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# Ecological Practices in Scotland: Comparing Farmers Attitudes to Agroecological Farming

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## Summary

Addressing both climate and biodiversity emergencies requires support for transitions to more ecological and climate friendly farming practices. Key to this will be the practices already adopted by Scottish farmers<sup>2</sup> but also the incentives we offer to support change in our current farming practice. Key to this will be the underlying attitudes and perspective of farmers towards adopting ecological approaches.

This briefing note outlines the results of a survey of Scottish farmers on their attitudes and perspectives towards ecological practices. It is part of the EU funded LIFT project looking at farming across Europe. We compare Scottish farmer perceptions to those of counterpart farmers in mainland Europe. This allows us to identify whether there are stronger or weaker levels of agreement towards these statements and whether they are significantly different from a mainland European perspective.

We find that Scottish farmers have higher levels of agreement in a number of areas towards positive external influence, namely supply chain acceptability of ecological approaches and social acceptance of ecological approaches. Conversely, we find lower levels of agreement to more internal influences such as farmer outlooks towards ecological approaches and some farming goals. This suggests they identify less as an ecological farmer compared to those on mainland Europe. Nevertheless, agreement is still high with Scottish farmers towards some of these statements.

Overall, the surveyed Scottish farmer perspectives are positive towards ecological approaches, when compared against other European farmers. Raising favourable outlook outlooks towards these practices may be enabled by a policy direction which embeds these approaches within a replacement to the CAP as a means to promote more mainstreaming of practices.

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<sup>2</sup> See: <https://zenodo.org/record/5356877>

## 1.0 Introduction

Ecological practices can be defined as low-input practices and/or practices that are environmentally friendly. At the farm scale ecological practices brings in a system that aims to optimise production while minimising external inputs, avoiding the degradation of natural resources and contributing to ecological benefits such as biodiversity (Figuerola-Helland et al. 2018). A wide range of practices can support these aims, with different practices relevant for different locations and aspects of farming.

For cropland management this might mean reducing reliance on inorganic fertilisers, pesticides and herbicides and instead using green manures, introducing natural predators, or managing weeds through variety selection. It could also mean limiting tillage and making use of crop rotations and cover crops to support soil health and to control pests and diseases. For livestock management this may mean reducing reliance on inorganic fertilisers for grassland, focussing on permanent pasture grazing over temporary grassland, favouring high forage over low forage diets, as well as good manure management and careful use of antibiotics.

A number of authors have explored and classified farmer perspectives against a number of environmental concerns, such as encouraging more birds or improving water quality (Guillem *et al.*, 2012; Daxini *et al.*, 2018). These studies find a series of farmer outlooks which perceive various degrees of acceptance of conservation practice within production (Barnes *et al.*, 2011; Hyndland *et al.*, 2018; Barnes and Toma, 2012). The link between these perspective types and attitudes has also been found to be significant in determining participation within agri-environmental or organic schemes (Sulemana and James, 2014; Cullen *et al.*, 2020). Overall, the nature of the transition to ecological practice adoption is driven by constraints both from within the farm, but also externally in terms of social acceptance and how farmer perceptions meet or conflict with internal belief systems (Toma *et al.*, 2018; Kuehne *et al.*, 2017; Defrancesco *et al.*, 2008).

## 2.0 Method

A survey of Scottish farmers took place as part of the LIFT (Low-Input Farming and Territories) project (LIFT H2020<sup>3</sup>) between January and March 2020. The surveys were conducted through a combination of telephone and face-to-face interviews. We received 109 valid responses in Scotland across a range of farm types including arable, livestock, permanent crops and mixed crop and livestock farms. In total the survey had 1,335 valid responses from farmers in Austria, Germany, Greece, England, France, Hungary, Ireland, Italy, Poland, Romania, Scotland and Sweden.

Farmers were asked a series of statements, covering a range of internal and external influences and their perception of these<sup>4</sup>. We used a 5-point scale from strongly disagree to strongly agree to understand farmer agreement with these perceptions.

