

Opportunities and challenges of mountain food systems - entry points for transformation

Theresa Tribaldos

UNESCO Chair on Natural and Cultural Heritage for Sustainable Mountain Development
Centre for Development and Environment and Institute of Geography, University of Bern
World Nature Forum and Swiss Alps Jungfrau Aletsch World Heritage Foundation, Naters



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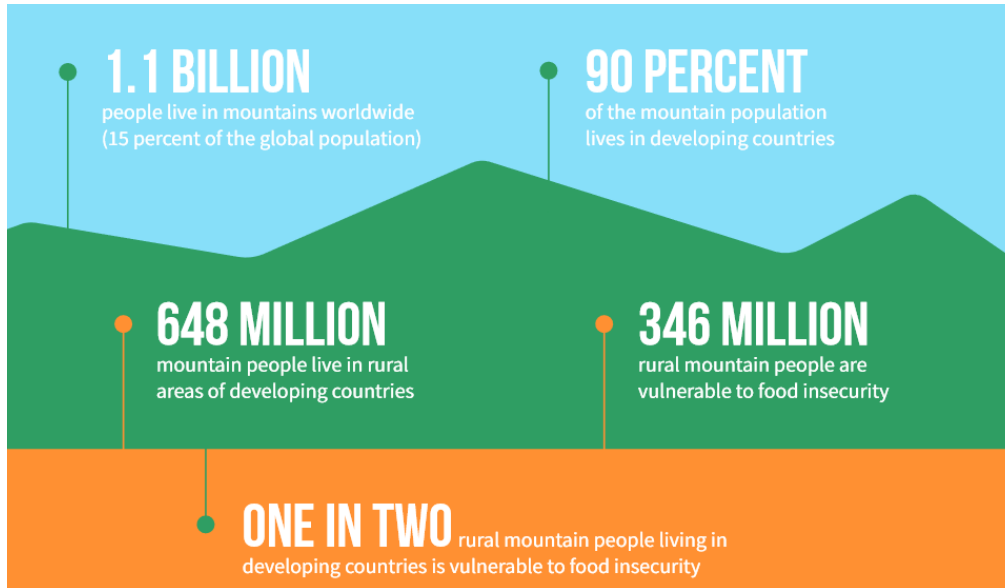
International Mountain Conference, 19 October 2022, Saignelégier

Structure of the talk

- Challenges in mountain food systems
- Definition of a food system
- Sustainability and justice in food systems
- Entry points for transformation



Challenges in mountain food systems: food insecurity



FAO 2022: Vulnerability of mountain peoples to food insecurity

Vulnerability to food insecurity:

- Physical access (remoteness in space, infrastructure, markets, decision-making processes)
 - Economic access (education, poverty, social and gender inequality)
 - Natural hazards, land degradation and conflicts
- **Numbers are on the rise**

Challenges in mountain food systems: climate change and natural hazards



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Photo: VAW-ETHZ

Climate change:

- Supply for drinking water and irrigation



Photo: NZZ 2017

Extreme events:

