Sustainability

Assessments

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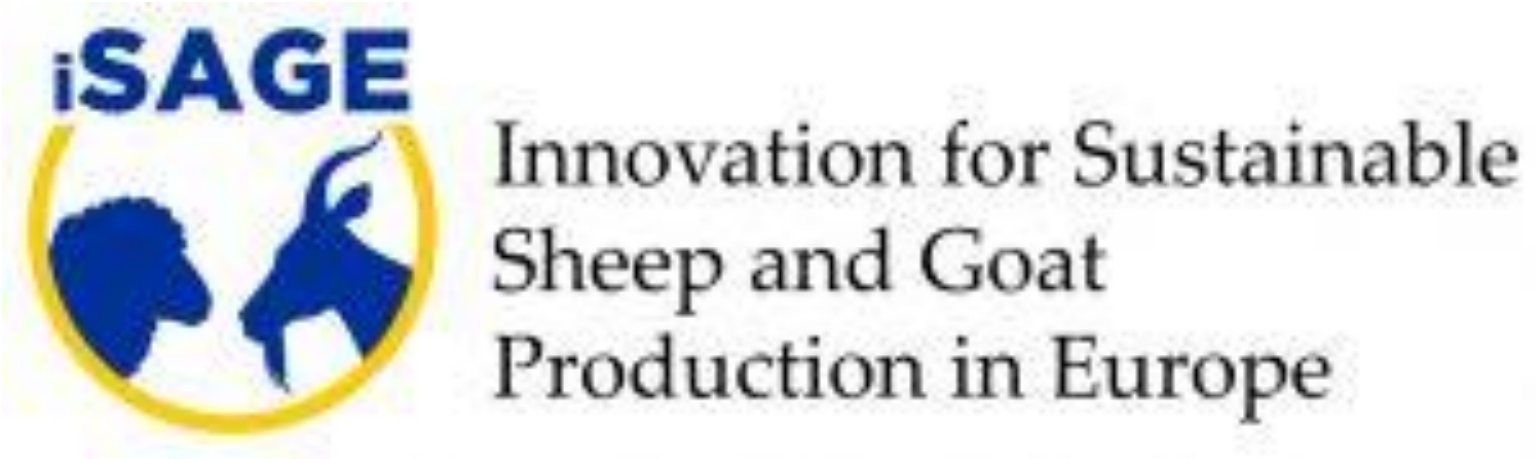
iSAGE Innovation for Sustainable Sheep and Goat Production in Europe

National Sheep Association

The Organic Research Centre ELM FARM

Sustainable production



Assess the Sustainability of sheep and goat systems

Develop a Toolbox to aid Sustainability learning and decisions

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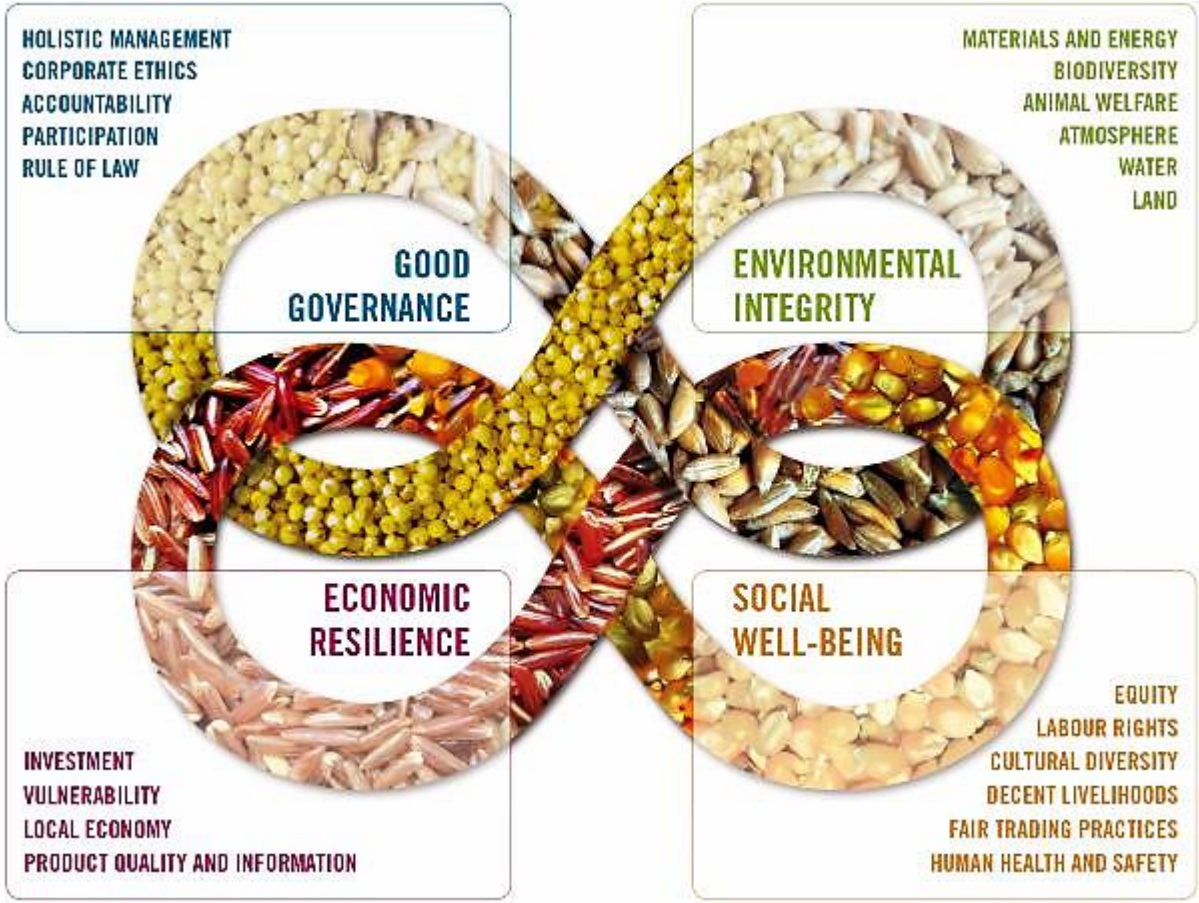
ELM FARM

