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Pastoralism in Kashmir Himalayas: A SWOT Analysis for Strategy Formulation

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One of the oldest and most ecologically adapted livelihood systems in the Indian Himalayan region is Pastoralism in the Kashmir Himalayas. This transhumant system, which is mostly used by the Gujjar and Bakarwal communities, entails the seasonal movement of livestock, primarily sheep, goats, cattle, and buffaloes, between high-altitude summer pastures and lowland winter settlements. Food security, ecosystem management, and rural livelihoods are all greatly aided by pastoralism. However, the system is increasingly challenged by climate change, shrinking grazing lands, restrictive forest policies, and socioeconomic transformations. This article presents a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of pastoralism in the Kashmir Himalayas to identify internal and external factors influencing its sustainability and to propose strategic interventions for its revitalization.

Introduction

The extensive management of livestock in natural grazing ecosystems is the foundation of pastoralism as a livelihood strategy. The nomadic and semi-nomadic Gujjar and Bakarwal communities, who travel seasonally across the Pir Panjal and Greater Himalayan ranges in search of food and water, are the main practitioners of pastoralism in the Kashmir Himalayas (Kirmani *et al*., 2020; Rashid *et al*., 2025). This transhumant system enables effective use of resources that are both spatially and temporally variable and is well suited to mountain ecology (Bhasin, 2011).

As one of the biggest transhumant pastoral groups in South Asia, the Gujjar-Bakarwals have historically contributed to the production of milk, meat, wool, and manure while upholding indigenous ecological knowledge and cultural customs (Tufail, 2014; Gupta *et al*., 2025). In alpine and subalpine ecosystems, their mobility promotes nutrient cycling and helps distribute grazing pressure (Ingty and Acharya, 2021). However, due to decreased access to migratory routes, restrictions on biodiversity conservation, climate variability, declining profitability, and shifting aspirations among younger generations, pastoralism is under increasing pressure (Mir and Batool, 2022; Ahmed *et al*., 2023). A SWOT analysis is a framework for strategic planning that determines a system's or livelihood's external opportunities and threats as well as its internal strengths and weaknesses. Policymakers, researchers, and development professionals can create interventions to increase resilience and sustainability by applying this framework to pastoralism in the Kashmir Himalayas.

Pastoralism in the Kashmir Himalayas

Seasonal migration is the foundation of Jammu and Kashmir's pastoral economy (Figure 1.). Pastoralists migrate to alpine meadows (*margs*) in Kashmir and nearby high-altitude regions in the summer after spending the winter in lower elevations of Jammu and foothill areas (Kirmani *et al*., 2020). The foundation of household income is derived from livestock products like milk, ghee, meat, wool, and manure (Mir and Batool, 2022).

This system also provides ecological services (Ingty and Acharya, 2021), including:

- Maintenance of grassland biodiversity
- Seed dispersal
- Nutrient recycling
- Reduction of biomass accumulation and wildfire risk
- Conservation of indigenous livestock breeds

Despite its significance, pastoralism remains under-recognized in mainstream development planning.

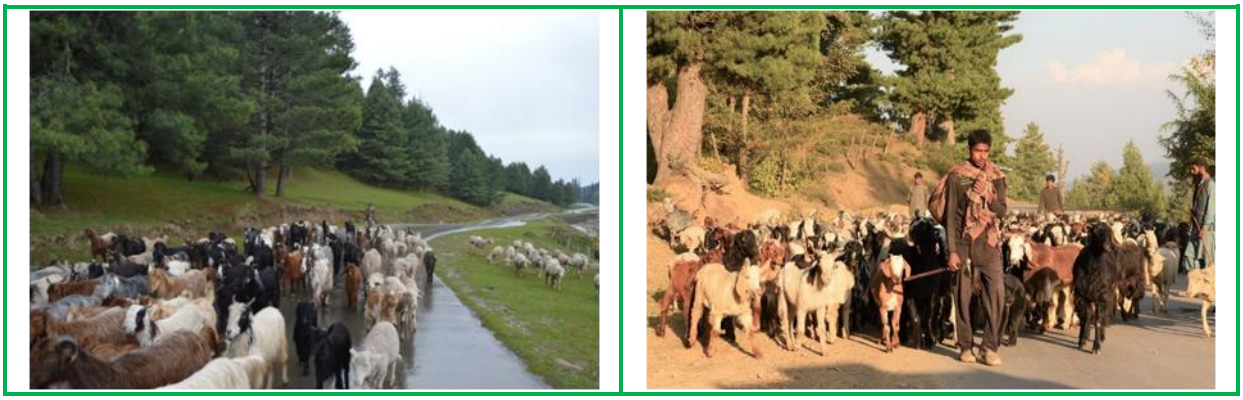

Figure 1. Pastoralism in the Kashmir Himalayas

SWOT Analysis of Pastoralism in the Kashmir Himalayas

Strengths

Rich Indigenous Knowledge: In terms of weather patterns, grazing management, livestock health, medicinal plants, and migration timing, pastoralists have a wealth of traditional knowledge (Dutta *et al*., 2021; Goswami and Rajput, 2024). This knowledge, which has developed over many generations, is ideal for the challenging mountain environment (Khatana, 1992).

