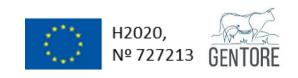




CENTRO DE INVESTIGACIÓN Y TECNOLOGÍA AGROALIMENTARIA DE ARAGÓN

Farm resilience: a farmers' perception case study

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Introduction

The number of mountain farms is decreasing



Internal factors

External factors

resources, farmers' age

Agricultural policy, environmental conditions, market dynamics









Objectives

The aim of this work was to analyze:

- i) Farmers' perception about strategies to face a situation of climate and market change and,
- ii) the influence of farms and farmers' characteristics on those strategies



Methodology

Data collection

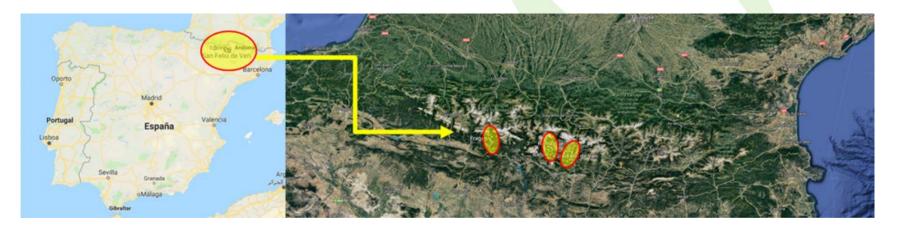
Survey on 54 beef farmers

Farmers' perception

Farm structure, management and economic performance

2-year-long drought

Rise of input prices





Methodology

In these situations, would any of these measures improve the continuation of your farm and how important would they be?

Data collection

- ✓ Reproduction
- ✓ Sanitary management
- √ Feeding
- √ General management
- ✓ Commercialization

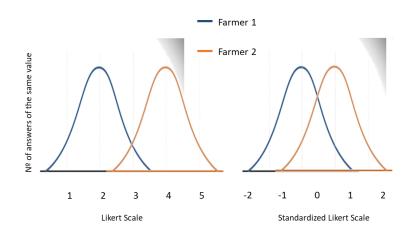
	Prolonged drought				Increase in input prices					
	1. Not imp.	2. Little imp.	3. Important	Considerably imp.	5. Very imp.	1. Not imp.	2. Little imp.	3. Important	Considerably imp.	5. Very imp.
Reproduction										
Group births in specific periods										
Incorporate reproductive technology										
Follow a specific management program for heifers										
Sanitary management										
Intensify disease prevention and control programs										
Eliminate the worst adapted animals										
Feeding										
Extend the grazing season										
New grassland areas										
Modify barn diets										
Seek self-sufficiency (self-produced food)										
General management										
Modify herd size										
Introduction of new breeds										
Modernize machinery and facilities										
Seek technical advice										
Commercialization										
Change the type of product										
Produce under some quality brand										
Collectively market										
Diversify the activity within agriculture										
Diversify off-farm activity										