The main statements chosen for this brief are shown below.

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<sup>3</sup> See: <https://www.lift-h2020.eu/>

<sup>4</sup> The questionnaire is available here: <https://www.lift-h2020.eu/download/1504/>

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**Supply chain acceptance**

- There are not many opportunities open to me in the market that would enable me to adopt more ecological farming practices
- The requirements of those who buy my products restrict my ability to farm using more ecological farming practices

**Social acceptance**

- There is a lot of agreement amongst farmers I know that using ecological farming practices are a good thing to do
- I have a strong sense of belonging to the farming community

**Farmer outlook**

- I see myself as a farmer who prioritises the environment
- Understanding the ecology of the farm is what farming is about
- Farming in a way that preserves the environment is part of who I am

**Farmer goals**

- Knowing the practice is innovative
- It is important to adopt farming practices that provide environmental or social benefits

**Farmer knowledge and advice**

- It is important to continuously assess the environmental and social impact of my farm
  - I have access to good advice and support on ecological farming practices
  - I do not have the knowledge and skills to adopt more ecological farming practices
- 

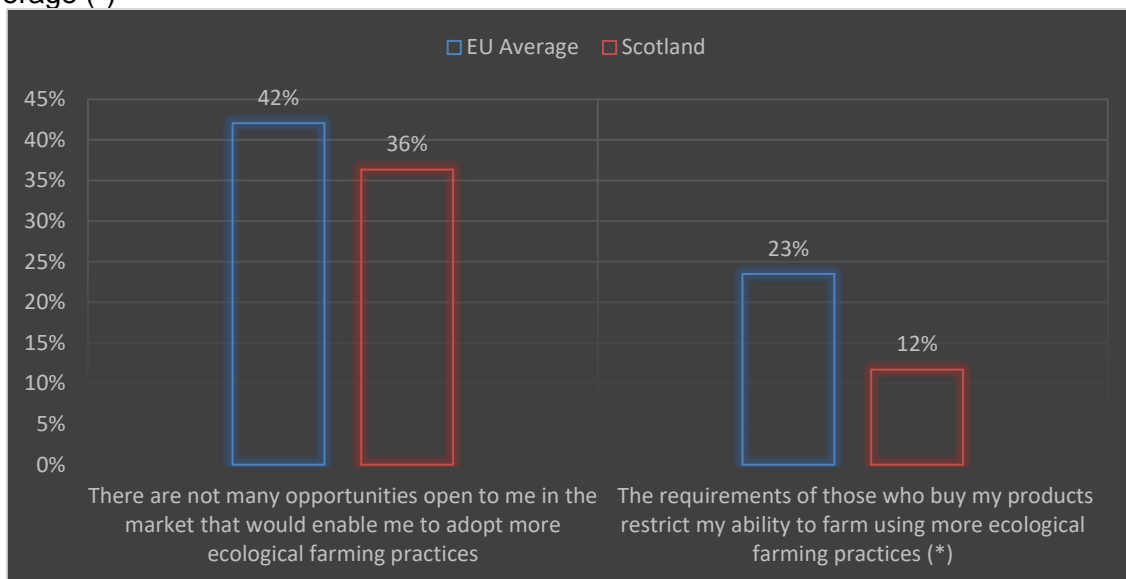
For brevity the figures below compare those who agree or strongly agree to the statements with the average responses of EU farmers. We conducted a significance test (chi-square test) on each statement to assess whether the differences between Scotland and other European farmers is significantly different. These are marked with a (\*) on the figures below

### 3.0 Results

#### 3.2 Supply Chain Acceptance

Figure 1 shows that Scottish farmers are more in agreement that the supply chain supports their ecological farming practices compared to the average. The EU farmers tended to agree that there were less opportunities for them and that the requirements are more restrictive which, in turn, limits their ability to adopt ecological practices. There was a significantly lower level of agreement with this latter statement with Scottish compared to other EU producers.

