Ecosystem services and local breeds

A case study from Italy: Alpagota sheep breed

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Ecosystem services and livestock farming systems

Ecosystem services: direct and indirect contributes of ecosystems to the human wellness, many of which does not have a market values

4 categories (TEEB):

- Provisioning: es agrolivestock products
- Regulating: climate regulation, risks prevention (fire/avalanches), impollination, etc.
- Cultural: recreational, aesthetic, spiritual benefits provided by ecosystems, es landscape
- Supporting: habitat for species, biodiversity

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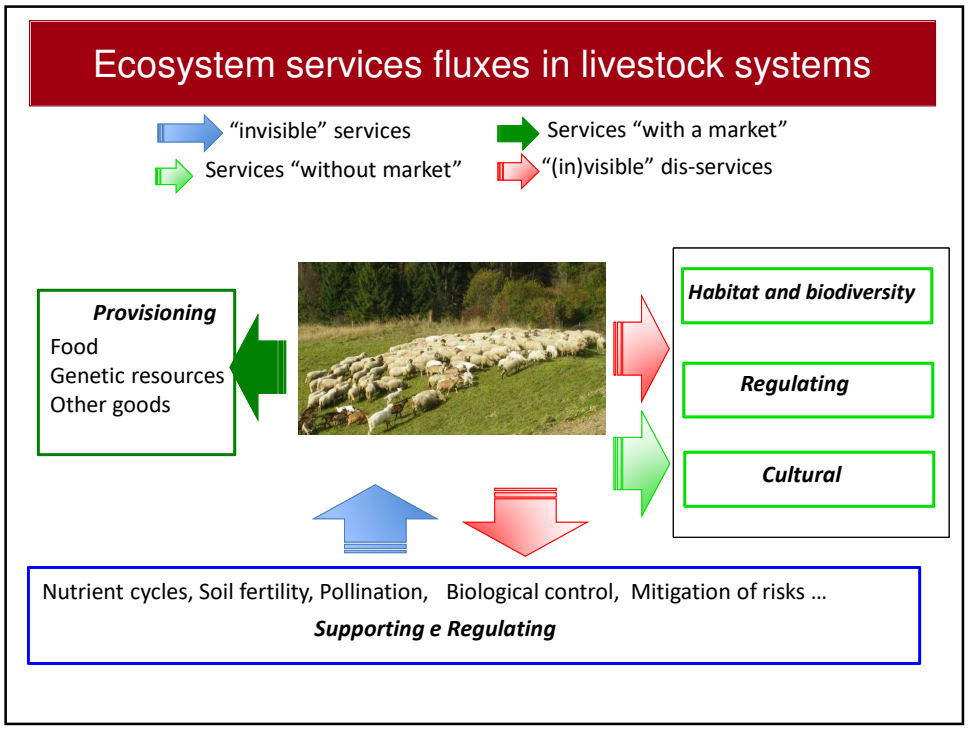

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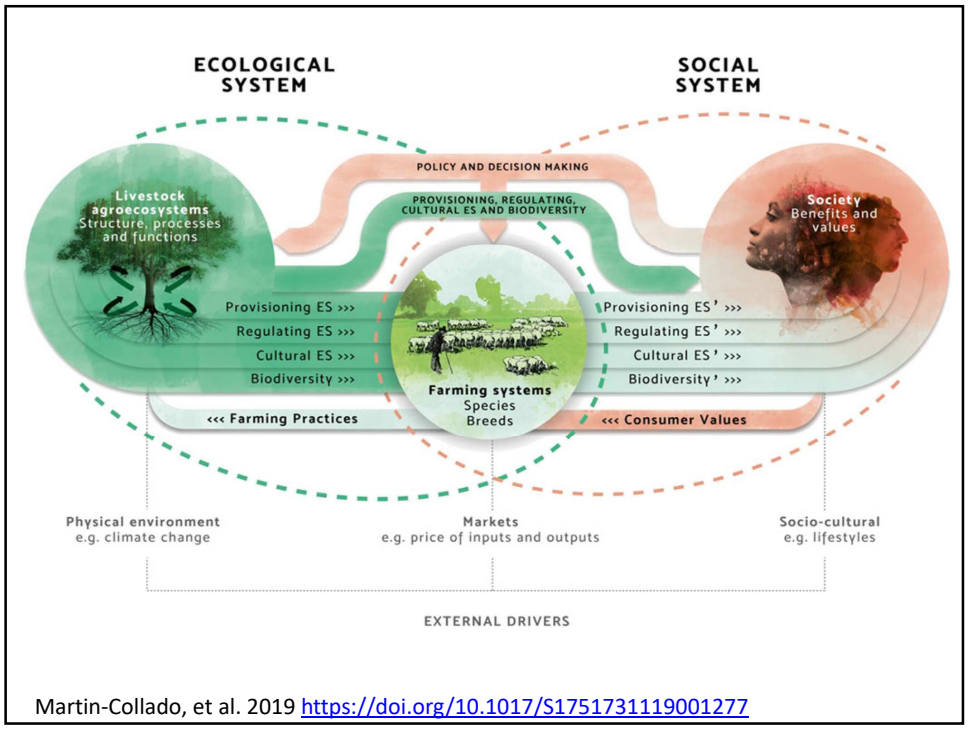