Sustainability

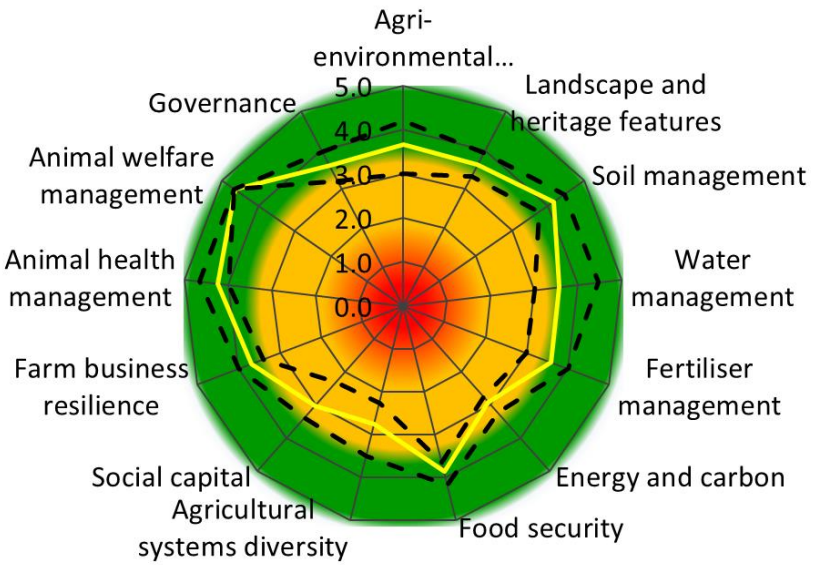
- 4 pillars approach to sustainability

Unless good governance is seriously considered, sustainability will remain a mirage



The Public Goods Tool

- Multi criteria, analysis based assessment
- Addresses environmental, economic, social and governance themes
- Immediate results
- Mixture of quantitative and qualitative indicators
- Simple programming in Excel-spreadsheet



Adapting the PG Tool for iSAGE

Literature review

Outcome and process indicators

Indicator survey

Greece, UK, France, Italy, Spain, Finland, Turkey

Tool adaptation

Social, animal welfare and governance indicators

On-farm testing

2 x farms in Greece, UK, France, Italy, Spain

Organisation of the PG Tool

Environmental integrity	Social wellbeing	Economic resilience	Good governance
• Agricultural Systems Diversity • Agri-Environmental Management • Animal Health Management • Animal Welfare Management • Energy and Carbon • Fertiliser Management • Soil Management • Landscape and Heritage Features • Water Management	• Social Capital	• Farm Business Resilience • Food Security 173 questions	• Governance

Conducting the assessment

On farm interview

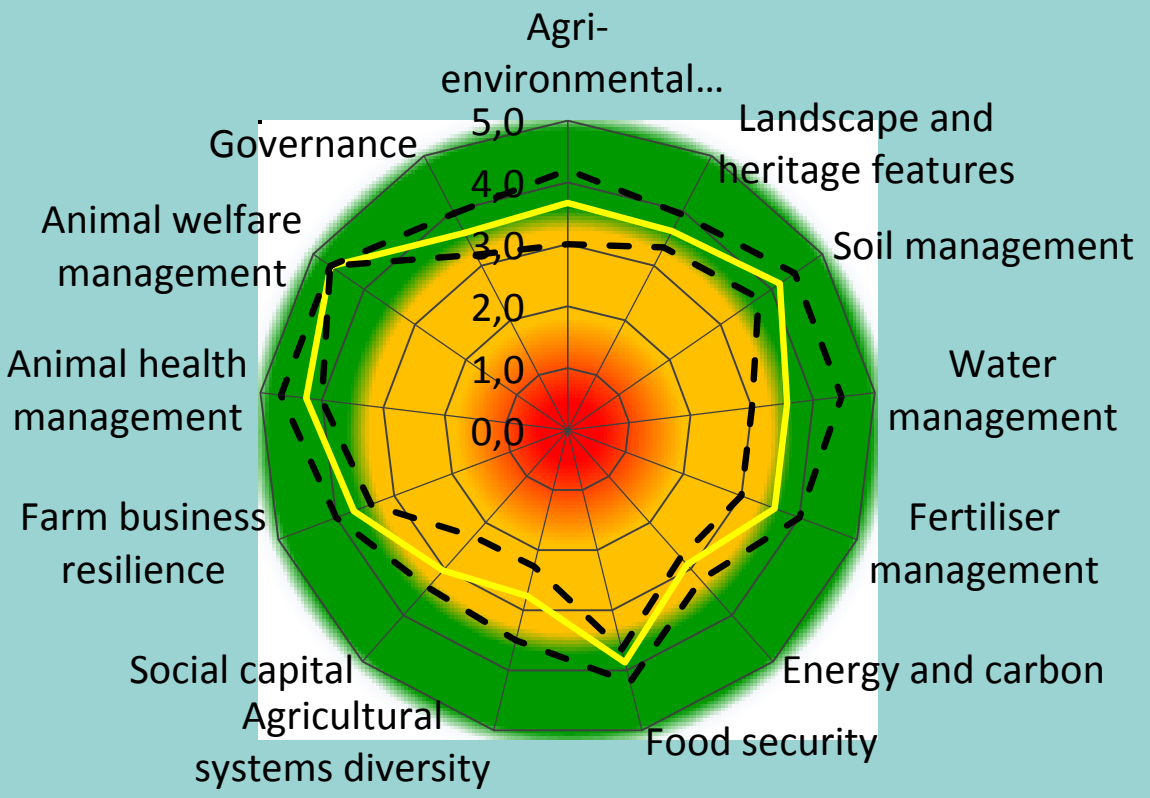
Farmers answer questions associated with the 13 themes

Each answer is ranked on a **1-5 scale**, cumulatively generating an overall average

Immediate results presented in a radar diagram

PG Tool – results

- Scores provide an indication of current performance
  - 1 = poor performance
  - 5 = very good performance
- Based upon industry recommendations and benchmarks
- Providing a holistic overview of the farm business