- Landslides, droughts, snowfall in summer

Challenges in mountain food systems: land use change



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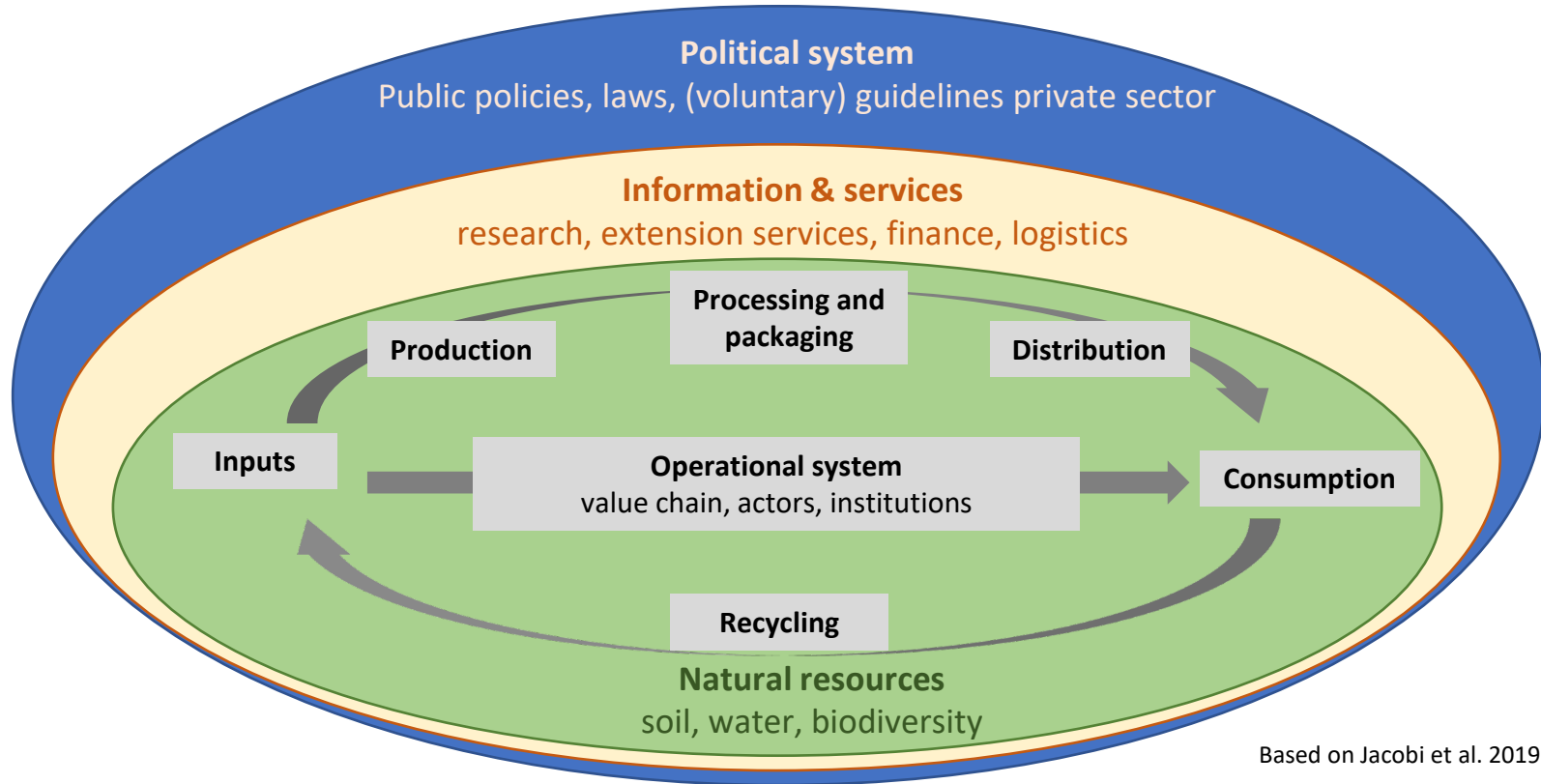


Plane view of deforestation-induced erosion in Madagascar. Click image for more information. (Photo by R. Butler)

Land degradation:

- Multi-dimensional (deforestation, resource extraction, agricultural conversion)
- Potential contributions to greenhouse gas emissions
- Reinforcing risk for natural hazards

Food system definition





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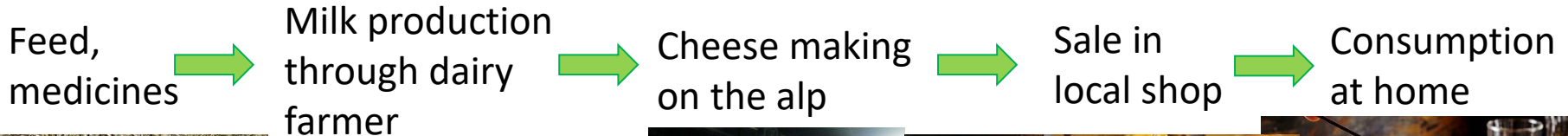
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Cheese: a food system example

Research: balance between
robustness and performance
Finance: investments in
animal-friendly stables

