Collaborative elaboration of a sustainability assessment method for small ruminant farming systems in the Mediterranean area.

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Specific aspects in the Mediterranean context

- Geopolitical diversity
- Climatic diversity
  - arid / semi-arid
- Farming systems diversity
  - extensive / intensive
  - pastoral / sylvo-pastoral / agro-pastoral
  - stationary / transhumant / nomadic
- Dependency on vegetal resources
  - scarcity, seasonality, stocking rate
- Dependency on importations
- Diversity of norms, references
Methods for sustainability assessment at farm level

- Modelling
- Discursive approach ("Arbre")
- Indicators (quantify and simplify phenomena and helps understanding complex realities)
Some indicators-based methods

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Sustainability assessment by the IDEA method

- 16 Objectives, 41 indicators
  - Consistency
  - Adaptability
  - Biodiversity
  - Non-renewable resources
  - Soils preservation
  - Water management
  - Atmosphere preservation
  - Landscape preservation
  - Product quality
  - Quality of life
  - Ethics
  - Local development
  - Citizenship
  - Human development
  - Employment
  - Animal welfare
Adaptations of the original method for Lebanese small ruminants (Srour 2006, Srour et al., 2008)

- Indicators computing modalities modified
- Scales adapted
  - actual distribution
  - goals
- Weighting adapted to local specificities
- Particular need for references:
  - Stocking density
  - Fertilisation / Nitrogen balance
  - Economical transmissibility
Assessment of small ruminant systems in Spain (Nahed et al., 2006)

- 5 general attributes, 44 indicators
  - Productivity (8 indicators)
  - Stability (17 indicators)
  - Adaptability (6 indicators)
  - Equity (4 indicators)
  - Self-management (9 indicators)
Need for a specific approach

- Focus research on sustainability indicators pertinent in semi-arid/arid conditions

- Weighting of indicators as a function of the importance of a factor in the specific situation

- Set up a common assessment tool (for inter-systems or inter-national comparisons)
Working method : Delphi method

- Delphi method : iterative participatory process to
develop consensus between experts
  - successive questionnaires
  - anonymity and statistical treatment of responses
  - feedback, refinement, review of assumptions
  - identify items, weight them

- Used:
  - indicators of aquaculture sustainability (LSU 1998)
  - indicators of sustainability of continental
    aquaculture food chain (Madec 2003)
  - indicators of sustainability of dairy dutch farms
    (van Calker 2005)
  - ethical questions, …
Partnership

- 8 Mediterranean countries (open)
  - France, Spain, Portugal, Morocco, Algeria, Tunisia, Egypt, Lebanon
- 1 coordinator
- 1 contact person by country (management group)
- 5-7 experts by country
  - research, development, administration
  - animal and plant production, pastoralism, soil, water management, economy, sociology
Successive questionnaires

- Objectives associated to sustainability
  - initial proposition, other propositions, first rating
  - feed-back, rating

- Indicators linked to the three dimensions of sustainability and objectives
  - call for proposals
  - rating, selection

- References for the indicators
## Candidate objectives

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<td><strong>Vilain 2003-2008</strong></td>
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Steps

☐ Set of indicators adapted to small ruminant farming systems and Mediterranean references

☐ Presentation to the FAO-CIHEAM S.R. Network

☐ Test on the field and confrontation with farmers experience (co-conception)

☐ Work in progress