

Farming Smarter

The Case for Agroecological Enterprise



1. Executive summary

There is a transformation underway in UK farming towards approaches that enhance environmental services, restore natural capital, contribute to low carbon transition and produce healthy food while supporting rural livelihoods.

The UN labels the broad range of approaches to agriculture which integrate positive ecological and social outcomes as agroecology. In other contexts, such approaches are being referred to as *ecological farming* or *regenerative agriculture*. We use all three terms throughout the report and have provided a brief history of the concepts. We acknowledge the lack of a settled consensus around terminology and conceptual frameworks in these fields, but suggest that common ground can be found in the proposition that approaches based in sound ecological understanding, and adapted to local conditions by skilled farming entrepreneurs, can both improve ecological and health outcomes and drive superior profitability in farming.

In other words, the opportunity in UK agriculture is ‘farming smarter, not harder’.²

While this report focuses on the UK, the transition to agroecological approaches is happening elsewhere in the world. Major brands are adopting *regenerative agriculture* at significant scale as we write. In 2019, US-based General Mills announced that 1 million acres of their supply chain will be transitioned to regenerative practice by 2030.³ In September 2020, Walmart and Cargill both announced their commitments to transitioning 50 million acres⁴ and 10 million acres,⁵ respectively, to regenerative practice. In 2009, SLM Partners invested in 480,000 hectares of grazing land in Australia for beef cattle production using regenerative approaches⁶.

To put this into perspective, the total land area of 62+ million acres affected by these three corporations alone exceeds the total land area under agricultural management in the UK (23.7 million acres) by a factor in excess of 2.5. The regenerative beef cattle initiative referred to above is equivalent to 5% of the UK’s agricultural land. There is no effort in the UK we are aware of which matches the scale of this ambition. Here, we are still wrestling at the levels of practice, policy, finance, education and research, and how to bring this together in a framework once we leave the EU and its Common Agricultural Policy-based Basic Payment Scheme (BPS).

This review, therefore, is intended as an introduction to the thinking and principles behind such smarter approaches to agriculture and land management. We consider how we might transition to such approaches at pace and scale, what hinders them from being adopted more quickly, and map out the landscape and frameworks for assessing the effectiveness of agricultural approaches. It is beyond the scope of this review to provide answers to questions regarding consumer

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habits, affordability, demand and supply issues, the structure of dominant retailers and other important considerations. Nonetheless, we have made several conclusions about the direction of necessary further research.

WHERE ARE WE NOW? THE FINANCIAL AND ECOLOGICAL STATE OF UK FARMING

Drawing on the well-established economic theory of externalities, we identify six major hidden costs of dominant forms of industrialised agriculture: climate change, water pollution, poor nutrition, toxic chemicals, antibiotic resistance and destruction of biodiversity.

We set out four major threats to business as usual that establishes a strong case for a rapid and large-scale transformation in farming methods:



These threats are posed to an already financially precarious industry. The apparent financial strength of the UK farming sector as measured by asset values, which are fundamentally driven by increasing land prices, in fact masks considerable fragility of farming businesses. Based on the latest data, the average farm business income was £50,400 but only 12% of this was from agricultural activity, with 62% coming from subsidies and 26% from diversification. (In 2018, 42% of farms in England were profitable only with subsidy, and a further 16% were not profitable even with subsidy.) Combined with the uncertainty of future farm incomes from the changing and reducing level of government subsidy, the conditions are not conducive to encouraging innovation in farming methods – yet urgent change is required.

WHERE SHOULD WE BE GOING? THE POTENTIAL OF AGROECOLOGY

The FFCC follows the United Nations Food and Agriculture Organization's (UN FAO) definition of agroecology (AE) as

an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. It seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system.⁷

It is about understanding ecosystems better and using this knowledge to farm smarter, not harder, working with nature rather than against it.

We find that despite the success of some agroecological entrepreneurs there are significant barriers that impede the adoption of AE approaches.

There is sound theoretical and empirical support for the proposition that AE can grow more nutrient-dense food on less land while delivering a range of ecological and social benefits including biodiversity regeneration, water conservation, carbon sequestration, improved soil health and more employment in higher quality work. Crucially, it can do this while improving profitability of farming enterprises by focusing on a number of approaches including substituting external inputs for internal resources and focusing on profitability rather than gross yields.

We find that despite the success of some agroecological entrepreneurs there are significant barriers that impede the adoption of AE approaches. The International Panel of Experts on Sustainable Food Systems (IPES-Food) identifies eight mutually reinforcing 'lock-ins' that reinforce business as usual and prevent farming businesses from migrating to new methods and business models.

Furthermore, it is of great concern that even those publicly funded UN organisations which set the tone of food security policies and projects at the international level, and which support engagement with agroecology – i.e. the UN FAO, the International Fund for Agricultural Development (IFAD), the World Food Programme (WFP) and the Green Climate Fund (GCF) – channel either none or only a small fraction of their (EU including UK) funds towards projects which support transformative agroecology. This is a trend that is mirrored at the national level of the contributor countries, most of which do not even report separately on their agroecology-related spending.

While recognising this challenging backdrop, we identify three specific actions in the UK that would help it grasp the potential of agroecology:



1. Research and knowledge dissemination.

There is an urgent need for relevant research; in particular, more robust methods are needed to measure and quantify ecologically meaningful outcomes, and further research is needed into the most efficient approaches and combinations of approaches in different ecoregions of the UK.



2. Investing in agroecology at pace and scale.

There is a shortage of appropriate finance for some viable business propositions. Even where external finance is available, or transition to agroecology can be financed from internal business cash flows, to achieve change at necessary pace and scale requires a significant mobilisation of a range of forms of capital including equity and debt.



3. Supporting the agroecological entrepreneur.

The nature of agroecology is knowledge intensive and requires an appetite for innovation and risk that would be greater enhanced by robust business support including training, mentoring and effective diffusion of knowledge. The challenge posed by the large cohort of farmers at retirement age should be grasped as an opportunity to back a new generation of agroecological farmers.

WHAT NEXT? MULTI-DIMENSIONAL INTERVENTION TO ACCELERATE TRANSITION

We conclude that there is a strong case for co-ordinated mission-driven interventions to accelerate the transition to agroecology.

We recommend that further research be undertaken into the most effective national level intervention to meet the research, finance and enterprise support needs identified in this report, and that as part of this research a number of pilot funds be established in different geographic contexts across the UK that operate not as a passive supplier of finance to businesses but as a proactive AE development institution that brings together in a one-stop shop the range of knowledge, skills, training, mentoring and innovative finance required to stimulate and support a new wave of agroecological entrepreneurs.



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