



The 75th EAAP Annual Meeting Florence, Italy

Session 94, Livestock Farming System
Living Labs and demonstration farms: approaches to improve
sustainability of the LFS globally.

***“The living lab approach in the ecological transition of livestock farming:
the case of the Abruzzo mountains”***

Francesco Di Iacovo*¹ Letizia Forzoni ² Selene Righi² Colosimo Vincenzina ¹ Francesco Riccioli¹ Michele Moretti²

* Corresponding author ¹ Department of Veterinary Science, University of Pisa ² Department of Agricultural, Food and Agro-Environmental Sciences, University of Pisa

Speaker

Letizia Forzoni

II year PhD Programme in Agriculture, Food and Environmental Science



“What **vision** could be outlined
for **sustainable livestock farming**
in the **Abruzzo mountain region**
by **2050?**”

DSV-UniPi in cooperation with the **Agriculture Directorate of the Abruzzo Region** within the framework of the **special project Education-UniPisa** and in connection with the **PNRR-Agritech project**.



□ Introduction

- i. The sustainability of the Livestock Farming
- ii. The case of Abruzzo Region
- iii. The origin of the Living Lab

□ Methodology - Abruzzo Living Lab

- Three stages (farm visit, focus group, closing seminar)

□ Reflection of outcomes

□ Future steps

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How to maintain food systems within the planetary boundaries? How to improve sustainable livestock farming systems?

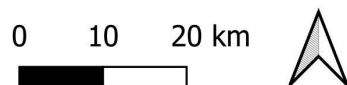
- We need to disaggregate livestock farming systems when analysing any aspect of sustainability.
 - i. There are number of positive externalities of pasture-based LFS (Bernués et al., 2011), ensuring socioeconomic sustainability and biodiversity in rural communities throughout Europe and beyond.
 - ii. Caraveli (2000) described a dual trend in the extensification–intensification continuum in Mediterranean countries (Greece, Italy, Spain and Portugal).
- The number of scientific outputs in MLF doubled every 10 years since 1980 (Zuliani et al., 2020)
 - i. The majority of documents was produced in Europe (54%), with Italy being the most frequently represented country (214 documents).
 - ii. The most frequent topic in MLF research was related to production system and sustainability (T4) and was represented by 363 documents.



Where are we?

Legenda

-  Confini regionali
-  Confini provinciali
-  Parchi naturali nazionali
-  Parchi naturali regionali
-  Riserve naturali statali
-  Riserve naturali regionali
-  Altre aree naturali protette
-  Riserve Naturali Marine
-  Altre aree naturali protette
-  EUAP





The analysis of the area of interest – Montagna Abruzzese

Parco Nazionale d'Abruzzo, Lazio e Molise (PNALM) , Parco Nazionale della Majella (PNM), Parco Regionale Naturale Velino Sirente (PRNVS)

❑ The crisis and restructuring of the livestock sector

Census data and previous studies have shown a decrease in the number of animals, farms and people, abandonment of pastures and difficult profitability.

Livestock farming activities in the Park areas (Istat, 2011)

Abruzzo (1991-1982)

-44% of farms with cattle

-23% of cattle

-25% of sheep and goat farm

-7% of sheep and goats

Population Trend (2021/1951)

- 50,38% (PNALM)

-9,95% (PNM)

-40,22% (PRNVS)

Area	dato	Bovini	Bufalini	Equini	Ovini	Caprini	Suini	Avicoli	Conigli
PNALM	Aziende	56	2	126	62	33	14	17	7
	Capi	2.052	15	1.418	10.771	1.369	78	527	251
	Media	36,64	7,50	11,25	173,73	41,48	5,57	31,00	35,86
PNM	Aziende	277	0	132	286	100	121	116	45
	Capi	6.252	0	736	17.970	3.143	5357	46.644	40.050
	Media	22,57		5,58	62,83	31,43	44,27	402,10	890,00
PRNVS	Aziende	179	0	108	163	31	32	19	11
	Capi	5.081	0	1.652	26.577	976	2.392	4.633	10.967
	Media	28,39		15,30	163,05	31,48	74,75	243,84	997,00



The analysis of the area of interest – Montagna Abruzzese

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❑ Land of innovation

Previous studies in rural sociology on alternative food networks (Holloway et al., 2006) and novelties in the relationship between enterprise, market and territory (Milone et al., 2004).

The ***‘adopt a sheep’*** scheme “an agricultural project which aims to conserve particular upland ecologies, maintain a viable business as part of an agricultural cooperative venture, sustain a viable rural community and local economy, and preserve what are regarded as unique and valuable local traditions, knowledges and practices” (Holloway et al., 2006).



