

# Farm-level assessment in Mediterranean environments: Enhancing decision-making for sustainability

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## Introduction

In typical Mediterranean settings, farming systems are the key components; having impact on the community structure and the environment in which they take place hence it is important to develop tools for Sustainability Assessment (SA). To enable positive change, it is necessary to effectively allocate resources. Thus it is important to understand how farmers' decision-making impacts their farm's sustainability performance and their awareness and use of Decision Support Tools (DST) for sustainable management.

## Research Aims

- To assess the sustainability performance of farming systems in a typical Mediterranean environment using the RISE 3.0 tool.
- To evaluate the perceptions and point of views of farmers on sustainability, decision-making and DST, using a questionnaire derived thematic analysis.
- To integrate of the RISE tool, thematic analysis and FADN data to make recommendations concerning sustainability improvement.

## Materials and Methods

The research combined the use of the RISE 3.0 as an SA tool at the farm-level with effective evidence-based decision-making to enhance sustainability performance. 20 farm holdings were included in the study which were identified from the Farm Accountancy Data Network (FADN) database for Argolida, Greece, for the year 2017. Using the same sample farms, a further questionnaire was applied and analysed to explore farmer perceptions of sustainability in more detail using thematic analysis. Findings from the RISE tool, the thematic analysis and the 2017 FADN data were integrated to make recommendations about farm-level decision-making and sustainability improvement.

## Results and Discussion

Although a lack of sustainability awareness and assessment was revealed by the thematic analysis, the majority of farmers still suggested that their decision-making was sustainability driven.

### Sustainability as part of decision-making

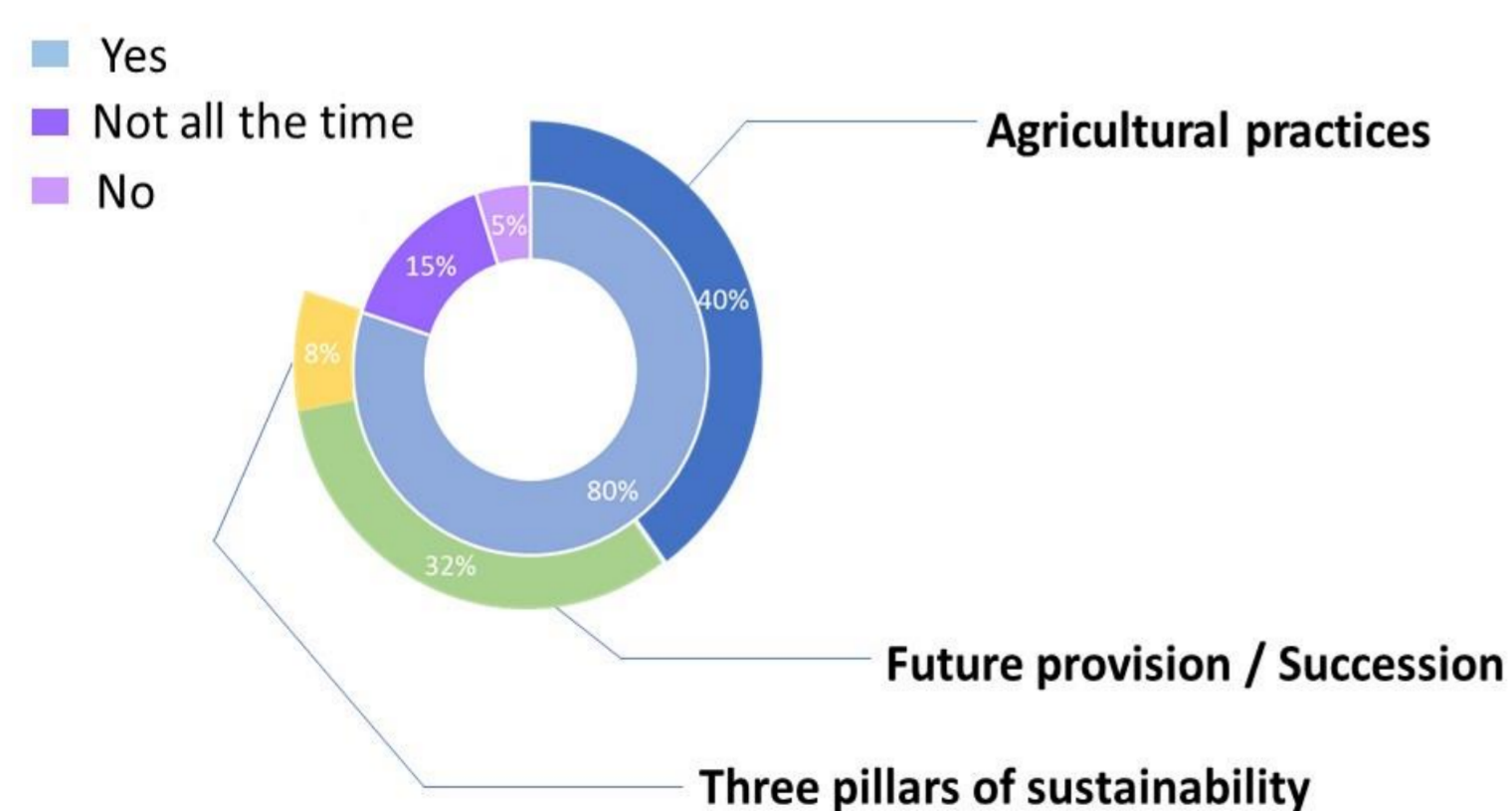


Fig. 1: Sustainability as part of decision-making.