Remember

The PG Tool provides
a snapshot of current sustainability performance

→ Discussion

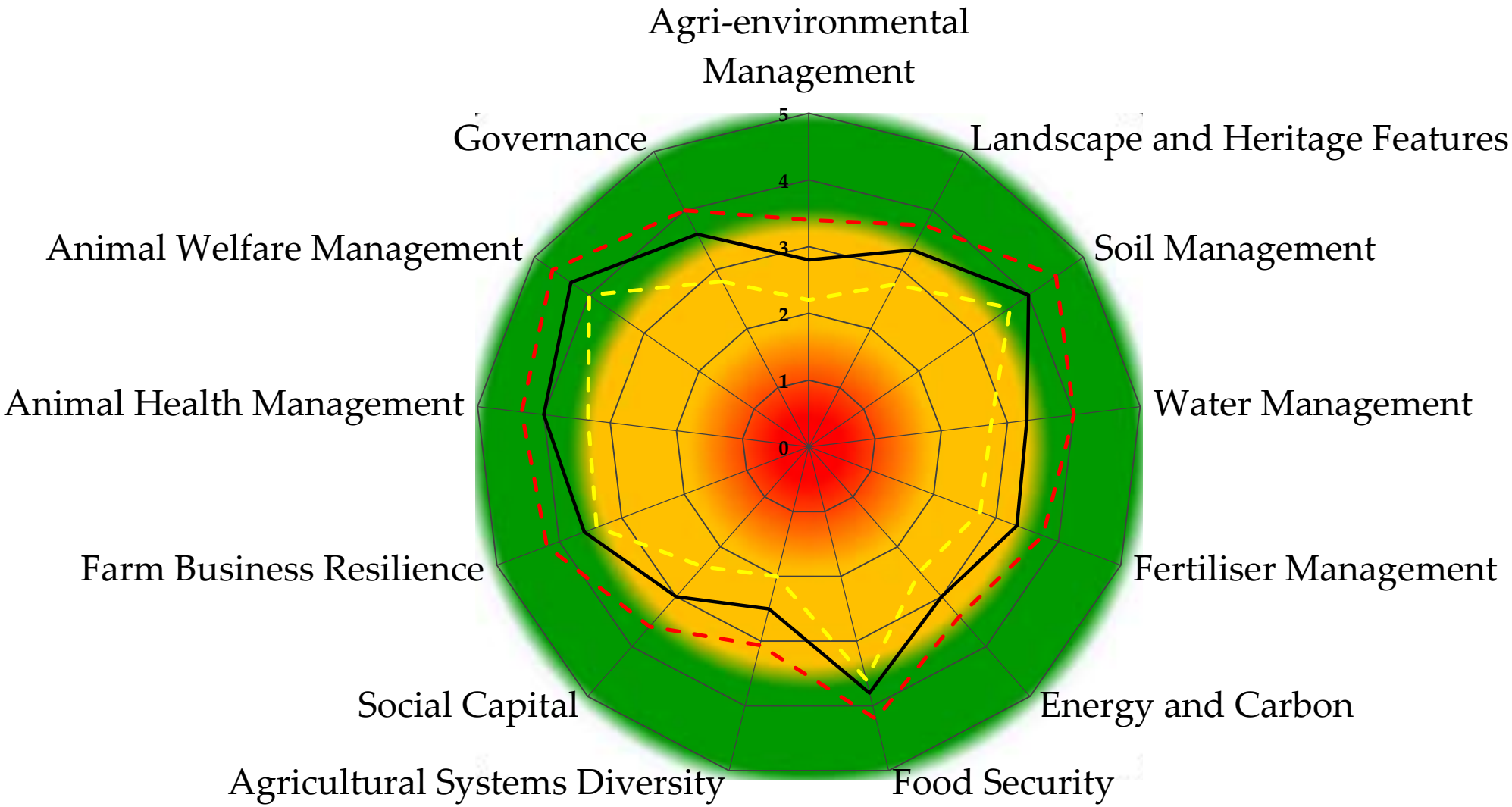
Number of Assessments

Country	Number of farms visited
Finland	10
France	38
Greece	25
Italy	21
Spain	46
Turkey	65
United Kingdom	31
TOTAL	**236**