Methodology

Data processing and analysis

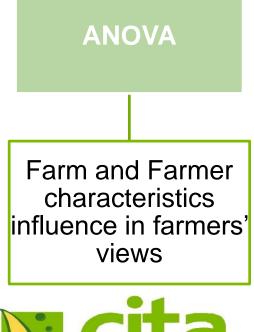
- Likert scale and ANOVA

- Standardization



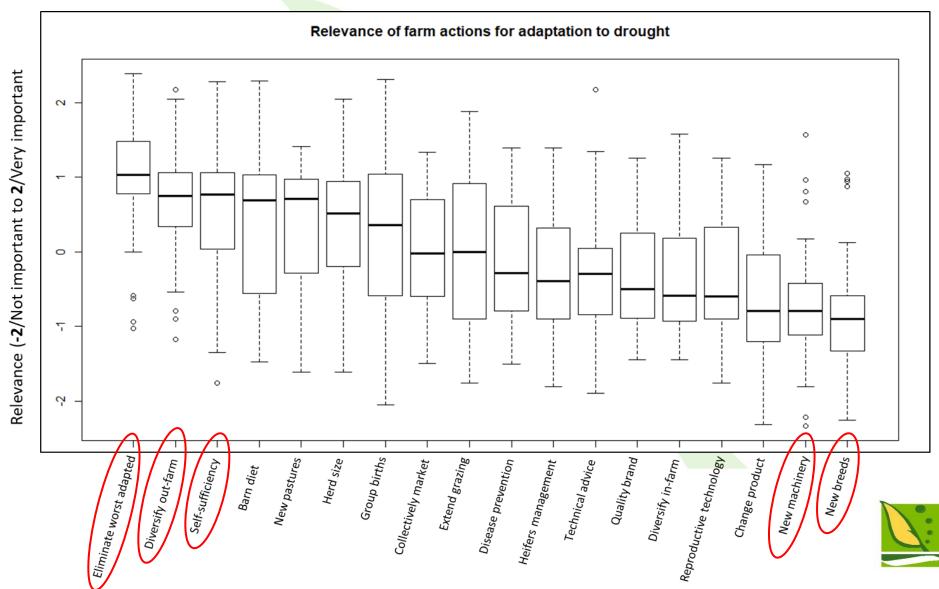
Most valued actions

Less valued actions

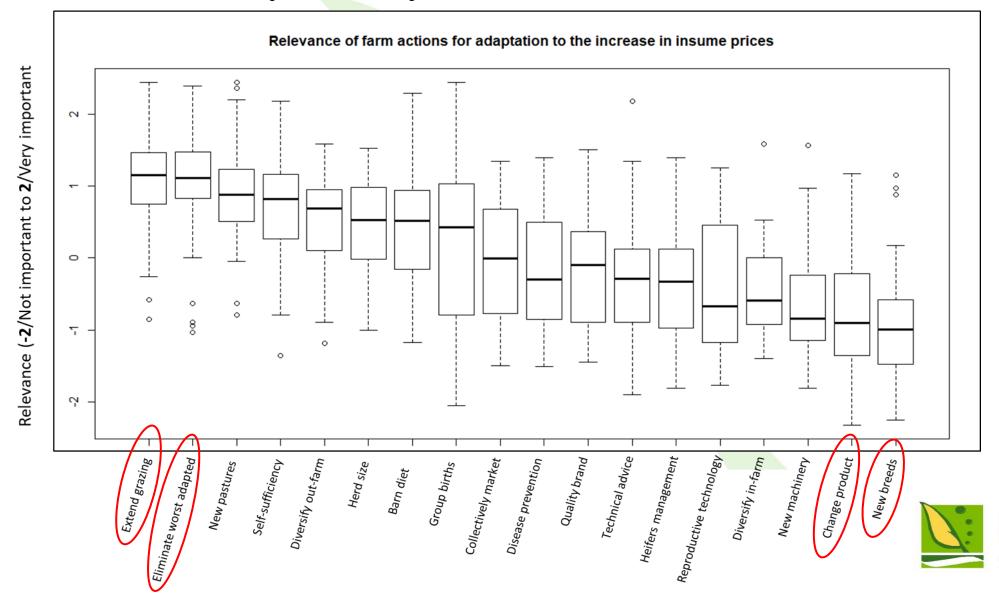




Results: Drought



Results: Inputs prices



Results: Farms and farmer characteristics

Scenario	Variable	а	b	AN	OVA	Pair-Wise test
	Age	Young (<51)	Old (>51)	F	р	ab
Increase prices	New pastures	0.493	1.126	5.621	0.0251 *	0.026
Scenario	Variable	а	b	ANOVA		Pair-Wise test
	Fattening	No	Yes	F	р	ab
Ingrance prices	New pastures	1.08	0.389	6.482	0.0167 *	0.027
Increase prices	New machinery	-0.844	-0.248	4.607	0.04 *	0.057
Drought period	New machinery	-0.87	-0.173	6.685	0.0135 *	0.018
Scenario	Variable	а	b	ANOVA		Pair-Wise test
	Land Area	Big (>77 ha)	Small (<77)	F	р	ab
Drought period	Barn diets	1.104	0.166	8.211	0.00654 **	0.00024

Final remarks

- 1. Farmers considered eliminating worst adapted animals, diversifying activity out agriculture and seeking for new pastures and self-sufficiency as some key strategies for both, increase in inputs prices and a period of droughts scenarios.
- 2. In a 2-year-drought scenario farmers considered modifying barn diet as one relevant action, while this was not too relevant in an increase in inputs prices scenario.
- 3. Farm and farmers' characteristics such as farmer age, size of agricultural area and whether they fatten in farm or not were relevant to identify how farmers face these challenges.



Final remarks

- 4. Some of the most relevant actions that are usually pointed out when analyzing farming at a systemic level such as introducing more adapted breeds, diversifying farm activity, seeking for external advice or modernizing farm technologies, were considered by farmers as having low importance.
- 5. And as a final remark, note that this study focused on how farmers would adapt to short term scenarios, and that their strategies to adapt to mid or long-term perturbations might be different.







Thank you for your attention