The findings from the RISE 3.0 assessment, indicated a lack of evidence-based decision-making. Indicators such as energy & climate, biodiversity, water use and material use & environmental protection, were responsible for some of the low sustainability

performance scores, which supports the notion that decision-making and farm sustainability were concepts unfamiliar to the majority of the sample.

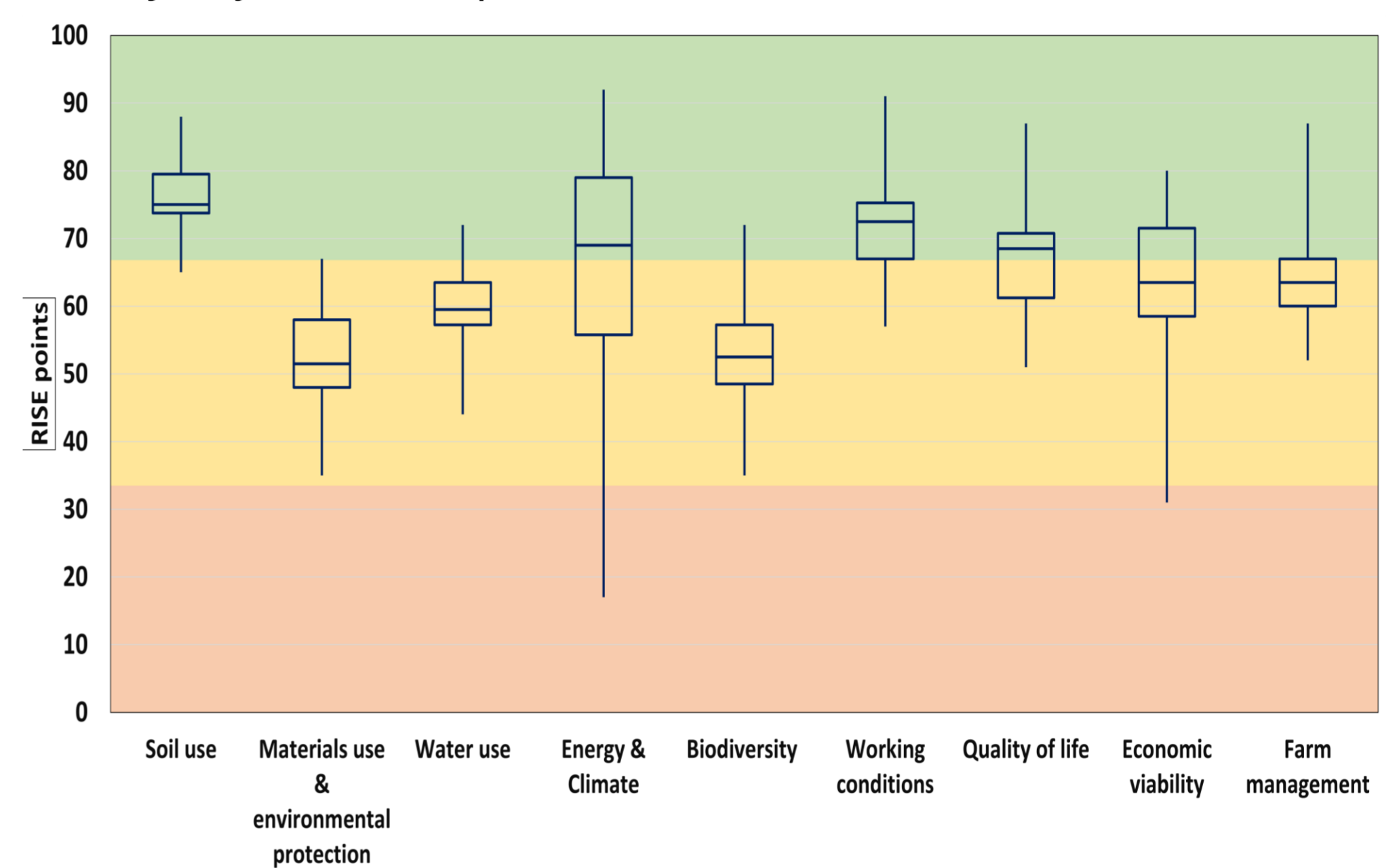


Fig. 2: Farm sustainability assessment, adapted from RISE 3.0.

The FADN data, confirmed that the cropping pattern, the holding size, the type of farming, the age of farmers and their educational background were similar to the wider Mediterranean region. Further, a dependency on CAP subsidies was evident, as in many cases these payments made a significant contribution to the overall farm profitability.

## Conclusions

Overall, this research indicates a gap in the understanding of wider sustainability issues within the context of farm decision-making. While just a few farmers had a clear grasp of the dimensions of sustainability and just one farmer had ever undertaken a sustainability audit, it was clear that in order to enhance the sustainability of the production process, the educational, technological and consultancy framework needs to be reformed to address the challenges indicated previously. Thus, to aid the change process this research recommends:

- A review and update of the educational framework for both farmers and advisers to tackle the challenges of sustainability awareness and performance and technology uptake.
- The creation of vocational training programs, oriented towards enhancing the continuing education of farmers on contemporary and sustainability oriented methods and skills.
- An enhancement of the role of the extension services to provide responsible guidance and advice, possibly from a restructured network of extension officers that can support the change to more sustainable systems.

### Acknowledgements

- Bern University of Applied Sciences, School of Agricultural, Forest, and Food Sciences for the provision of RISE 3.0 sustainability assessment tool
- Ministry of Rural Development and Food, Greece for the provision of the FADN dataset for the Argolida region.

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