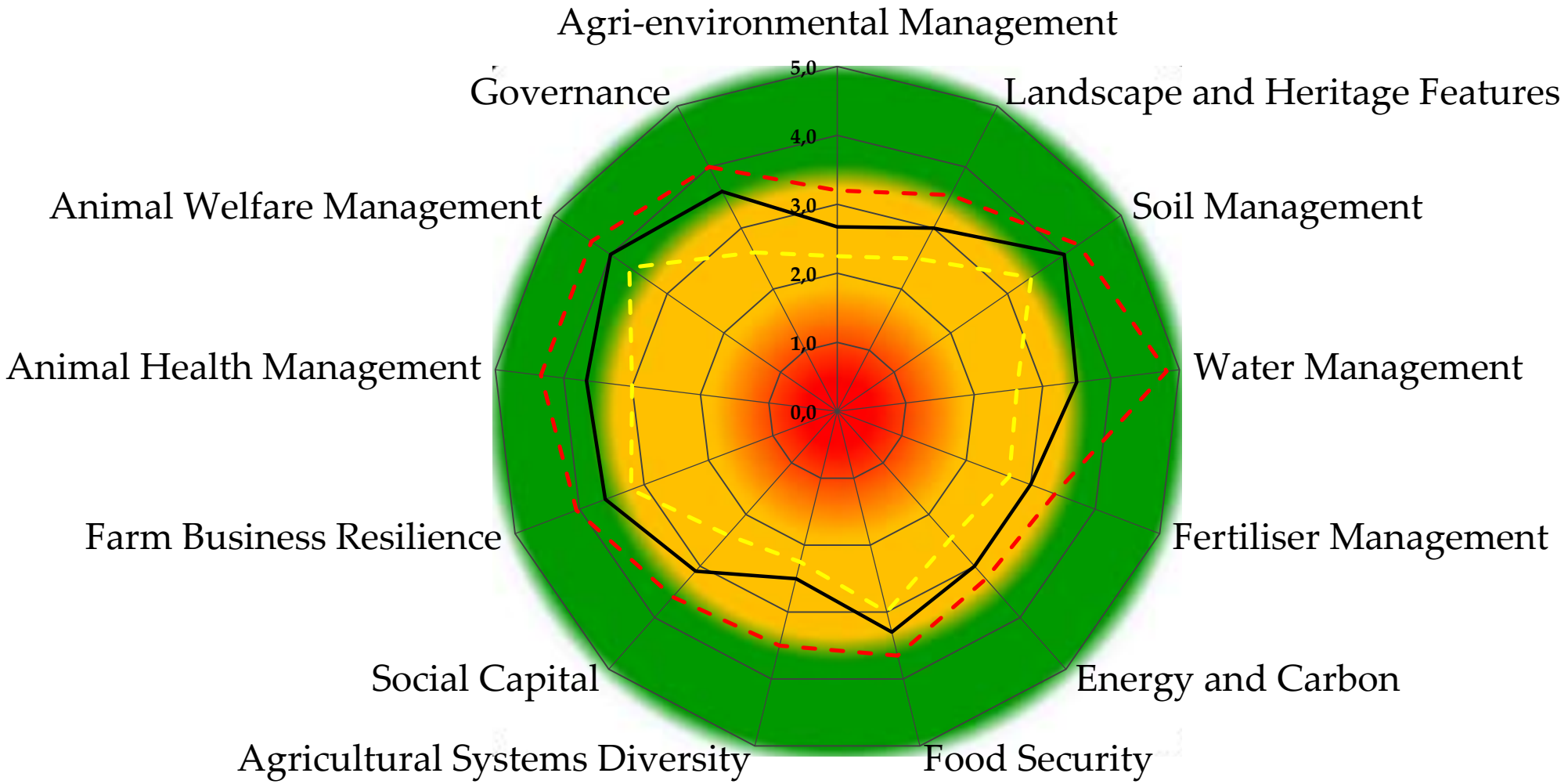
Assessments by Typology

Typology	Complete Assessments
Sheep dairy extensive	29
Sheep dairy intensive	9
Sheep dual purpose	24
Sheep meat extensive	44
Sheep meat intensive	24
Goat dairy extensive	18
Goat dairy intensive	38
Goat dual purpose	10
Goat meat extensive	7
Goat meat intensive	3
Total	206