Sectoral organisation: BOM defines
target price for different milk segments



Cows need grass, hay, fresh water and potentially other feed



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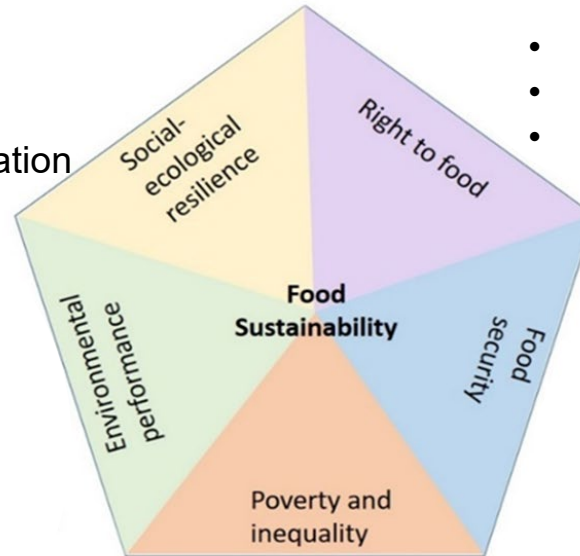
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What makes food systems sustainable?

- Buffer capacity
- Self-organization
- Learning and adaptation

- Landscape management
- Carbon footprint
- Health impacts



- Non-discrimination
- Access to information
- Effective participation

- Household level
- Power relations
- Capacity to store and process food

- Income and expenditure
- Access to infrastructure
- Performance of value chains

Rist and Jacobi, 2016



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What role does justice play in this?



What does it mean to transition from current food systems towards sustainable, healthy and climate-friendly food systems in a just way?

Characteristics of mountain food systems



- Limiting topography and climate
 - Resilient cultural and social traditions, specific governance mechanisms
 - Primarily pastoralists and small-scale farmers
 - Traditional and indigenous knowledge systems
 - Sustainable agricultural techniques and biodiversity richness
 - Marginalization, poverty and inequality, environmental hazards, food insecurity
- Attractive places for tourism and opportunities for income generation

Entry points for transformation: Governance mechanisms



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Traditional irrigation for water and nutrients

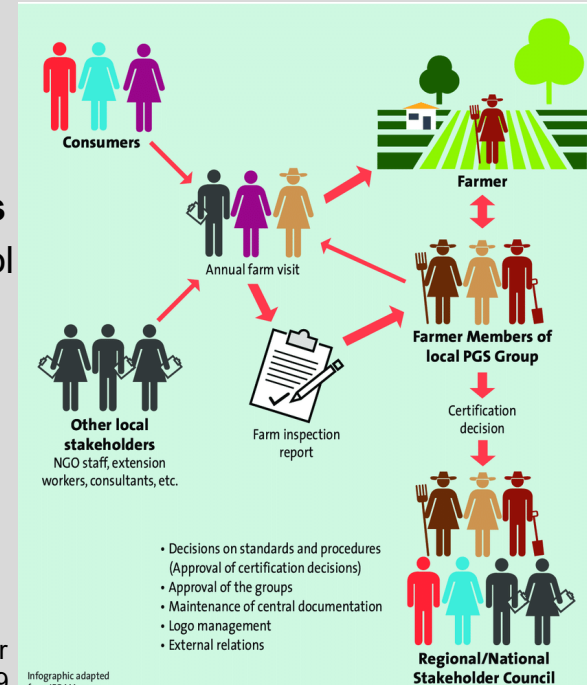
A combination of infrastructure, techniques, organisational structures and institutions, cultural practice and knowledge



Photo: Karna Liechti

Participatory guarantee systems

- Collective management, control and support for organic agriculture
- Credibility and trust
- Replacing expensive labels





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Entry points for transformation: Agricultural techniques

Agroforestry combining forestry and crops or animal husbandry:

- Biodiversity
- Carbon-capture and storage
- Protection from sun and extreme weather



Foto: Wikipedia



Foto: World Atlas



www.cheval-jura.ch

Terrace farming:

- Cultivation in and stabilization of steep slopes
- Prevention of soil erosion
- Support for water harvesting and conservation

Entry points for transformation: Value chains, marketing, and territorial branding



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100%



Pro Montagna



Thank you!

theresa.tribaldos@unibe.ch

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