The origin of the Living Lab

- Late nineties, William Mitchell, a professor at the MIT (Zavratnik et al. 2019)
- 2006, European Network of Living Labs (ENoLL) was launched by the European Commission as part of its policy to improve competitiveness (Gamache et al., 2020)

The definition of the Living Lab

- One of the earliest EU explanations (from 2008) “is a user-driven open innovation ecosystem based on a business–citizens–government partnership, which enables users to take an active part in the research, development and innovation process”
(European Commission, 2009)

The peculiarities of the Living Lab

- Interdisciplinarity
 - Openness
 - Innovation
 - Co-creation
- (Zavratnik et al. 2019)

The dimensions of the Living Lab

- Technology
 - Health
 - Education
 - Sustainability transition
- (Gamache et al., 2020)

Objectives of Abruzzo Living Lab

To facilitate discussion and the construction of **convergent visions** on the issues of **sustainability and the ecological transition** of livestock farming in the **mountains of Abruzzo** with *breeders, processors, technicians from the park authorities and the Abruzzo Region, breeders' associations, local administrators, students, researchers.*



4th - 8th June 2023, Anversa degli Abruzzi

8 visits to farms with student-led interviews

Company reports prepared by the students at the end of the interviews:

- ☐ History and characteristics of the company
- ☐ SWOT analysis
- ☐ Business strategy for the future
- ☐ The company and natural resource management: open issues and challenges
- ☐ The need for innovation and demand for solutions



Photo source: Authors

- Breeding of sheep and goats, wild Chianina cattle, wild Cinta Senese pigs, Limousine beef cattle, Maremmano Abruzzese Shepherd dogs, fast heavy draft horses.
- Dairy processing and butchery companies specialising in the preparation of cured meats, with related sales points.
- Further diversification with equestrian tourism, agritourism and catering activities.
- Onotherapy as a 'therapy and rehabilitation' activity.



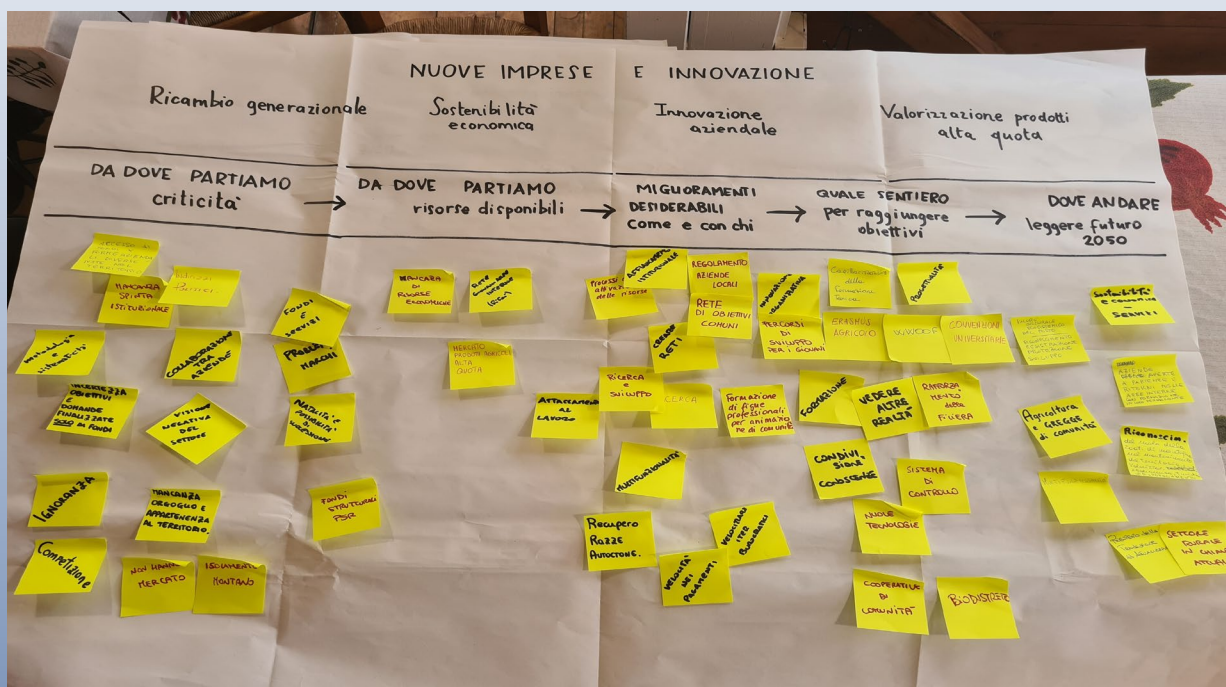
Outcomes of the farms' visits

- Enhancement of **multifunctionality and diversification of production processes** (processing, catering, farm sales, tourism and citizenship service);
- **Family farms**;
- Limited **trust** in the local context, while they show an excellent ability in intercepting consensus outside the area;
- Manage to reach **final products** and **direct sales** to consumers/customers;
- A selection process has already taken place and those who remain in business have **consolidated skills, techniques and production and organisational choices**;
- **CAP contribution is present and relevant**;
- The opacity of the **market**, the presence of misleading offers, a lack of accuracy of controls, the information asymmetry between existing offers creates frustration;
- **Lack of services** in these areas represents a challenging aspect.



