Developing the concept of livestock value chains: Novel value chains based on ecosystem services

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1. Introduction: defining quality

- how good or bad something is (Cambridge dictionary)
- the standard of something as measured against other things of a similar kind (Oxford dictionary)
- a property or group of properties inherent to something that allow to judge its value (RAE)
- characteristics of a product or service that bear on its ability to satisfy stated or implied needs (Am. Soc. for Quality)
- combination of quantitative and qualitative perspectives for which each person has his or her own definition (Am. Soc. for Quality)
So quality is…

- perceptual and somewhat subjective
- understood differently by different people
- multidimensional, combination of different characteristics
- dynamic, changes with time
Model of supply, perception and demand of food quality

Bernués et al., Food Quality and Preference (2003)
- **Search Q**: available at the time of purchasing (e.g. colour, fat)
- **Experience Q**: actual consumption of the product (e.g. taste, tenderness)
- **Credence Q**: cannot be ascertained even after consumption (e.g. hormones, GMOs, animal welfare, etc.)
- **Cost cues**: price
- **Intrinsic cues**: chemical-physical aspects of the product (e.g. colour, nutritional value, appearance, etc.)
- **Extrinsic cues**: aspects of production process (brand, quality stamp, origin, production system, etc.)
From landscape to fork: value chains based on (agro)ecosystem services

Landscape Agro-ecosystem

Farm Farming system

Consumers Citizens

Policy/ legal framework

Conservation: e.g. Natura 2000

Rural Development: e.g. agri-environmental measures

CAP quality policy: e.g. PDO labelling

Provisioning & regulating ES

Practices & management

Food quality & safety

‘Ethical’ demands & price

Value perception

Physical environment: e.g. climate variability

Markets: e.g. price of inputs and outputs

Socio-cultural: e.g. lifestyles

Other drivers

Conservation: e.g. Natura 2000

Rural Development: e.g. agri-environmental measures

CAP quality policy: e.g. PDO labelling

Physical environment: e.g. climate variability

Markets: e.g. price of inputs and outputs

Socio-cultural: e.g. lifestyles

Other drivers
Main ES derived from pasture-based livestock systems

1. **Provisioning**: quality products linked to the territory

2. **Regulating**: prevention of forest fires (Euro-mediterranean basin) soil fertility (Nordic regions), etc.

3. **Supporting**: biodiversity conservation

4. **Cultural**: agricultural landscapes
Different farming systems render different ecosystem services/public goods.
Consumers and societal demands

Bernués et al., PLOS ONE (2014)
To conclude

- Consumers and farmers clearly perceive the distinctive quality characteristics of food linked to an agricultural landscape or territory.
- Raising societal demands for better targeting public goods, and “ethical” concerns about model of agriculture and the food chain.
- Whole-system approaches are needed to identify and quantify the ES (public goods) that are meaningful to consumers (society), and develop animal products based on “extrinsic” quality attributes.
- Value-chains based on ES (agricultural landscapes)
Thank you