

# “It’s common-sense farming”: Exploring farmers’ decision-making and behaviours towards adopting circular practices in UK agriculture.

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## Introduction

Economic pressures, market forces, and policies have largely driven agriculture towards unsustainable intensification and specialisation. Faced with increasing challenges from rising input costs and a changing policy landscape, transitioning towards more circular systems could increase the resilience and sustainability of agricultural businesses. Circularity involves the reuse of production wastes and by-products, and utilisation of locally available resources, to reduce the input of external inputs and regenerate surrounding natural systems and rural communities. To implement circular practices at the farm and between-farm level, an exploration of factors influencing farmers’ decision-making is necessary. This could help orchestrate a successful transition to more circular agricultural systems. As such, this study aimed to:

- Uncover farmer, industry, and policy perspectives and understandings of circularity.
- Understand the barriers and opportunities for adoption and out-scaling of circular practices.
- Identify and develop ways to support farmers to adopt more circular practices.

## Methodology

Data collection included two workshops with agricultural industry experts and policymakers (n = 16), and semi-structured interviews with farmers (n = 17) from diverse systems, who were already engaged with some circular practices. Data were thematically analysed using the COM-B (Capability/Opportunity/Motivation-Behaviour) model (Michie et al., 2011) to understand farmers’ decision-making and behaviour towards adopting circular practices.

## Results and discussion

Figure 1 visually presents an overview and the structure of the key themes and subthemes identified across the dataset. Qualitative data suggested stakeholders had positive perceptions (e.g., ‘natural’, cost-effective, traditional, simple, sensible) and clear understandings of the concept of circularity, but awareness of the term is lacking. Targeted and trusted advisory support was desired to increase farmers’ capability to adopt further circular practices. In terms of opportunity, government incentivisation (e.g., grants and future sustainable farming payment schemes) was viewed as a key enabler for adoption, whilst regulatory requirements (e.g., restrictions on storing and applying organic manures and planning permission for renewable energy projects) represented a major barrier. The perceived and realised benefits, especially increased economic resilience, was a principal motivation for adoption.

Subsequently, a Behaviour Change Wheel (Michie et al., 2011) was used to link and recommend interventions and policies to address the deficits and reinforce the enablers and drivers identified for each COM-B component. This implied that raising awareness through sharing anecdotal experience and scientific knowledge, whilst positively reframing policies and communicating the benefits of adoption appears crucial to enhance farmers' capability and motivation to adopt circular practices. Greater incentivisation could mediate farmers' perception of risk and uncertainty, whilst regulations could be made less restrictive, alongside infrastructure development (e.g., grid connection and capacity, local AD plants, abattoirs, and grain mills), to increase farmers' opportunity for further adoption.

### Key findings and recommendations:

- Farmers, industry, and policy representatives shared a positive perception and clear understanding of the concept of circularity, which presents a strong foundation for its promotion.
- Targeted and trusted advisory support should be increased and delivered through a combination of expert, scientific knowledge and anecdotal experiences shared with and amongst farmers.
- Incentivisation through future government payment schemes (e.g., SFI, SFS) presents a key enabler for adoption.
- Regulations should be revised and developed, with a specific focus on managing organic resources (e.g., quantity and timing of manure application), less restrictive planning permission for renewable energy projects, and use of alternative feed ingredients (e.g., food waste streams).
- Positive reframing of government policy to include circularity as a major net zero strategy, whilst raising awareness and communicating the benefits of circular practices, especially increased economic resilience, will likely enhance its adoption and out-scaling in UK agriculture.

### Conclusion

To the authors' knowledge, this was the first study on farmers' decision-making towards adopting circular practices in UK agriculture. The COM-B model was used to identify key factors of influence, which were subsequently linked to appropriate interventions and policies that could increase adoption using a Behaviour Change Wheel. The factors uncovered here as influencing farmers' decision-making towards adopting circular practices, could provide a starting point for development of improved understanding and comparison under different environmental, economic, institutional, and socio-cultural contexts. In turn, this could contribute to designing appropriate and specific interventions and policies for adopting circular practices under different circumstances and at various scales.