Efficient Use of Marginal Lands: Pastoralism offers a way to make productive use of alpine meadows and rugged terrain that is not suitable for crop agriculture and to convert otherwise inaccessible biomass into valuable animal products (Ingty and Acharya, 2021; Hatfield and Davies, 2006).

Livelihood Security and Cultural Identity: Livestock are important sources of income, food and social status. Identity, language and customary institutions of the Gujjar and Bakarwal communities are intricately linked to pastoralism (Gupta *et al*., 2025; Tufail, 2014).

Ecological Sustainability: Mobility and stocking must be balanced to support biodiversity, improve nutrient cycling, and maintain healthy rangelands (Ingty and Acharya, 2021; Fernandez-Gimenez, 2000).

Low External Input Requirement: Traditional pastoral systems are largely reliant on natural forage and family labour, thus minimizing the need for purchased feed and other expensive inputs.

Weaknesses

Limited Access to Basic Services: Mobile households are often faced with inadequate access to health care, education, veterinary services, and communication facilities during migration (Mahajan, 2021; Rashid *et al*., 2025).

Poor Market Integration: Pastoralists often sell milk, meat and wool informally at low prices due to weak bargaining power and limited processing facilities.

Low Policy Recognition: While pastoral systems receive inadequate institutional and financial support, development programs frequently give priority to settled agriculture.
Inadequate Infrastructure: Migratory routes lack shelters, veterinary camps, fodder depots, and drinking water facilities.
Youth Disengagement: Traditional herding is becoming less popular as younger generations pursue formal education and non-pastoral jobs (Gupta *et al*., 2025; Ahmed *et al*., 2023).

Opportunities

Rising Demand for Organic and Ethical Products: Premium milk, ghee, cheese, meat, and wool are finding markets as consumers place a higher value on naturally raised livestock products.
Ecotourism and Cultural Tourism: Pastoral landscapes and nomadic traditions offer opportunities for guided treks, homestays, and cultural experiences.
Government Welfare and Tribal Development Schemes: Targeted support through livestock insurance, mobile veterinary units, scholarships, and cooperative development can enhance resilience.
Climate Adaptation and Conservation Funding: Pastoral communities can be integrated into rangeland restoration, biodiversity monitoring, and ecosystem service programs.
Value Addition and Cooperatives: Incomes can be raised through the processing and branding of goods like wool handicrafts, medicinal herb-based products, and artisanal cheese.

Threats

Climate Change: Fodder availability and livestock productivity are impacted by erratic snowfall, changed precipitation, pasture degradation, and changing phenology (Ahmed *et al*., 2023; Goswami and Rajput, 2024).
Shrinking Grazing Lands: Access to traditional pastures is diminished by land-use change, infrastructure growth, and encroachment (Rashid *et al*., 2025; Mir and Batool, 2022).
Restrictive Forest and Protected Area Policies: Access to migratory corridors and traditional grazing areas may be restricted by conservation regulations (Ingty and Acharya, 2021; Rashid *et al*., 2025).
Human-Wildlife Conflict: Predation by bears, leopards, and wolves can cause substantial livestock losses (Hameed, 2022; Mir and Batool, 2022).
Socio-political Instability: Seasonal migration and market access may be hampered by administrative limitations, conflict, and mobility obstacles (Mahajan, 2021; Kirmani *et al*., 2020).

Strategic Recommendations

SO Strategies (Using Strengths to Capture Opportunities)

- Brand Gujjar-Bakarwal dairy and wool products as organic and mountain-based.
- Use indigenous knowledge in rangeland restoration and climate adaptation projects.
- Promote pastoral heritage through ecotourism and cultural initiatives.

WO Strategies (Overcoming Weaknesses by Using Opportunities)

- Establish mobile veterinary and educational services along migration routes.
- Develop cooperatives for processing and marketing pastoral products.
- Leverage government schemes to improve infrastructure and financial inclusion.

ST Strategies (Using Strengths to Reduce Threats)

- Integrate local knowledge into climate and pasture monitoring systems.
- Support community-led grazing management to prevent degradation.

WT Strategies (Reducing Weaknesses and Avoiding Threats)

- Introduce livestock insurance and predator compensation schemes.
- Strengthen legal recognition of customary grazing rights and migration corridors.

Conclusion

In the Kashmir Himalayas, pastoralism continues to be a robust and significant ecological livelihood system that sustains both mountain communities and delicate ecosystems. Its mobility, traditional knowledge, and sustainable use of alpine rangelands are its main

advantages. However, its viability is diminished by insufficient services, weak institutional support, and shifting social aspirations. If inclusive policies are in place, new opportunities in tourism, niche markets, and climate finance could contribute to the revival of pastoralism. To guarantee that pastoralism continues to support livelihood security, biodiversity conservation, and cultural heritage in the Kashmir Himalayas, it is imperative to address climate change, diminishing grazing lands, and regulatory restrictions.

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