Figure 1. Level of agreement to statements on supply chain acceptance, Scotland and EU average (\*)

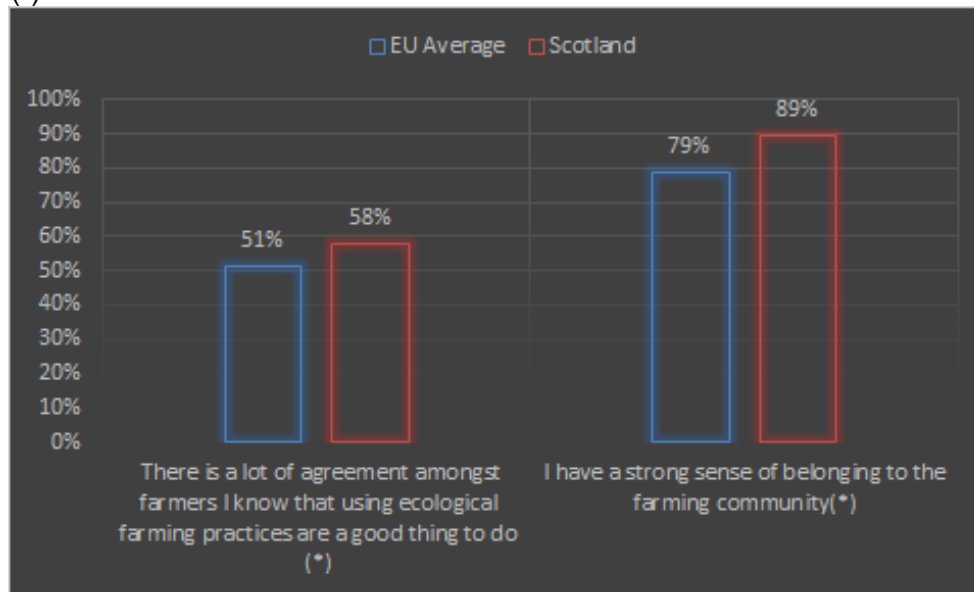


\*significantly different

#### 3.2. Social acceptance

There is a significantly higher level of agreement towards the social acceptance of ecological practices for Scottish farmers. Nearly 60% of the Scottish farmers surveyed stated that there was a lot of agreement among their social networks that ecological practices are a good thing to do. Moreover, there were higher levels of agreement that farmers felt they belonged in the farming community. Specifically, this infers that Scottish farmers feel more engaged in the farming community and that ecological practices are more accepted than EU counterparts.

Figure 2. Level of agreement with statements on social acceptance, Scotland and EU average (\*)