SHEEP INDUSTRY



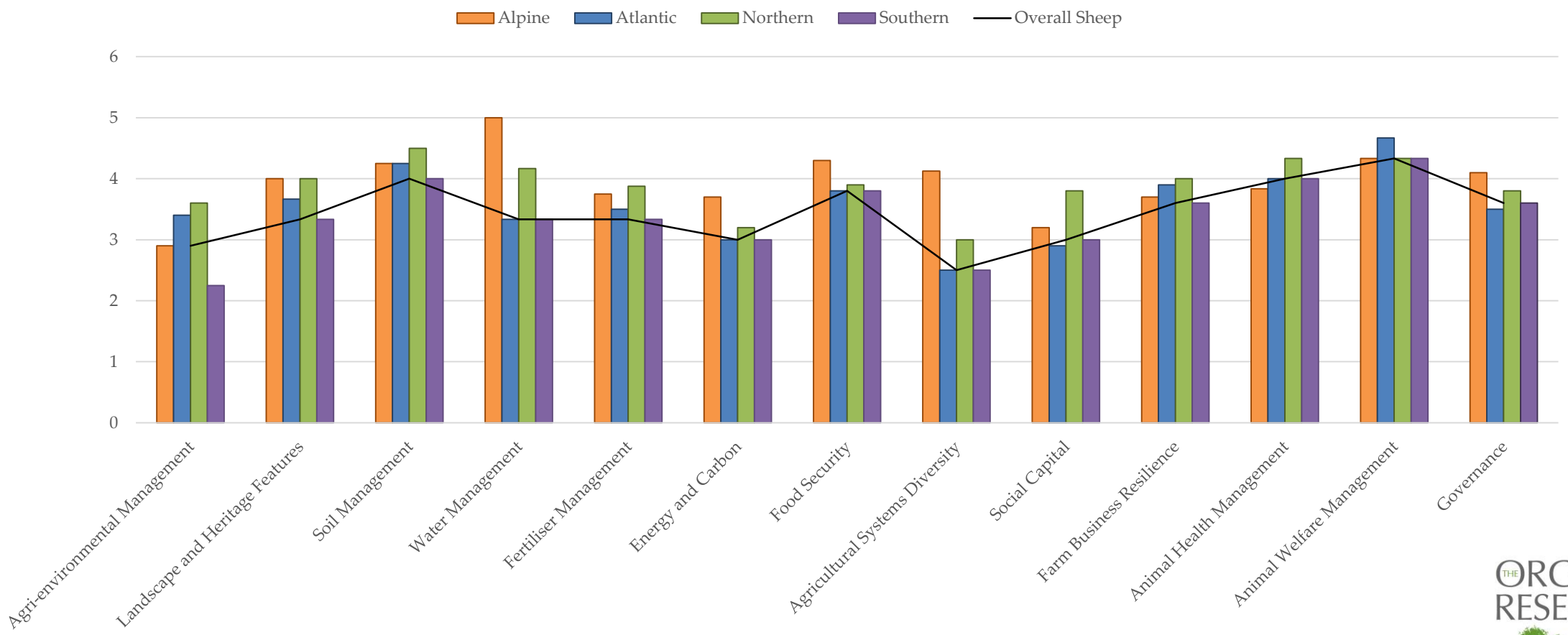
GOAT INDUSTRY



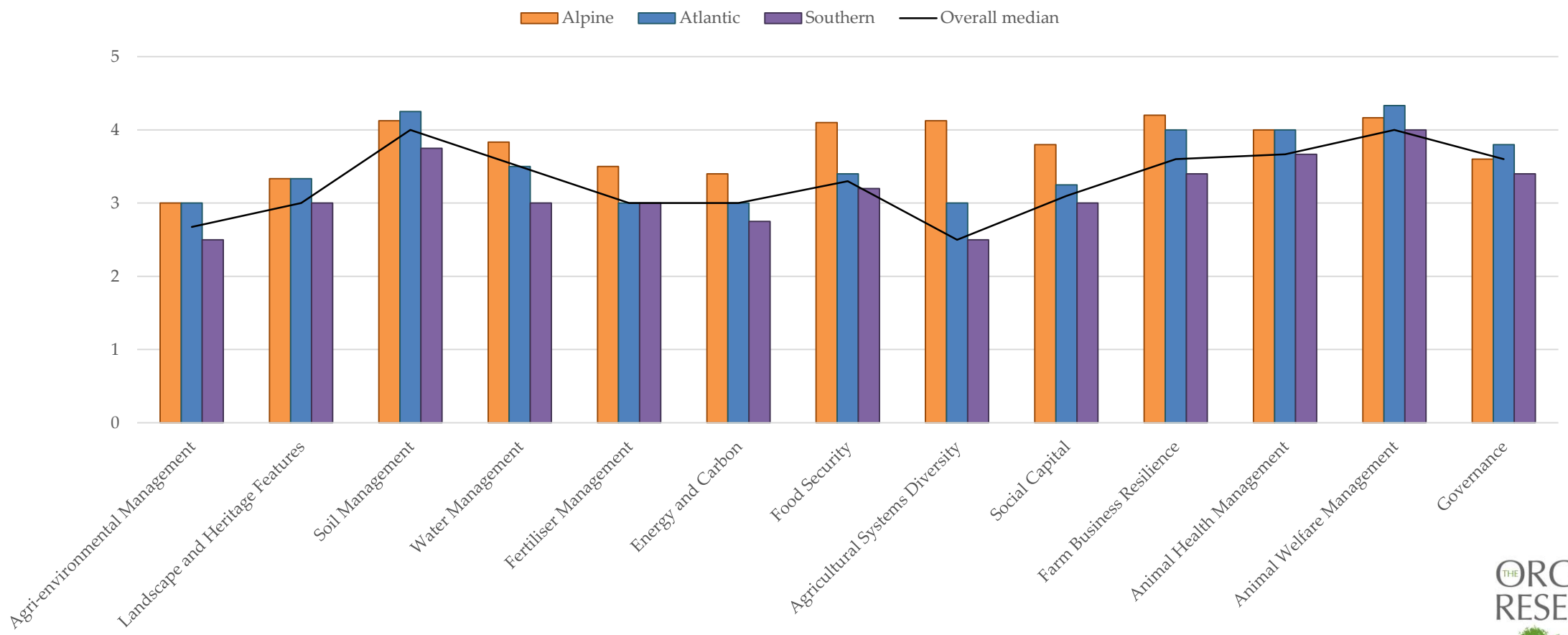
Median scores sheep and goat industry

Theme	Sheep Industry	Goat Industry
Agri-Environmental Management	2.9	2.7
Landscape and Heritage Features	3.3	3.0
Soil Management	4.0	4.0
Water Management	3.3	3.5
Fertiliser Management	3.3	3.0
Energy and Carbon	3.0	3.0
Food Security	3.8	3.3
Agricultural Systems Diversity	2.5	2.5
Social Capital	3.0	3.1
Farm Business Resilience	3.6	3.6
Animal Health Management	4.0	3.7
Animal Welfare Management	4.3	4.0
Governance	3.6	3.6

