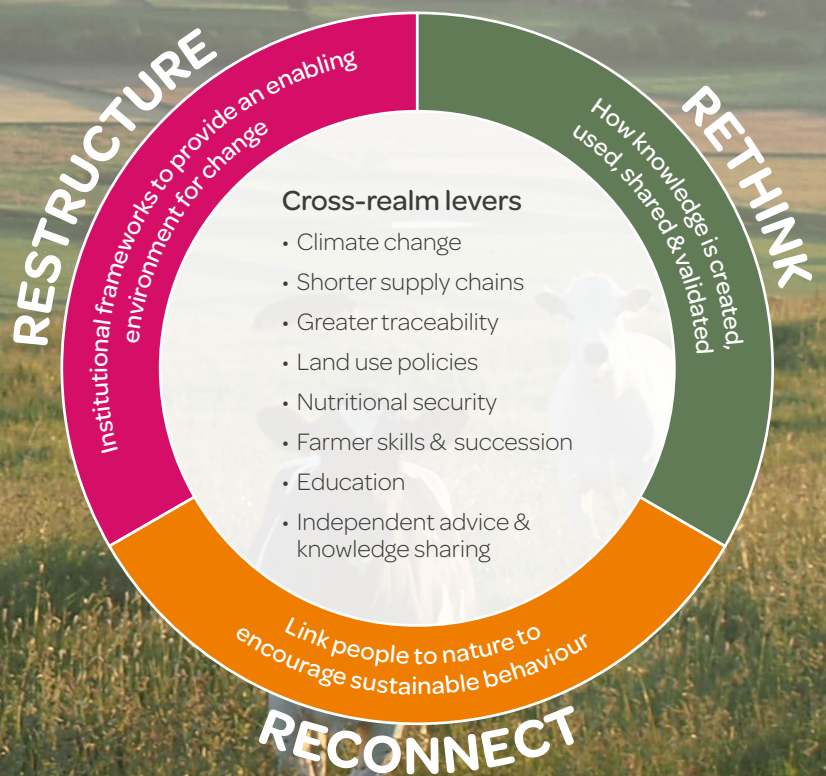
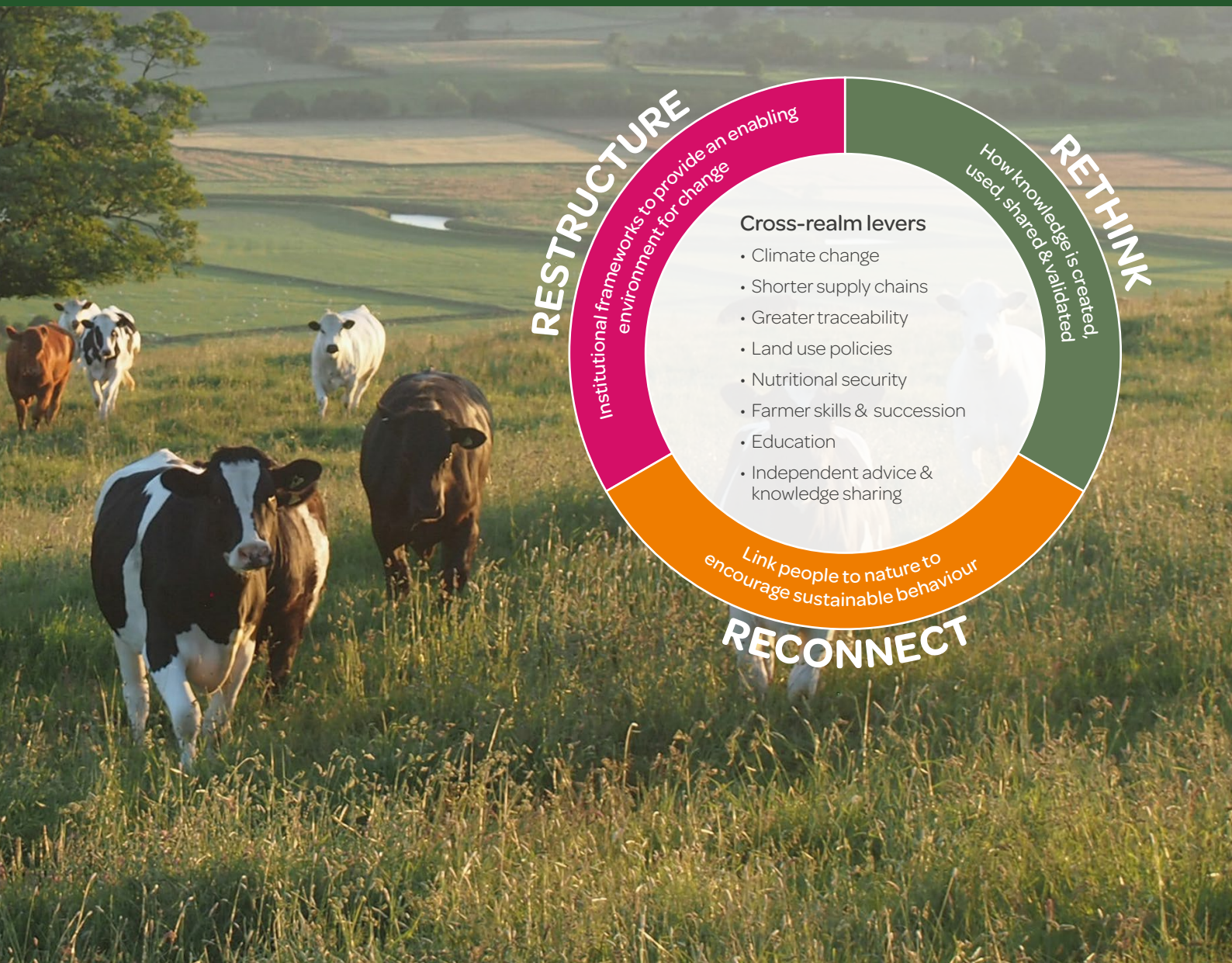