6th June 2023, Anversa degli Abruzzi

Focus Group with local stakeholders facilitated by researchers



- 1) Sustainability in the use of natural resources and ecological transition of livestock farming.
- 2) New Enterprises and Process, Organisational and Product Innovation.
- 3) Animal Welfare and Health, Production Hygiene and Sanitation

- 1) Where to go, positively read the future
- 2) Where do we start from and what critical issues do we recognise
- 3) Where do we start from, what resources are already available
- 4) What improvements are desirable
- 5) What is the working path to achieve the desired goals by 2050

Photo source: Authors



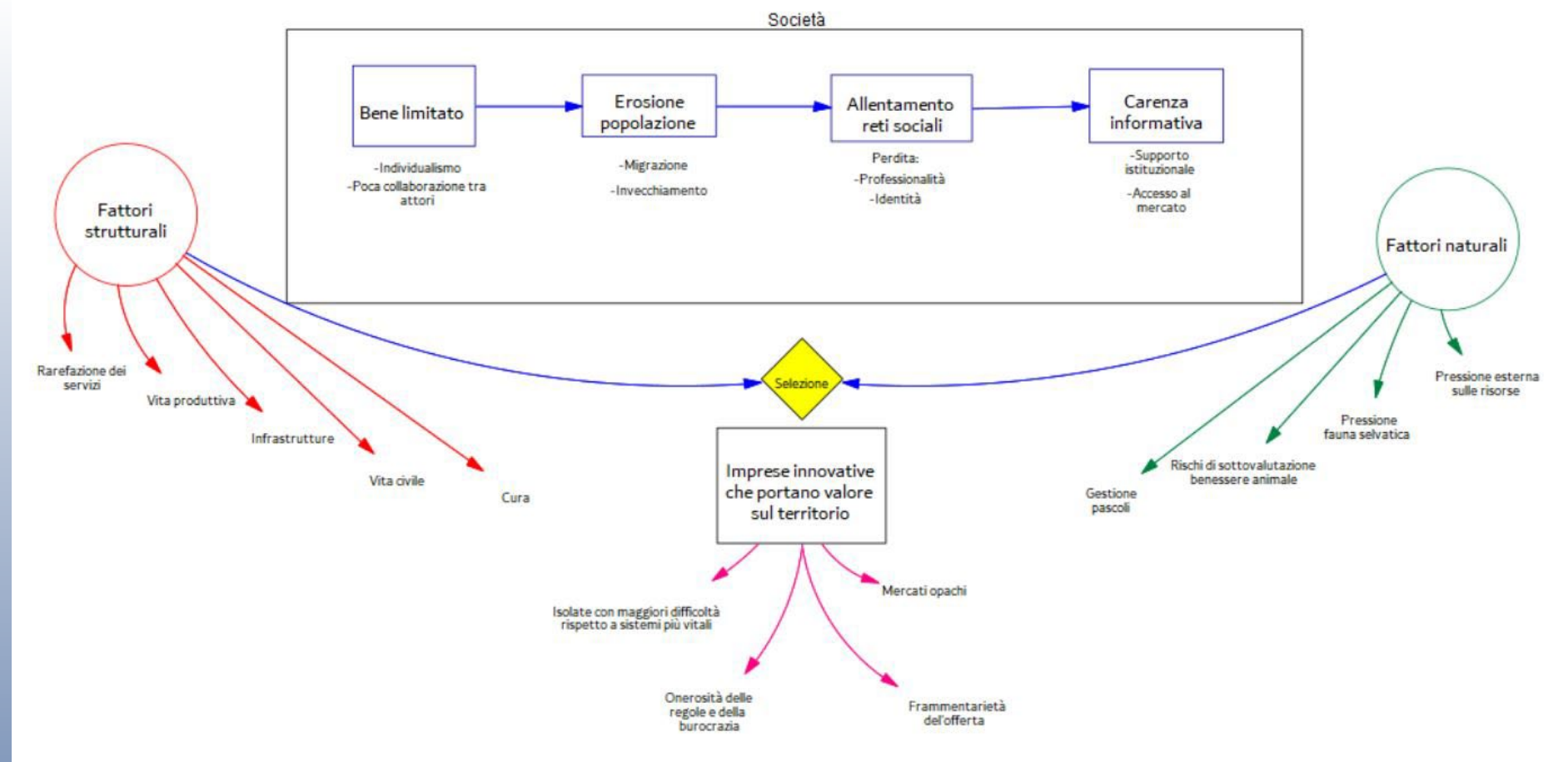
Outcomes of the Focus Group



Create a **targeted and regionally coordinated mission** to bring livestock farming back to the mountains with production activities characterised by a **strong focus on animal welfare and environmental sustainability**.