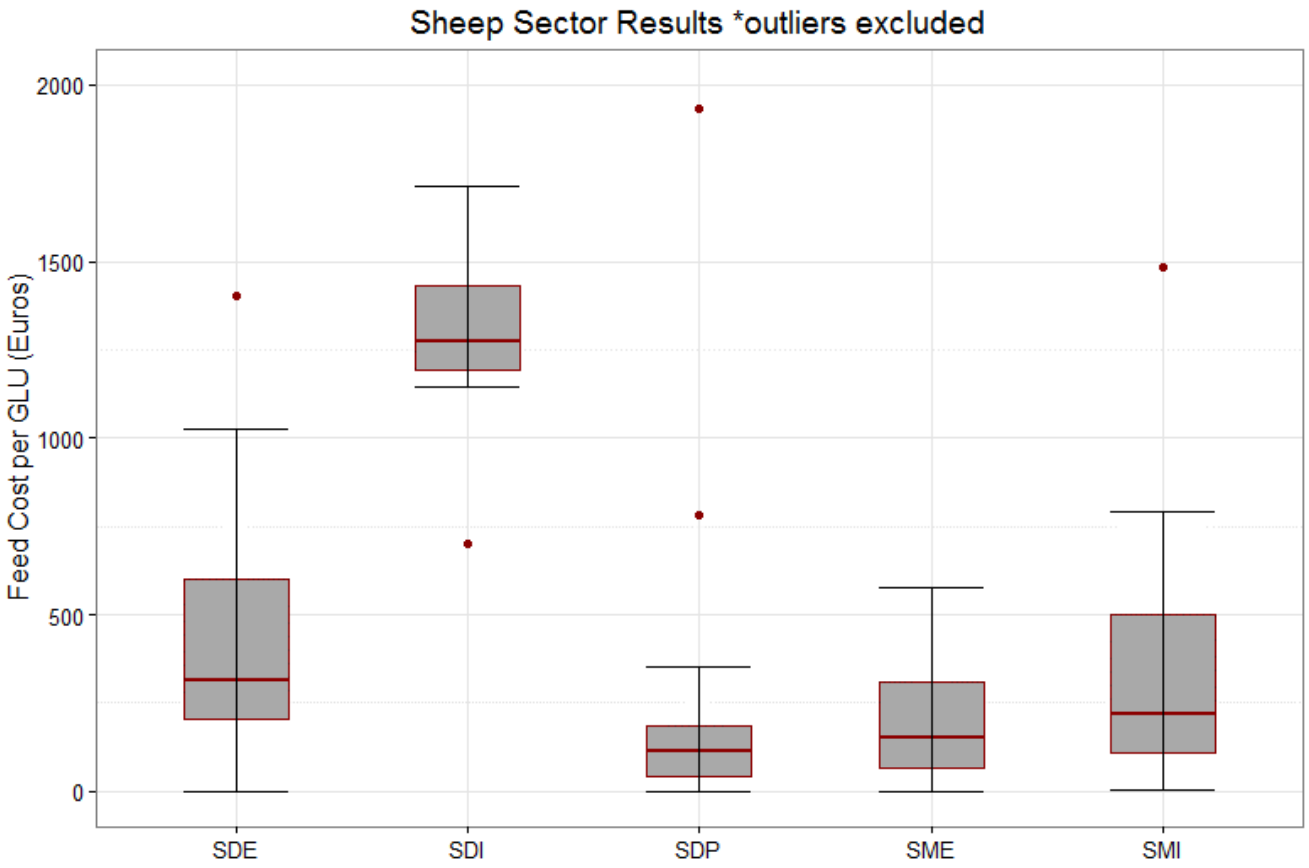
Sheep by climatic zone



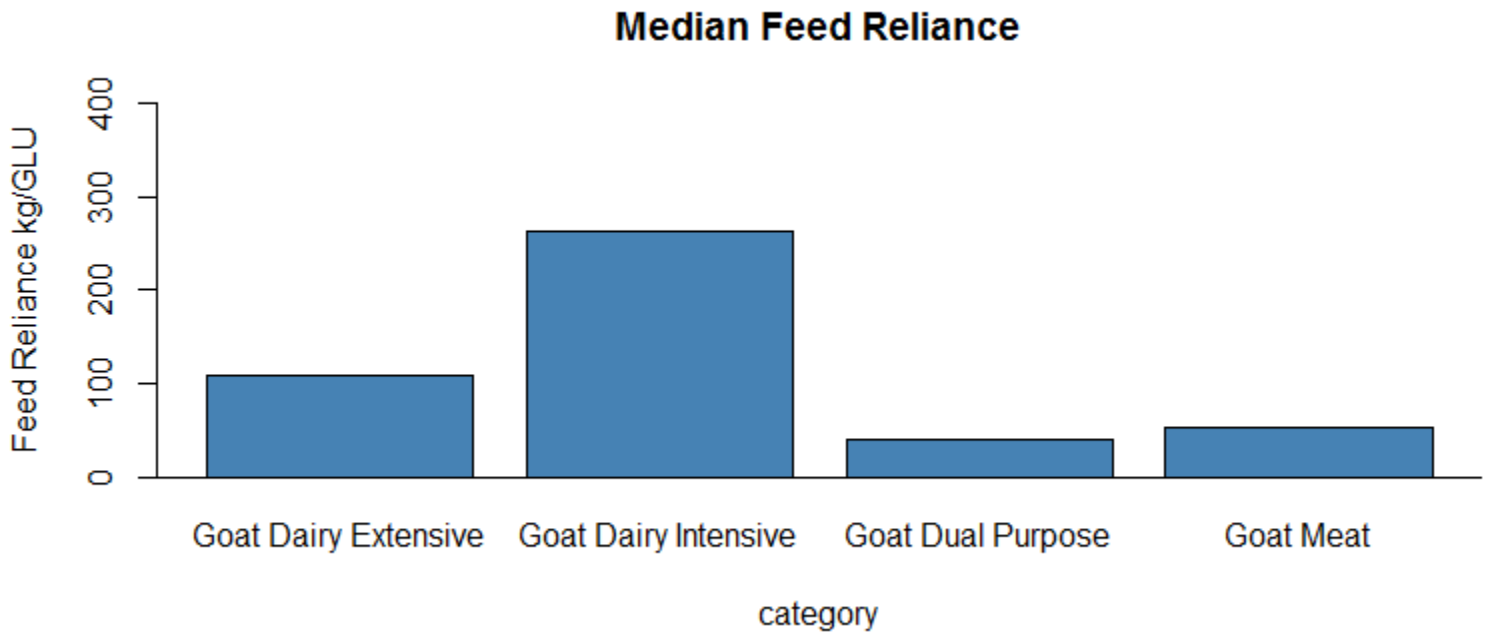
Goats by climatic zone



Costs of purchased concentrates by typology



Median quantity of concentrate imported by typology



Sustainability issues

- Animal welfare and Animal health – high BUT subjective
- Agricultural systems Agri environmental management – low

