The challenge: Over-grazing and under-grazing cause the degeneration of pasture

In Kyrgyzstan, a significant rural majority coexists with a landscape divided between vast pastureland (50%) and a mere 7% suitable for cultivation. Post-independence, livestock distribution mismanagement and pasture decay have caused overgrazing in winter and under-grazing in summer, eroding pasture quality and spreading diseases like brucellosis and foot-and-mouth disease, posing dual threats to animals and human health.

Every year, it is estimated that $30-35 million is lost due to recurring natural disasters. Vulnerabilities to diminished pasture productivity, heat stress, and water scarcity amplify risks to livestock and health. Extreme poverty, notably in areas like Jalal-Abad, Osh, and Batken, compounds inequalities and food security issues.

Livestock production holds crucial economic importance in the three mountainous provinces, where a substantial proportion of Kyrgyzstan's cattle, sheep, goats, and horses are reared. Tackling rural challenges and bolstering the livestock industry has the potential to play a pivotal role in reshaping Kyrgyzstan's economic outlook and enhancing the welfare of its population.

Livestock and Market Development Programme II (LMDP-II) 2013 - 2021

Outreach

- Three southern regions of Kyrgyzstan: Batken, Jalal-Abad, and Osh;
- 503,026 household members, 190 Pasture Users Unions (PUUs), covering approximately 380,000 rural households and a rural population of more than 2,900,000 people

Target group

- Vulnerable households primarily among small livestock producers;
- Women headed households often constrained in terms of labour to manage their livestock;
- Other livestock producer households;
- Community veterinarians

Programme objective

Increase livestock productivity and climate resilience through community-based pasture management, supporting pasture user unions to increase productivity and resilience of pastures, improving animal health and income.
The innovation:
Mainstreaming climate change adaptation into livestock and pasture management

Through this programme, Kyrgyzstan sought to empower local communities and modernize pasture management practices. The key focus areas were strengthening community-based management of collective pastures, privatization of veterinary services, and implementation of an early warning system.

Participatory pasture community mapping was another significant aspect of the programme. To enhance community-based pasture management, the LMDP-II developed a **pasture assessment tool** in collaboration with the Kyrgyz Livestock and Pasture Research Institute and Pasture Users. This tool allowed farmers to assess pasture quality. Additionally, the programme utilized **CR EO4SD¹ pasture condition maps** to inform communities about pasture degradation trends.

Outdated Soviet maps were updated with the help of GIS experts and community representatives, providing detailed physical maps of pasture infrastructure and usage. This empowered Pasture Users Unions to plan and manage pastures effectively. Community seed funds were established to provide high-quality fodder seeds, reducing grazing pressures on degraded pastures.

Addressing climate change risks was a top priority, and the programme established a sophisticated early warning system, initially through a website² and forecast bulletins, later including a mobile application. The system, hosted by the Pastures Department, provided timely weather information and alerts from Hydromet to communities, enabling them to take proactive measures.

Furthermore, the programme promoted the privatization and modernization of veterinary services, leading to improved animal health and production, as well as better public health outcomes related to Zoonotic diseases. Notably, the introduction of matching grants was a groundbreaking initiative for Kyrgyzstan, allowing for effective adaptation to operational, political, and economic challenges.

The programme also invested in resilient infrastructure, constructing livestock shelters, water troughs, housing for herders, and rehabilitating roads. These improvements enabled pastoralists to adapt to changing climate conditions, enhance livestock mobility, and implement flexible management practices, ultimately enhancing their capacity to cope with climate challenges.

¹ Earth observation for sustainable development
² [https://sropasture.kg](https://sropasture.kg)
Results and impacts

The number of livestock and the value of livestock production increased, contributing to higher revenues from sales. However, it's worth noting that there was no substantial increase in productivity. It also had a positive effect on the overall income of the communities involved, with a notable decrease in poverty levels. Women's involvement in livestock activities also increased, promoting gender inclusivity.

One of the programme’s most notable achievements was the promotion of more sustainable pasture management practices. Seasonal pasture rotation increased, and there was a robust reduction in the share of households using winter pastures in other seasons, as well as a significant decrease in the use of spring/autumn pastures in summer. These changes indicate progress toward more responsible pasture utilization.

Despite these successes, challenges persisted, particularly in the face of higher livestock numbers. Pasture overuse and degradation continued to be an issue, raising concerns about the long-term sustainability of the livestock industry.

On a broader scale, the programme's influence extended beyond the local level, impacting national policies and strategies related to sustainable pasture management in Kyrgyzstan through its implementation and revision of pasture laws.

LMDP-II Footprint

- The programme reached 95,000 households and 503,026 individuals of which 50% were women.
- Average incomes of indirect beneficiaries increased approximately 25%
- Gained access to the programme-supported milk collecting centres, made women save from 4 to 5 hours daily.
- 189 Community Pasture Management Plans were developed, including Animal Health Plans, and investment plan with micro-programmes.
- A significant reduction of human brucellosis, from 924 cases in 2016 to 578 in 2020.
- Increase in number of livestock by 50% and in livestock income, and an overall increase in income by 43%, which led to a 25-percentage point decrease in poverty.
- Robust decrease in food insecurity by 46%.
- The value of livestock production increased by 69 per cent, which, in turn, increased livestock income.