

Resilience of Socio-Ecosystems in the Qilian Mountains, China

Tibetan Plateau, China – FA2/GASL Research Site

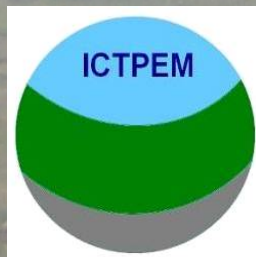
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Context: The Chinese Rangeland

- # 4-6 millions km², according to the definitions of rangeland
 - => Located at center of Asia, especially the Tibetan Plateau (2.5miokm²)
 - => Border with many countries and high ethnic diversity
 - => the main Asiatic rivers and water supply for 1,2 billion people
- Rangeland: 15 millions bovines/yaks, 50 millions sheep-goats + camels
- Research site: Tianzhu and Sunan counties, Qilian mountains, Gansu Province

中国草地类组图





Challenges

1. Rangeland covers around 68% of China (West and North)

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2. Rang

⇒ Sustai

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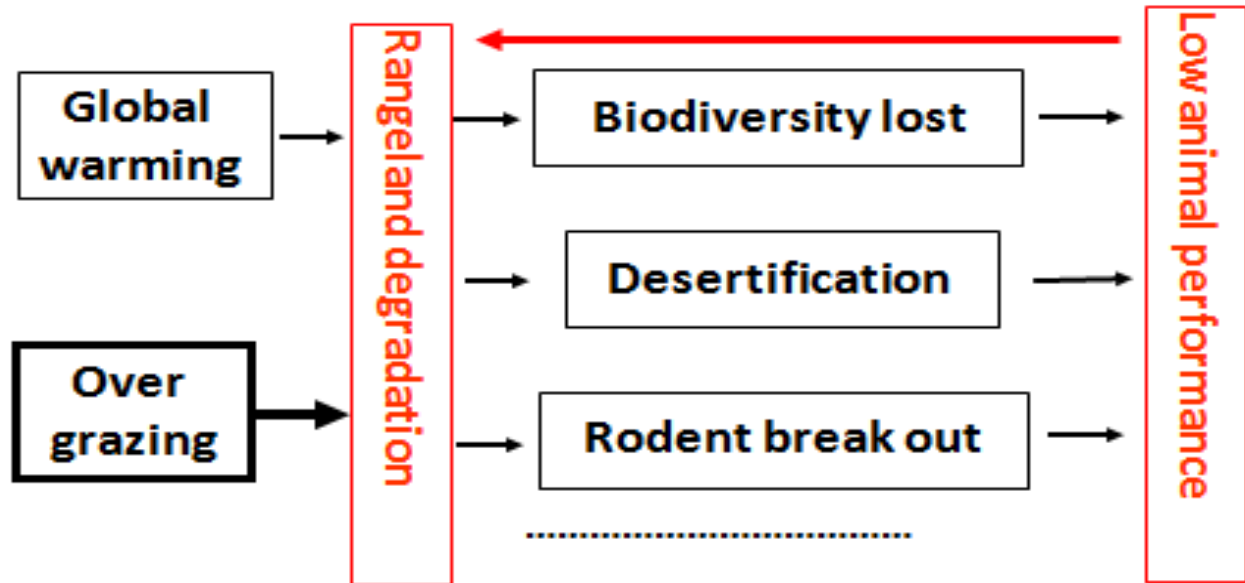
⇒ Redu

The degradation on alpine meadow

Overgrazing + global warming



The



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Impr

management

integrated research focused on farming system and livelihood approach.

Materials & Methods

- Describe, understand and modeling the farming systems and livelihoods in the Qilian Mountains Stakeholders
- Identify the demands, the hopes and fears of the local people regarding the animal husbandry in the zone
- Better define the role of the market and the policies in the rural trends
- Find a sustainable development model for this area in the future

The work already done

- Farmers interviews (2014): 32 farms, 8 villages (4 farms/village), 2 counties (4 villages/county), 350-400 data for each farm, around 6300 sheep and 1600 yaks, 2500ha of winter pasture and 3500ha of summer and autumn pastures
- Key-informants (2013):30 stakeholders
- A detailed survey(2014): household economy, 12 farms of the samples



- Herd of yaks in summer pasture
- Herd of yaks in winter pasture
- Herd of sheep in summer pasture
- Herd of sheep in winter pasture



Policies

Household:

HCRS(Household Contract Responsibility System)

+

Subsidies(Cropland, greenhouses /barns, new houses/new tents/ apartments)

Local governance:

Free primary school,
free junior high school

+

Maintenance of
the roads and trails

+

Building and
financed apartments
for retired farmers

+

Support local initiatives
for intensive livestock
farming systems

+

More attractive for
investors and young
people

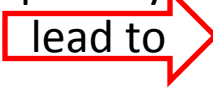
Current situation

The essence of alpine grassland husbandry in Qilian Mountains:

To maintain herder's livelihood and survival

Meat and milk production base:

Not in pastoral area, while in agriculture area, especially around city

The mobility of the herds and the feeding system  lead to

The great complexity of the farming systems

The life conditions of the breeders significantly improved during the last 15-20 years

The strong demand of the market in animal products impacted “+” the livestock production

The low attractiveness of the livestock activity for the young people:

The high quantity of labor, the painfulness and inconvenient living in rural area such as no internet, no good shopping mall and less recreational activities.



In the future

- A trans-disciplinary analysis integrating the points of view of the local stakeholders in order to describe the farming systems and the livelihoods in the communities of the Qilian Mountains.
- Planning to implement a farms monitoring to assess the performances of the farming systems and better understand the adaptation strategies of the breeders facing global change.
- **Propose some research-development actions focused to improve the management of the rangeland (ADD VALUE TO THE RANGELAND) and the sustainability of the socio-ecosystem:**
 - Electric fences to manage the winter pastures
 - Intensification of forage production in the crop lands
 - Monitoring the rangeland productivity (remote sensing)
 - Adequate technologies to improve the profitability of dairy and meat production

Thank you - 谢谢 – Merci!