BUT huge range in size and location of farms

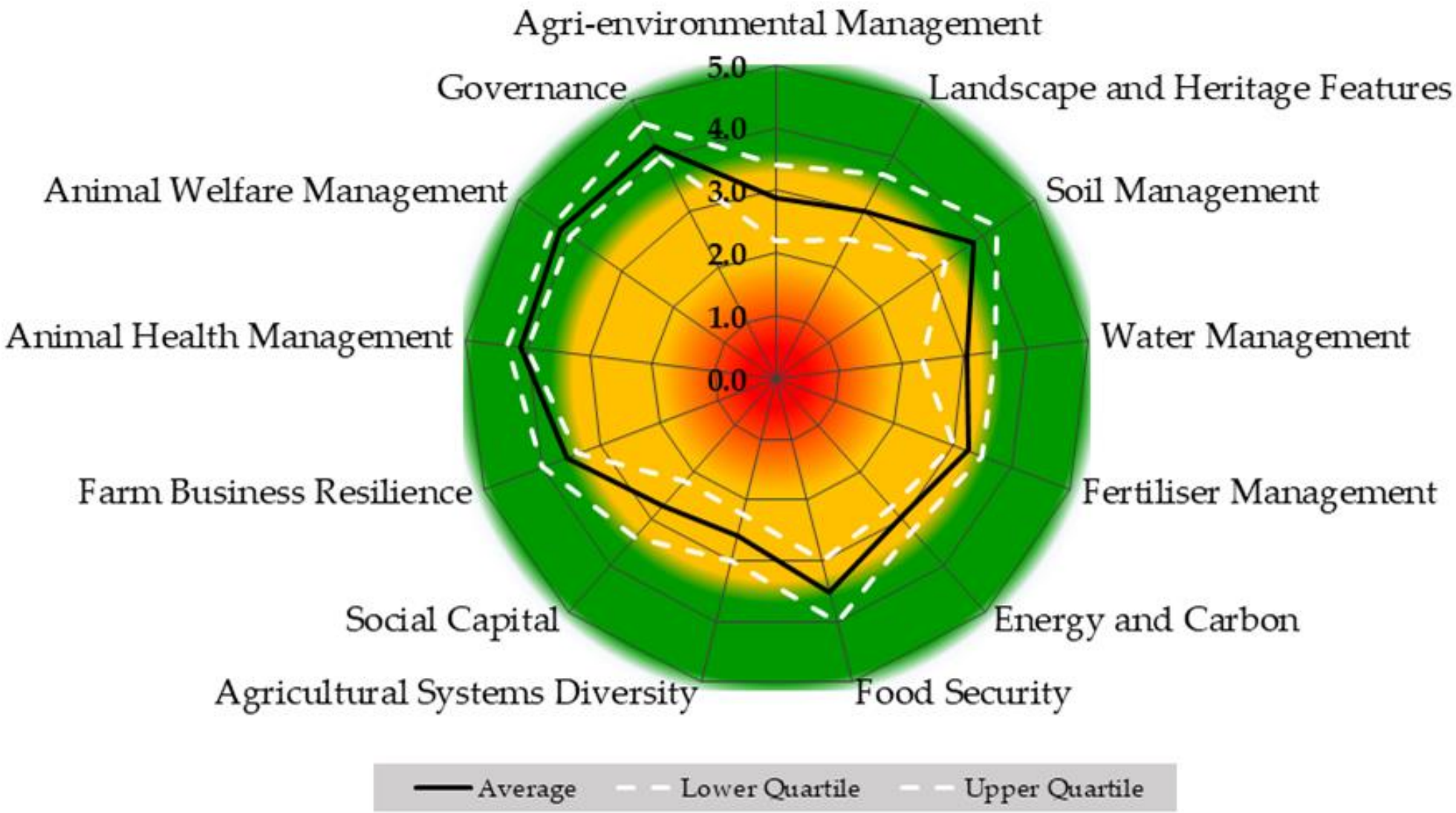
- Farm business resilience ???

Scores are not statistically robust

Farms assessed in Spain

TYPOLOGY	SPAIN TOTAL
Semi-intensive or extensive dairy farms (e.g. normally pasture fed animals)	0
Sheep: Intensive dairy farms (e.g. high input of purchased feedstuff)	11
Sheep: Dual-purpose farms (farms where the farmer sees value in 2 or more different products e.g. meat and wool, meat and dairy)	2
Sheep: Semi-intensive or extensive meat farms (e.g. normally pasture fed animals)	11
Sheep: Intensive meat farms (e.g. high input of purchased feedstuff)	0
Goat: Semi-intensive or extensive dairy farms (e.g. normally pasture fed animals)	7
Goat: Intensive dairy farms (e.g. high input of purchased feedstuff)	9
Goat: Dual-purpose farms (farms where the farmer sees value in 2 or more different products e.g. meat and wool, meat and dairy).	0
Goat: Semi-intensive or extensive meat farms (e.g. normally pasture fed animals)	4
Goat: Intensive meat farms (e.g. high input of purchased feedstuff)	0
TOTAL	44

Spanish PG Tool Results



Next Steps

Acting on the results

- Where to get the information?

ANIC
ARCH
CENTRE

ELM FARM

iSAGE Sustainability toolbox

2 stage toolbox

Signposts to Sustainability

Sageguard

Sageguard Cards

ORGANIC RESEARCH CENTRE

ELM FARM

Find information to help move towards a more sustainable system

SAGEGUARD

Links to further information provided for each theme/subtheme / question

Links to iSAGE DSS where relevant

Sageguard.net

SAGEGUARD.NET

- Home page describes how to use the Toolbox

- Choose where to start:
  - Explore sustainability dimensions or themes
  - Find help with an issue
  - Link through from Signposts

Toolbox for sheep and goat systems sustainability Search

What is Sageguard

A platform for developing knowledge within the field of sustainable sheep and goat production

Welcome to Sageguard, a platform that hopes to help answer your questions and provide guidance around how to sustainably produce sheep and goats within Europe

We cannot guarantee we have all the answers but through our interactive website you can delve into the depths of what constitutes sustainability, what to look for, and how you can implement these practices to improve your business for the future. Sustainability is not just a short term fix, it is a method of production that guides the reasoning behind your own decisions across every aspect of your business

Navigate through the hierarchical levels of sustainability to reach your answers, using the dimensions Cards below or the menu on the top right of your screen

SAGEGUARD.NET

Soil erosion is the process by which soil primary particles and aggregates are removed and lost from their point of origin by wind or water, or even mass wasting from gravitational forces and agricultural activities.
In agricultural soils, **compaction** is caused by compression from machinery traffic or stock trampling.
Soil biology is the study of soil biota and the interactions they have with each other and their environment.

Sageguard.net
farmers' decision-maker

Erosion

- Erosion | National Geographic
- Soil erosion | WWF
- Soil erosion | Defra
- Soil erosion | BBC

Erosion

- Erosion | National Geographic
- Soil erosion | WWF
- Soil erosion | Defra
- Soil erosion | BBC
- Soil erosion | Heritage Land Bank
- Soil erosion | Ontario Government

Compaction

- Soil compaction | Farmers Weekly
- Soil compaction | AHDB Dairy
- Soil compaction | Soil & Water
- Soil compaction | Väderstad
- Soil compaction | University of Wisconsin

Quality

- Soil quality | Nature Education
- Soil quality | Soil Association
- Soil quality | Swarm Hub
- Soil quality | Science Direct
- Soil quality | Australian Government

