COMPARING EXTENSIVE LIVESTOCK FARMING IN DIFFERENT CONTEXTS THROUGH THE ANALYSES OF LOCAL VISIONS AND NETWORKS

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Drivers of change

- Mechanization
- Increasing global population and migration
- Urban expansion
- Participatory processes
- Understanding of institutional distribution and the perspectives of the population
- Application to political choices

Search for solutions

- Abandonment of less productive farming areas
- Intensification of the most accessible and productive areas

System impact

- Extensive livestock farming
- Result of the joint evolution of social and ecological systems
- Key role in formation of silvopastoral systems with high natural and cultural value
- Characterized by its resilience, consequence of its multifunctionality and provisioning of ecosystem services

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OBJECTIVES

Explore the existent discourses and institutional networks on the future and current situation of the extensive livestock systems through the perspective of different stakeholders.

Provide general insights to help revise current trends of extensive livestock farming in a threatened transhumant system, and suggest management solutions with a high degree of support among stakeholders.

Two study areas
**Neuquén (Argentina)**

- Steppe of grass and shrub as wintering area for transhumance
- Mountain range with grasslands and forests as summering area for transhumance
- Importance of goat farming

**Sierra Morena (Spain)**

- Wintering area for transhumant cattle
- Importance of autochthonous cattle breedings
- Importance of bulls for bullfighting breeding
We combined two methodologies that have seldom been used together.

**Q Methodology** + **Social Network Analysis**
Q Methodology

Selection of the most representative statements

Q methodology implementation

Statistical analysis

- Initial collection of statements
- Stakeholders’ selection
- Selection of the most representative statements
- Literature review regarding to extensive livestock sector and transhumant production
- Sorting of the statements regarding to the agreement level
- PQMethod software: identification of different stakeholder groups based on the similarities and differences of their Q sort

Totally disagree

Totally agree
SOCIAL NETWORK ANALYSIS (SNA)

**Network methodology implementation**

Face to face interviews to identify: *working, communication* and *conflict* networks

**Methods**

Network methodology implementation

- Tie strength
- Betweenness
- Indegree
- Outdegree
- Centralization
- Density
- Closeness

Analysis and representation of data with UCINET and NetDraw software

<table>
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<th>INSTITUCIÓN</th>
<th>FRECUENCIA DE COMUNICACIÓN</th>
<th>INTENSIDAD DE CONFLICTOS</th>
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**Results**

**Discussion**

**Conclusions**
Six different discourses emerged in the Argentinian case and three discourses in Spain.
**EXTENSIVE LIVESTOCK DISCOURSES: ARGENTINA**

**Factor 1** (24% variability). “Cultural claim”

**Factor 2** (10% variability). “Environmental conservacionists”

**Factor 3** (7% variability). “Apocalyptic pesimists”

**Factor 4** (5% variability). “Mediators”

**Factor 5** (5% variability). “Productivists progressives”

**Factor 6** (5% variability). “Market optimists with social organization”

- Defenders of the culture linked to transhumance practice. Importance of solving structural problems through the mobilization and organization of the farmers, and also Environmental conservation through transhumance practice.
- Migration of young people to the city leads to transhumance abandonment.
- Conciliate perspectives of factors 1 and 2.
- Role of the State and production efficiency to strengthen the transhumance practice.
- Good market conditions for livestock products.
EXTENSIVE LIVESTOCK DISCOURSES: SPAIN

Actors who want to improve the extensive livestock sector through the increase in its profitability. The Association of the farmers and the development of new production models could help achieving this goal.

High natural and socioeconomic values of extensive livestock sector.

Extensive livestock farming is a too demanding practice with low inputs.

Factor 1 (54% variability). “Enhancing traditional livestock profitability through the empowerment of farmers and environmental coalitions”

Factor 2 (7% variability). “Enhancing livestock multifunctionality and products’ quality”

Factor 3 (6% variability). “Promoting livestock modernization”
WORKING RELATIONSHIPS: ARGENTINA

Factor 1: High betweenness and closeness: high potential influence

Factor 2: Low betweenness: low potential influence

Factor 3: Low centrality: low influence in working relationships

Factor 4: Betweenness and closeness: high potential influence

Factor 5

Factor 6
**Introduction**

**Study Areas**

**Methods**

**Results**

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**Information Exchange: Spain**

**Communication Network**
- High density: 80.4%
- High trust, reciprocity, and understanding

**Results**
- Centralization = 53.7%
- Few actors hold most of the relationships
- Easy management of conflicts and coordination of nodes

**Network Analysis**
- High betweenness degree
- Lack of power and access to information

- Centralization = 53.7%
- Few actors hold most of the relationships
- Easy management of conflicts and coordination of nodes
CONFLICTS AMONG EXTENSIVE LIVESTOCK INSTITUTIONS: SPAIN

INTRODUCTION

STUDY AREAS

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CONFLICT NETWORK
Low density: 18.2%
Low unrest

Power in decision making and conflictive institutions

Com.: 28.2; Confl.: 30.4

Com.: 27.7; Confl.: 63.3
Q Methodology

- Clarifies the views and values of stakeholders
- Identifies existing problems or common views
- Provides valuable information to generate policies with social approval

Social Network Analysis

- Provides knowledge about the social structure
- Promotes resilient communities
- Identifies key stakeholders, marginalizes stakeholders, and conflict mediator stakeholders

Strategies to improve livestock management practices

Objective overview of the social complexity

Priority issues

More sustainable and promising situation
In both study areas, Q Methodology results show perspectives supporting extensive livestock practice.

While in Neuquén, the defenders of transhumance practice are generally in an important position, in Sierra Morena there is a lack of power of farmers and a high unrest level among decision makers.
The combination of Q and Social Network Analysis methodologies has proved to be an useful tool for develop new management strategies regarding to extensive livestock sector and also for improving the situation of this sector and the environment.

The similarities of institutional visions and discourses suggest that new possibilities could emerge for extensive livestock farming and pastoralism through the collaborative effort of the different socio-economic sectors.
THANK YOU FOR YOUR ATTENTION