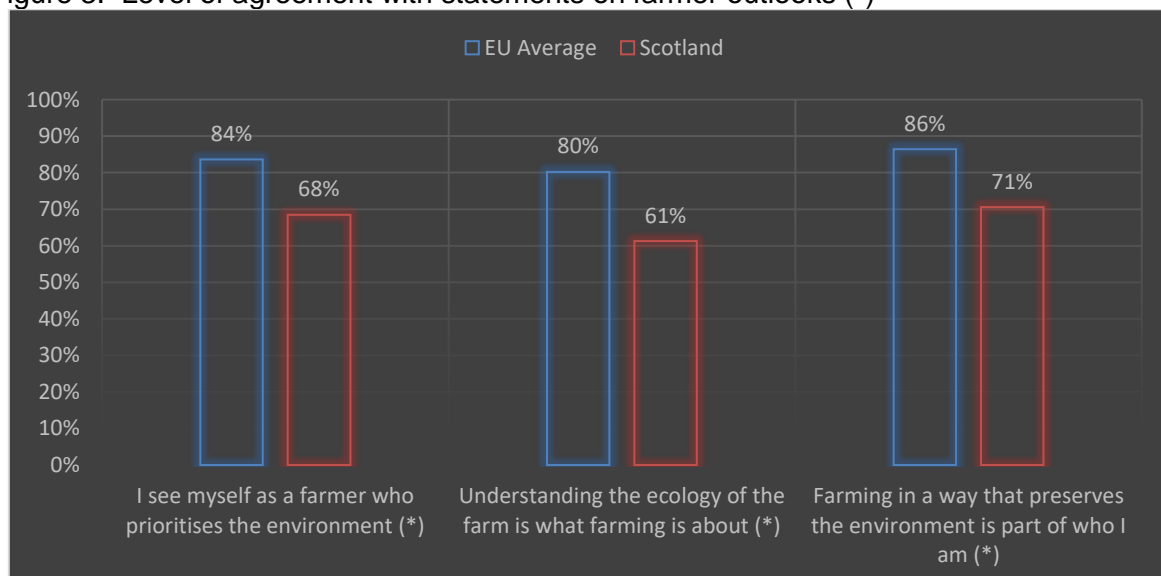


\*significantly different

### 3.3. Farmer outlooks

We selected three statements which characterise farmer outlooks and these were all significantly lower than the EU averages. These all inferred an ecological outlook to support their perceptions as a farmer. The figure below shows that, relative to the EU average, Scottish farmers are less likely to agree with statements on the ecological and environmental self-identity of farming. Nevertheless, levels of agreement within the Scottish sample are still high at around 60 to 70%.

Figure 3. Level of agreement with statements on farmer outlooks (\*)



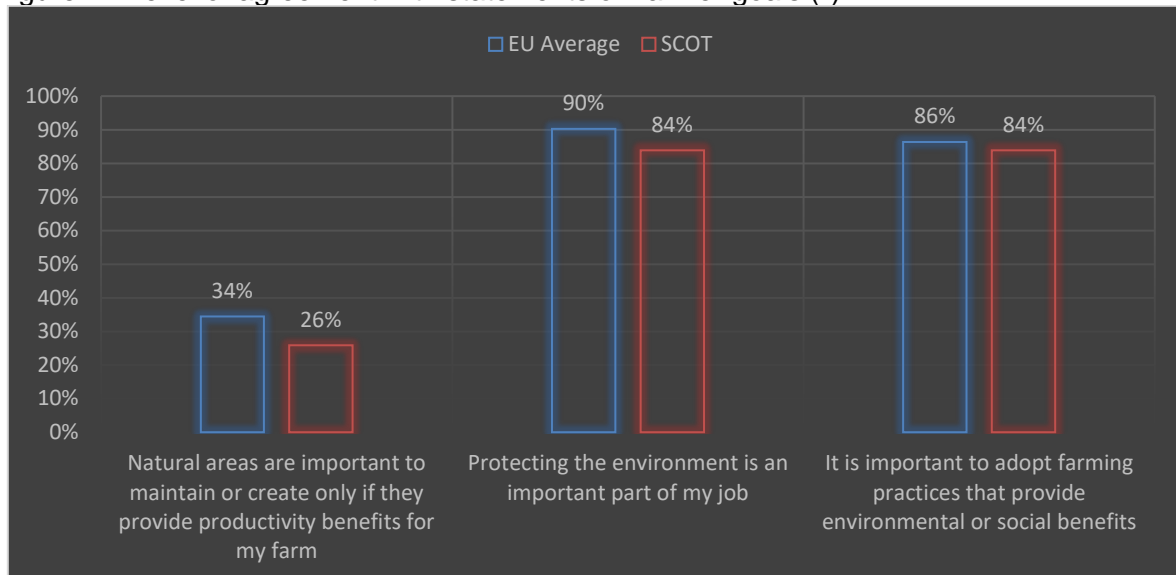
\*significantly different

### 3.4. Farmer goals

Figure 4 shows the responses to statements around farm goals towards the environment. These show no significant differences and a fairly similar spread of responses. Notably a high

proportion of the sample agree that farming should provide environmental and social benefits, as well as protecting the environment as part of their job. Furthermore, there was only a low level of agreement that natural areas should be managed for productivity. This shows a commonality in outlook towards ecological farming between Scottish and EU farmers.