Signposts to Sustainability

- PG Tool adapted for a quick online assessment

- Series of questions: **Yes** **No**

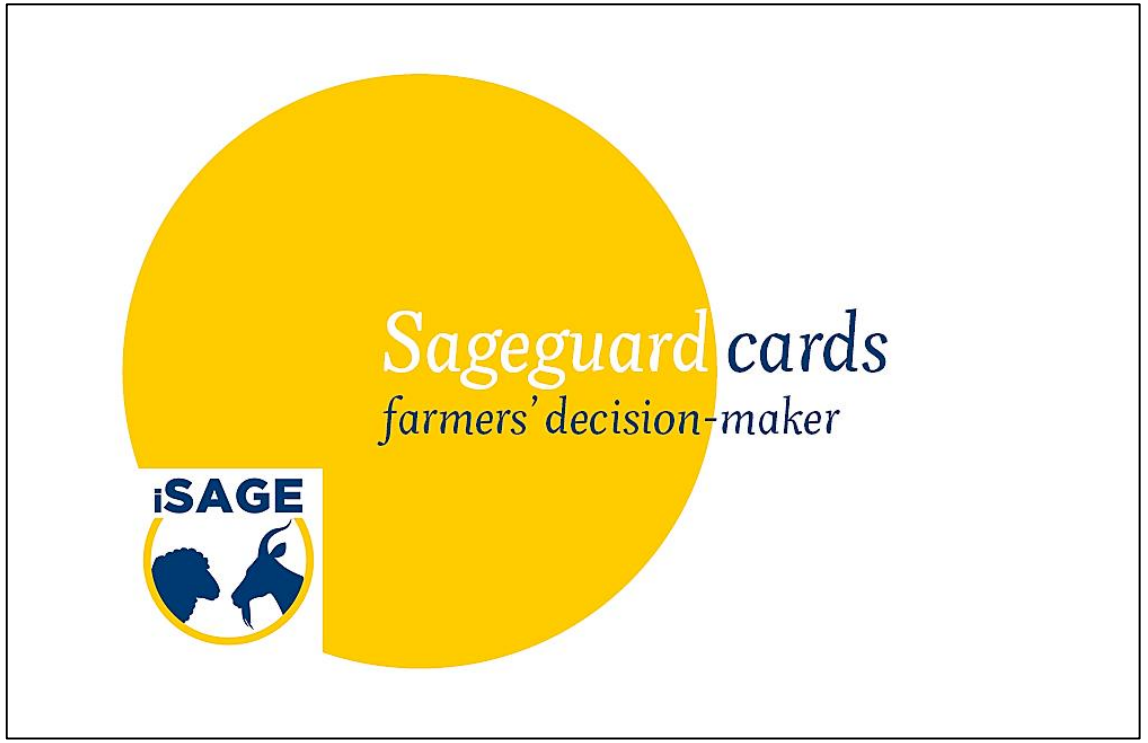
  \+ a third option when necessary, e.g. unknown

Overview of current position

Sageguard Cards

- An offline set of cards arranged in a similar manner
  to Signposts to Sustainability

- Designed to provoke thought
  and discussion



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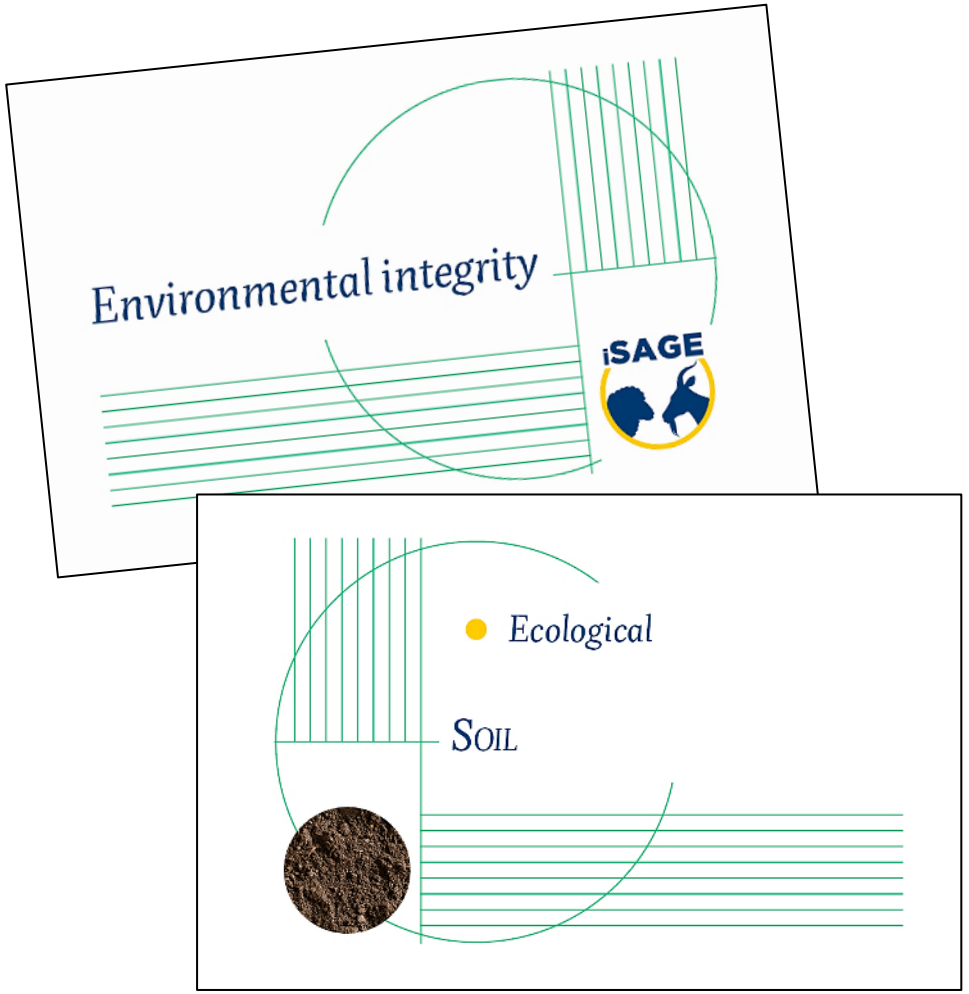
SAGEGUARD CARDS



EROSION
Are there any signs of erosion on your farmland?

COMPACTION
Are there any signs of compaction across your fields?

QUALITY
Have you considered *soil biology* when managing soil quality?

1

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Further information

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Thank ewe!