Transforming the resilience of UK grazing livestock systems

Summary

This policy and practice brief presents an integrated set of system-level interventions for transformational change in UK grazing livestock systems to improve their resilience to environmental, social and economic shocks and stresses. Food system challenges are often addressed by research and policies that only focus on one aspect of the system. A singular focus is frequently ineffective at bringing about change and may have unintended consequences.

The outputs of a two-day stakeholder workshop on which this briefing note is based, indicated the importance of recognising that systems may be viewed through multiple 'lenses', and of incorporating those multiple perspectives in research and practice influencing levers of change.



Introduction

Grasslands are the most extensive habitat in the UK, covering approximately 40% of the land area. They are major contributors to the delivery of ecosystem services and are important for food production. In many areas of the UK, grazing systems are intrinsically linked to the survival of rural communities, playing a historical and cultural role as well as an economic one.

In the face of shocks such as COVID-19, stresses due to climate change and future challenges such as achieving net zero carbon, transformational change is required to reorientate management of all grazing systems to enhance their resilience from social, environmental and economic perspectives.

About the research

A workshop was held 17- 18 June 2019 in Edinburgh, with an invited group of 25 stakeholders, including 8 resilience researchers, 3 farmers and others representing pasture relevant policy and industry bodies, including Natural England, Scottish Government, Agriculture and Horticulture Development Board, Scotland Food and Drink, the Pasture Fed Livestock Association, a fertiliser distributor and livestock food businesses.

The workshop was framed around work by Abson et al 2016 (building on Meadows 1999) who argued that in order to achieve transformational change, a much more integrated systemic approach is needed in which science is better joined up across disciplines and with actors in those systems. After initial brief presentations from researchers and stakeholders, and an introductory session on identifying current issues around pasture landscapes, discussions focused on three questions in the leverage areas identified in Abson et al's work:

- to what extent might knowledge production and use be important in reorienting management of pasture landscapes,
- to what extent might reconnecting with nature influence pasture landscapes, and
- to what extent might institutional change influence pasture landscapes.

Grassland is the UK's most extensive habitat – it holds around twice as much carbon in the top 15 cm as arable land and 2–3 times more species

Results and conclusions

Workshop attendees identified potential approaches for stakeholders in the system to help to lever change in the areas outlined above. These leverage areas provide a focus for research and policy to enhance the resilience of grazing livestock systems, with approaches often reflecting different perspectives on the same levers.

A number of the approaches identified in the workshop are already being trialled around niches in the periphery of pasture systems, and are being evaluated by scientific research, however, their influence on the system remains minimal because they are not being adopted at significant scale.

Questions for stakeholders

- Which bodies are responsible for managing the levers?
- How are these bodies best coordinated?
- How are different perspectives on a future agriculture best negotiated?
- How are the difficulties of effectively measuring and accounting for goods delivered by pasture-based systems best tackled and by whom?
- How are the 'losers' as well as the 'winners' best supported during a period of transformative change?
- How are those who have limited potential for choosing sustainable consumption options because of poverty best supported?

Recommendations

Recommendation 1: Re-thinking how knowledge is created, used, shared and validated

- Engaging farmers in research for impact and immediacy
- Re-aligning research programmes to recognise the socio-ecological context of pasture-based systems
- Facilitating peer-to-peer learning and operational or innovation groups
- Increasing the use of social media for building relationships between producers and consumers
- Encouraging producers to work with processors and retailers to improve knowledge on farm environmental performance
- Encouraging producers to monitor and market their performance (relating to system outputs: soil health, animal health, biodiversity etc.)

Case study 1 : Facilitating knowledge production

Experience around the world indicates that producer engagement within the research process can help to encourage the uptake of successful innovation strategies. A recent example of successful co-innovation approaches is the Field-lab model currently being applied within the UK Innovative Farmers programme, led by the Soil Association.

The Sustainable Ecological and Economic Grazing Systems – Learning from Innovative Practitioners (SEEGSLIP) GFS project is based on researchers learning from and with Pasture Fed Livestock (PFL) practitioners about the environmental, social and economic impacts of their practices.

