Adaptation options to global change in the mountains depend on the mental models of the inhabitants: an example in the Pyrenees Mountain

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Introduction

Mountains are undergoing **deep socio-economic and ecological transformations**

Sustainability science is used to facilitate the design, implementation and the evaluation of interventions **to promote sustainable actions in specific places and under specific contexts.**

Objective: to develop potential adaptation measures in the Pyrenees through a SES framework and a vulnerability analysis.

Methods

- The Socio-Ecological Systems (SES) framework (Ostrom, 2009)
- The vulnerability framework (*exposure, sensitivity & adaptation)* (Adger 2006)
- Inclusion of local mental frameworks (López-i-Gelats 2009)
- Adaptation strategies based on adaptation pathways

The 4 local mental frameworks

Conservationist Favourisation of protected areas and their capacity to stimulate economic and social development	**Entrepreneurial** Adaptation should be committed to tourism and to the building sector as the strongest assets in mountain areas
Farmer The greatest asset of mountain areas is its agricultural potential and livestock farming; potential to generate many goods and services for the society	**Endogenous development** An economic diversification is needed; higher leading role of locals in the definition of the roadmap to be followed by mountain areas

The 5 adaptation pathways

- Co-management (CoM) → New ways of social organization and horizontal networking
- Intensification (INT) → Stimulation of the regional economy focusing on assets with a greater productive potential.
- Social innovation (SoI) → Fostering new activities, exploring new cultures and new professions.
- Bio-economy (BiE) → Commercial exploitation of the natural and organic products of the region
- Diversification (DIV) → Widening as much as possible the economic base of the region.

Different **adaptation measures**

accommodate

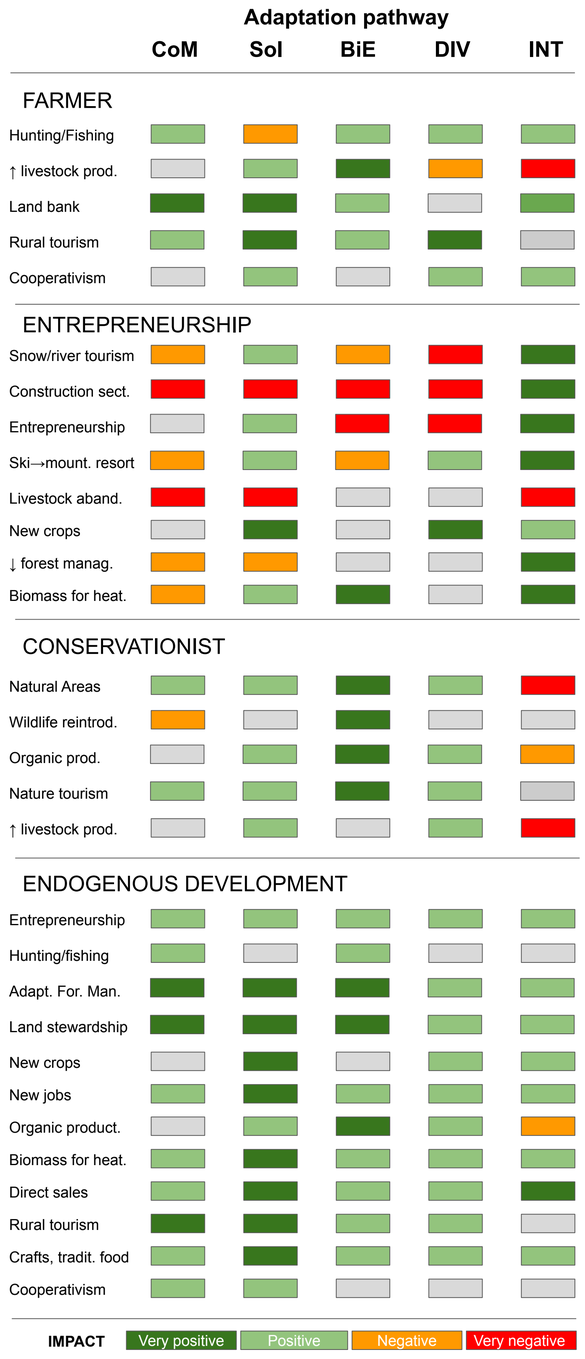
different mental models

There are **no magic solutions:**

land management in tackling

climate change

requires setting

priorities and trade-offs

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