Figure 4. Level of agreement with statements on farmer goals (\*)

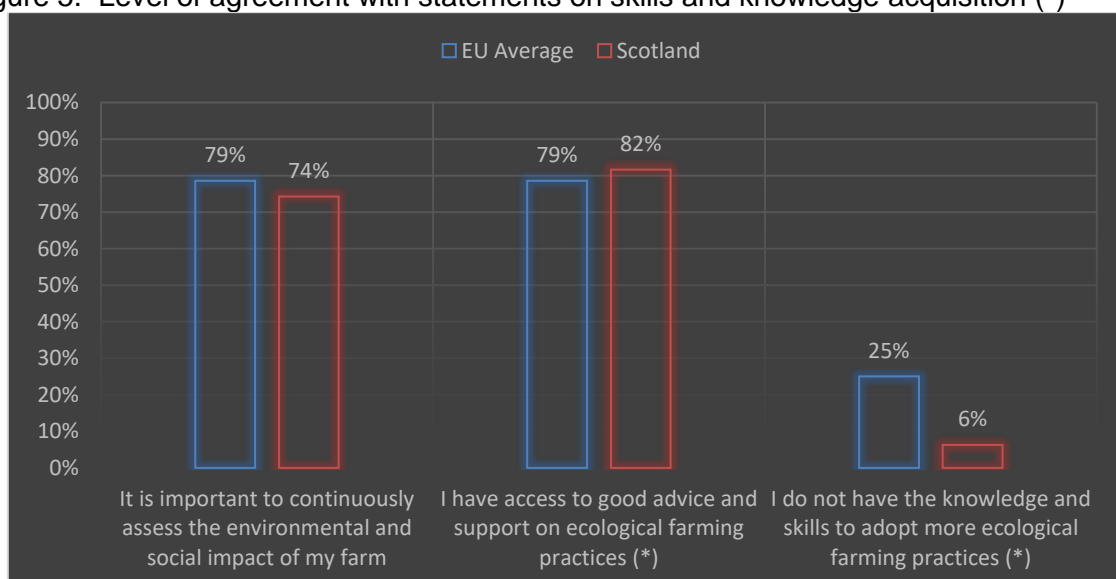


\*significantly different

### 3.5 Skills and Knowledge acquisition

Skills and knowledge have been highlighted as a potential limiting factor for adoption of ecological approaches. The figure below shows the frequencies of agreement between Scottish and EU average farmers to three selected statements. These show a mixed picture. Whilst not significant, a higher proportion of EU farmers agreed that it was important to monitor their environmental and social impact. However, where there are significant differences, Scottish farmers have a higher acceptance that they have access to advice, and are less in agreement that they do not have the skills to adopt more practices compared to the EU average.

Figure 5. Level of agreement with statements on skills and knowledge acquisition (\*)



\*significantly different

## 4.0 Summary

- Although we compare with an average of other EU countries, this exercise helps to understand the current attitudes of Scottish farmers relative to an international benchmark to understand how willing our farmers are to adopt ecological practices.
- We find that Scottish farmers have higher levels of agreement in a number of areas of external influences, namely supply chain acceptability of ecological approaches and social acceptance of ecological approaches.
- Conversely, we find lower levels of agreement to more internal influences such as farmer outlooks towards ecological approaches and some farming goals. Nevertheless, agreement is still high with Scottish farmers towards some of these statements.
- Moreover, Scottish farmers seemed more in agreement that they felt they had access to skills and knowledge networks to support their adoption of ecological approaches.
- Overall, we would argue that the influence of farmer perceptions should not be underestimated in the transition to more climate and nature friendly farming. Developing voluntary and regulatory instruments which are regionally specific would be a holistic approach to encouraging transition within the sector.

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