Ben:Eco



Source: Authors' elaboration



The Ben:Eco Model

Possible **strategic lines of intervention (S)** and **related actions (A)** to support of the mission to bring BEN.ECO.

S1. Supporto sviluppo d'impresa	S.2 Reti d'impresa e valorizzazione prodotti/servizi	S.3 Servizi Ecosistemici	S.4 Pascoli ed infrastrutture	S.5 Convivenza fauna selvatica	S.6 Servizi alla persona e qualità di vita
A1.1 Pacchetti di supporti per l'insediamento aziendale per giovani e nuove imprese	A.2.1 Consorzi e Cooperative di comunità	A.3.1.Schede tecniche comportamento	A.4.1 Usi civici adeguamenti PLT	A.5.1 Abbattimenti fauna aliena e micro filiere	A.6.1.Servizi sociali innovativi
A.1.2 Aziende pivot accompagnamento o nuove imprese e nuovi lavoratori	A.2.2 Valorizzazione marchi esistenti ed integrazione con nuovi meccanismi di valorizzazione	A.3.2 Benessere schemi e supporti info	A.4.2.Modelli condivisi per infrastrutturazione e pascoli, ricoveri con pannelli e abbeveratoi	A.5.2.Supporti prevenzione difesa	A.6.2 Servizi di AS: agriasili, per anziani, ai giovani e a persone a bassa contrattualità
A.1.3 Sistemi di formazione/informazione/consulenza	A.2.3.Prodotti ad elevato valore ecosistemico	A.3.3.Pacchetti coordinati supporti servizi	A.4.3 Schemi di conservazione e valorizzazione	A.5.3.Reputazione impresa convivente	A.6.3 .Info-formazione anche per i nuovi residenti
A.1.4 Supporti innovazione	A.2.4.Giornate, eventi, turismo esperienziale		A.4.4 contrasto alla criminalità organizzata	A.4.4 Pagamenti compensativi tempestivi	A.6.4 Qualità di vita nuovi insediati
A.1.5 Woofing e Tirocini		A T.1 PEI pascoli, ecosistemi e convivenza			A.6.5 Accoglienza di servizio di territorio
<i>Esiti economici</i>		<i>Esiti Ambientali</i>		<i>Esiti sociali</i>	

Partnership or alliance for the development of the mission

- Park Authorities
- Park Communities
- IZSAM and the research bodies
- Credit institutions and foundations
- GAL of the territories



8th June 2023, Anversa degli Abruzzi

Closing **Seminar Activity**

- ☐ To **analyse the main outcomes** of the Living Lab.
- ☐ To highlight, problems, objectives, opportunities, visions and possible actions to **codesign useful trajectories** for the ecological transition of livestock farming in the Abruzzo mountains.
- ☐ To dialogue with the actors responsible for the design of **institutional policies**.

Agriculture Department of the
Abruzzo Region on the CAP
through CPSR 23/27



Two roundtables:

- 1) Associations of the production side (CIA, CoopAgri and ARA)
- 2) Institutions (PNALM, PRNVS, IZSAM).



Reflection on the outcomes

The Abruzzo Living Lab launch has been...

- An **opportunity** for dialogue and professional growth, meeting -between people and with territories.
- An initial **basis for reflection** for other more important in-depth studies that the stakeholders in the territory can and will be able to do.
- **A training of future professionals** through their protagonism and their active and - as far as possible equal - interlocution with the actors of the professional world.
- A succeeded **facilitation process** organized by DSV-Unipi for discussion and dialogue on the territory and between the actors responsible for enhancing the resources of the Abruzzo mountains.



Future steps

- **Manifesto for reflection and new capacity to act** on “Bringing livestock farming back to the high hills and mountains” on behalf of citizens, consumers, associations, institutions and companies
 - The creation of local, regional and national multi-actor arrangements - public, private, citizenship - in support of the mission and their coordination in favour of participation
 - co-design, sharing of performance parameters technical-scientific, productive and cultural parameters on which to characterise the actions and breeding methods accepted within the mission and its constant monitoring
- **Network** with other Living Lab experiences



This work would not have been possible without the open availability of the many people and institutions who readily made themselves available.

Thank you for the attention!

letizia.forzoni@phd.unipi.it



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