Multi-dimensional conceptual model of rangeland systems

Key Messages

- Rangeland systems contribute not only to food production but also to social identity, local development and environmental services, hence the need to assess these multiple dimensions of rangelands.
- We propose such an analysis framework as a set of conceptual models. Each conceptual model describes the concepts, structures and processes to be considered in order to understand the functioning of rangelands from the production, social, local development and environmental perspectives.

Livestock-based solutions

- Four functions have been identified with distinctive values: the social role of livestock, the production of livestock-based products, the role in local development and the positive and negative impacts on ecosystem services. The conceptual models have been elaborated and the interactions highlighted in order to be able to discuss the trade-offs.

Results and evidence

Multiplier effects

- These conceptual models are being used to design specific simulation model and databases, to make diagnostics, as well as for teaching multi-functionality of rangelands.

Contacts: Jean-Pierre Müller (jean-pierre.muller@cirad.fr), Alexandre Ickowitz (alexander.ickowitz@cirad.fr)