



## Sustainability assessment of sheep and goat farms; a comparison between European countries

*This article is a synopsis of a recent open access paper published in the Journal Sustainability and covers the role the Public Goods (PG) Tool has played in the Innovation for Sustainable Sheep and Goat production in Europe (iSAGE) project. It builds on the article 'Sheep Sustainability research findings begin to emerge' published in ORC Bulletin No.126. ORC's Lisa Arguile and Marion Johnson summarise the paper.*



### Introduction

Sustainability issues are of particular importance for the sheep (130.8 million head) and goat (16.8 million head) sector in Europe. These small ruminants ensure the livelihoods of many vulnerable populations in rural areas.

In order to choose the best Sustainability Assessment (SA) tool and indicators that would provide an overview of the European situation the iSAGE project ([www.isage.eu](http://www.isage.eu)) mapped out and reviewed 21 SA tools. It was concluded that the PG Tool developed by ORC was the best option if adapted for the iSAGE project. The 13 sustainability themes addressed in the iSAGE PG Tool are as follows:

1. Soil management
2. Agri-environmental management
3. Landscape and heritage
4. Water management
5. Fertiliser management
6. Energy and carbon
7. Food security
8. Agricultural systems diversity
9. Social capital
10. Farm business resilience
11. Animal health
12. Animal welfare
13. Governance



*Dairy goats*

### Geographical scope of the survey

A sample of 206 farms in 6 European countries– Finland, France, Greece, Italy, Spain, United Kingdom and Turkey – was used for the analysis as shown in Figure 1. The selected European countries represent more than 74% of the European sheep and 87% of the European goat populations. The sample farms were chosen by partners participating in the iSAGE project to represent farms that were typical of each farm typology in each country.



*Figure 1. Map of the studied farms (created using Tableau Desktop Professional Edition 2019.4.2 software)*

As the farms were chosen by partners, essentially providing only a snapshot of the industry the level of bias does not permit robust statistical comparisons across countries and farm types, but rather yields rich information regarding the prevailing challenges that farms of each type face in each country with respect to their overall sustainability performance. The chosen farms were spread throughout the countries, in different regions and climatic zones as shown in Figure 1.

### Sustainability assessment

Data were collected through on-farm surveys. Enumerators visited the farms and conducted the assessment through a semi-structured questionnaire, with closed and open-ended questions based on the iSAGE PG-Tool indicators. Each question was nested within a sub theme associated with each of the 13 sustainability themes. In total, whilst undertaking the SA, farmers answered 154 questions, with each interview requiring on average 4 hours of the farmers time.

To determine the final score a non-weighted rounded average of the questions in each subtheme is calculated. Together, using non-weighted averages these sub-theme scores generate the overall spur score.

The average farm scores were then aggregated and averaged in order to calculate the average sustainability theme score per country. The full results are available in the paper<sup>1</sup>.

### Summary of results and discussion

Finland appears to be the most sustainable among the seven participating countries, ranking first in 5 out of 13 categories, and being above average in all categories. Water, Soil and Fertiliser Management scores indicate that the preservation of natural capital is a goal for Finnish farmers, while high performance in the Landscape and Heritage and the Social Capital themes suggests that society and the preservation of their lands are important to them.

United Kingdom and Italy perform higher than average in all categories. UK leads the Animal Health, Animal Welfare and Agri-environmental Management themes, all relating to higher environmental and welfare standards. Italy – on the other hand – leads the Energy and Carbon, Food Security and Agricultural Systems Diversity themes. Therefore, Finnish, UK and Italian farms can be regarded as reasonably, although not holistically, sustainable.

France and Spain each rank the highest only in the Farm business resilience and the Governance themes respectively but both economics and governance were identified by SAFA as being important contributors to overall sustainability. At the same time both rank, on average, above the mean for each theme assessed demonstrating an acceptable level of performance.



Photos: Marion Johnson

Local breed ram

Turkey underperforms within the sustainability assessment in a number of themes. Although Turkish farms score higher than average regarding Social Capital and Water Management, their performance is low in all other categories. Greece achieves the lowest performance in almost all categories and underperforms in the remaining ones. The reason for lower economic performance relates to the country's economic crisis, which burdens farms with higher expenses and lower margins. Greece also faces the challenges common to other countries – for instance, the lack of a younger generation entering agriculture and of a work force willing to invest time and money into more sustainable patterns of livestock production with a long-term perspective. In Greece this common challenge is coupled with the persistent problems of small farm size and a lack of an enabling regulatory framework.

The findings from this study should be considered in the light of some limitations introduced by the SA Tool, the small sample size and in particular farmers' subjective responses to some themes. However, this study has demonstrated some trends regarding the overall sustainability of the European sheep and goat sector that should attract significant attention. In addition, these results highlight priorities to enhance the overall sustainability of sheep and goat production and are thus of equal importance in the formulation of future policy. For both these domains, further and larger scale studies at the European level are needed to provide more detailed and statistically important results as well as more generally applicable measures and interventions.



## Reference

1. Paraskevopoulou C, Theodoridis A, Johnson M, Ragkos A, Arguile L, Smith L, Vlachos D, Arsenos G. Sustainability Assessment of Goat and Sheep Farms: A Comparison between European Countries. *Sustainability*. 2020; 12(8):3099.



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[comment@organicresearchcentre.com](mailto:comment@organicresearchcentre.com)

## Council of Management

### Mike Turnbull

Mike stepped down in April after eight years as Trustee/Chair of ORC. Mike writes "Having now been a Trustee of a succession of charities for a continuous 22 years, 18 of these as a Chair, I shall be relieved to give it all a rest. I had eagerly anticipated being able to spend time with my family, in particular my grandchildren, although for the immediate future that looks to be on hold.



"We have come through some very challenging times together, and following the recent changes, I am confident that the organisation is well placed now to make its much deserved breakthrough into the wider national consciousness as a leading player in the UK and indeed international organic scene."

### Tim Bennett

We are pleased to announce Tim Bennett as the new Chair of ORC's Council of Management.



Tim writes "It was a great honour for me to be asked to take over the Chair of the Organic Research Centre. I want to thank Mike Turnbull for his incredible efforts over the last few years on behalf of ORC and particularly over the last year in delivering the farm sale that has created the opportunity to invest funds to create a more sustainable organisation.

"I am a first-generation farmer with an organic grassland farm near Carmarthen in South Wales very close to the National Botanic garden of Wales (which is also organic!). We converted to organic production about 14 years ago. I have been fortunate to undertake quite a few roles in my career including president of the NFU, Chair of the Food Standards Agency for the UK and Chair of the Farmers Club in London.

"When I stood down as Chair of the FSA, I was asked to Chair the Livestock Agri-tech company (CIEL) to set up and invest in a much-needed new applied livestock research capability. So far in partnership with 12 Universities and Research Institutes around the UK, and with the support of Innovate UK we have invested over £70 million in new capabilities which is already yielding significant research. Therefore, over the last few years I have been working within research and I know the difficulties in bidding for and winning new funds and the imperative to have good partnerships to succeed.

"This is a challenging time for ORC as we develop the business strategy that will help us to make the ORC even more relevant as the UK moves to a more sustainable farming future. The Covid-19 pandemic has disrupted not only our work at the ORC but our whole food supply chain as well. But the good news is that this should lead to a more evidence-based debate about the future of food production in the UK as part of the lessons learnt exercise that inevitably will take place. I think that the ORC must help drive that debate as part of helping to create solutions based on sound science."