Martin-Collado, et al. 2019 https://doi.org/10.1017/S1751731119001277

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Case Study: local sheep breeds in Veneto Region

This study is part of a project (Sheep Al.L. Chain) aiming to improve the competiveness of local sheep breed farms (Lamon and Alpagota) through the valorisation of their link with mountain agroecosystems

Three specific aims:

- Sustainable use of animal genetic resources/in vivo conservation program
- Link between sheep products and landscape/agroecosystems→ "territorial marketing" strategy
- Conversion to organic production: SWOT analysis

Complete results available at this link:

https://www.mdpi.com/2071-1050/14/8/4698

Teston et al., 2022

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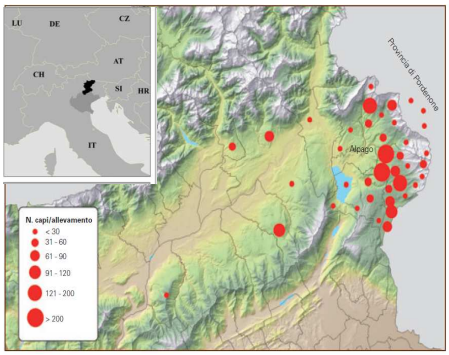
Alpagota Sheep Breed

Breeding Males / Females (n of heads)	96 / 2969
Herds (n)	59
Risk status	Endangered
Uses	Meat

Source: EFABIS, 2020



Slow food presidium «agnello d'Alpago»

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Use of genetic resources

application for mobile phone to support mating plans, with the aim to limit the risk of inbreeding.

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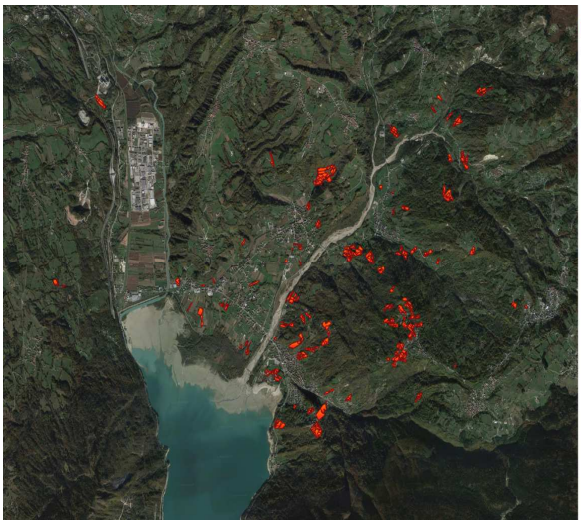
Results – link between sheep farms and landscape



Patches managed by a single sheep farm

Google Satellite

0 1 2 km

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Conclusions

- Link between traditional livestock systems and mountain agroecosystems → ecosystem services and added value for the livestock products :
  - Public payment/subsides for ecosystem services
  - Territorial marketing
- Implication for AnGR (information and documentation):
  - Specific researches on link between AnGR, farming systems and agroecosystems are needed
  - Indicators on productive environment are needed

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Take home message

From local to global: link between local genetic resources, farming systems, high quality products and agroecosystems as key factor to ensure resilience

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Results – farming systems

	Unit	All farms	Alpagota	Lamon
Farms surveyed	N	39	21	18
Local sheep breed	Livestock Unit/farm	8.5	14.6	2.8
Total Livestock Unit/farm	LU	21.4	20.6	22.3
Elevation , mean	m a.s.l.	680	675	687
Grassland (pasture and meadows), total surface	ha	757	466	291
Grassland (pasture and meadows), mean	ha	16.8	19.4	13.9
Forage self-sufficiency	% DM	87%	91%	83%

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Added value: potential conversion to organic production SWOT analysis

Strenghts	Weaknesses
• Grassland based farming systems • Local breeds • Strong cooperation – Slow food presidium	• Certification and traceability: expensive and complicated for smallholders
Opportunities	**Threats**
• Positive trends for market of organic products • Link with (eco) tourism	• Lack of infrastructures, services and plants (in particular for wool) • Fragmented and harsh landscape • Wolf predations • Marginality of sheep sector with respect to other livestock (agri-food) chains

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