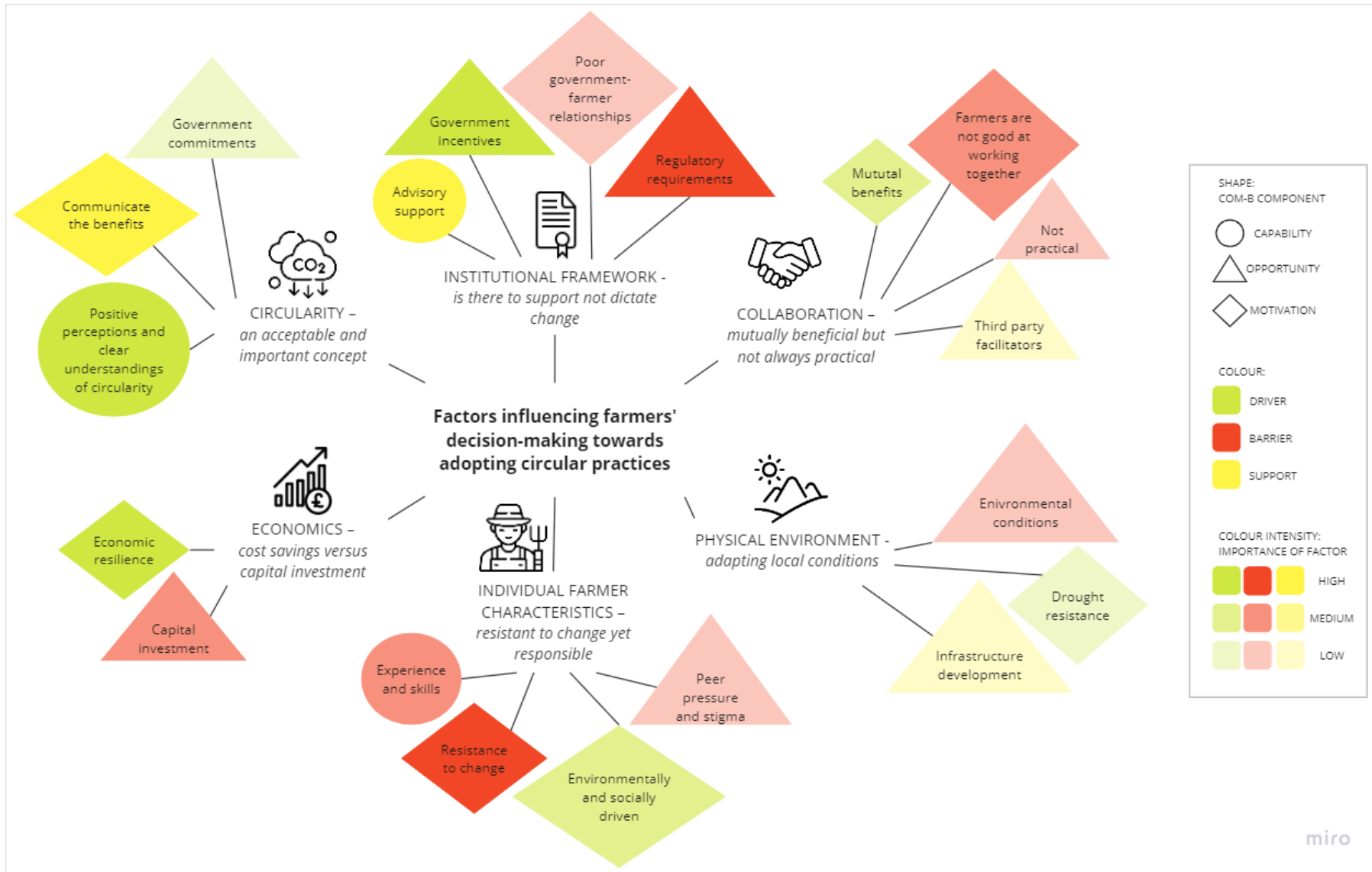


Figure 1. Thematic map summarising key themes and subthemes.