The PFL Association have subsequently developed their own research group in-order to foster research questions / priorities for further exploration together with academic partners, such as those engaged in SEEGSLIP. This engagement is contributing to new concepts and research agendas whilst helping to monitor and demonstrate the factors affecting uptake and success of interventions.

Recommendation 2: Reconnecting people to nature to encourage sustainable behaviours

Values related to the natural world can strongly influence behaviours. Reconnecting people with nature and food can affect what is perceived as desirable. This can take several forms:

- Reconnecting farmers – new ideas, new practices and new sources of information to change farmers' connections with their soil, grassland and livestock.
- Reconnecting citizens – with where their food comes from and with grazing livestock through opening up farms and appropriate tourism
- Reconnecting consumers – by including environmental and social aspects in food procurement and in consumption advice and regulation.
- Reconnecting policy makers – increasing use of circular economy/natural capital thinking to change how policy perceives the interactions between agriculture and the environment
- Reconnecting agri-food supply – Agri-Food supply chain business initiatives to reconnect with the landscape from which they source their raw materials

Case study 2 : Reconnecting with nature

Recognition by agri-food businesses that the loss and degradation of natural ecosystems they rely on for raw materials brings operational risk has led to commitments to reverse nature loss and restore natural systems upon which their economic activity depends.

The [Nestlé-First Milk](#) partnership aims to secure the long-term supply of milk to its processing plants by paying farmers a premium if they carry out specific practices/interventions that aim to protect water bodies, improve biodiversity, reduce greenhouse gas emissions, antibiotic use and on-farm plastics, and increase soil carbon. Thus, farmers are also reconnecting with new ideas and practices around how they manage their pastures, soils, and livestock.

The Resilient Dairy Landscapes team is evaluating the impact of the scheme by assessing the delivery of public goods from Landscape Enterprise Networks (LENs) via empirical data collection and modelling of interventions funded under the scheme. Results show, for example, that hedgerow planting within the scheme occurred at double the rate of public agri-environment schemes.

Recommendation 3: Re-structuring and re-organising institutional frameworks to provide an enabling environment for change

- Capitalising upon Post-Brexit opportunities to re-structure and re-organise policies in, e.g. trade-deals, food standards, access to labour sources and agricultural subsidies
- Joining up policy areas to integrate policies on food, land use, health and environments.
- Supporting private initiatives to monitor farm performance in relation to environmental thresholds (e.g. GHG mitigation)
- Ensuring prices reflect all environmental costs of food production, all the way through the food supply chain
- Creating policy to improve infrastructural support to rural areas to maintain business competitiveness, e.g. access to processing facilities including local dairies and abattoirs.
- Creating policy to address the disconnect between pasture and arable production and support greater integration of livestock and arable systems

Case Study 3 : Institutional change

Interviews carried out in the ResULTS (resilience of upland beef and sheep production) project identified areas where policy interactions have had unintended consequences:

In the Scottish Borders, tenants gaining the 'right to buy' under Scottish Government policy, has led to land owners taking land back under their own management when leases end, including taking advantage of incentives for forest creation, another Scottish Government policy. This reduction in land available to rent for agricultural purposes has made it even harder for young people and new entrants to take up agriculture.

In the Orkney Islands, movement of cattle from the Islands to mainland Scotland for slaughter obtained a subsidy on the ferry. However, carcasses from the local abattoir that were sold to mainland Scotland were deemed to be cargo and did not get any support payment, consequently disadvantaging the ability to promote Orkney products. The local abattoir closed in 2018, although for many different reasons.

References

Abson, D.J. et al. 2016. Leverage points for sustainability transformation. doi: [10.1007/s13280-016-0800-y](https://doi.org/10.1007/s13280-016-0800-y)

Meadows, D. 1999. [Leverage points: Places to intervene in a system.](#)

Useful resources

[Resilience of upland sheep and beef farming \(ResULTS\)](#)

[SEEGSLIP](#) – Sustainable economic and ecological grazing systems – learning from innovative practitioners

[Resilient Dairy Landscapes](#)

[Pasture for Life](#)

[NFU: The facts about British red meat and milk](#)

[Global Food Security programme](#)

[RePhoKUs](#)

About the Programme

The Resilience of the UK Food System in a Global Context (GFS-FSR) is a £14.5 million, five-year research programme. It was launched in 2016 by the Global Food Security Programme (GFS), the UK's cross government programme on food security research.

The Programme has been funded by UK Research and Innovation's Biotechnology and Biological Sciences Research Council (BBSRC), Economic and Social Research Council (ESRC), Natural Environment Research Council (NERC) and the Scottish Government.

Across UK universities and institutes, 13 collaborative research projects are producing new evidence and recommendations for policy and practice. The results will help to identify and develop interventions to strengthen UK food security.

 www.foodsystemresilienceuk.org

 @FSR_ProgrammeUK

