

Protecting rangelands and preserving yak-herding traditions in the Kanchenjunga Landscape, Nepal





Key messages

The yak, a species of long-haired cattle which is raised by high-altitude herders of the Kanchenjunga Landscape, serves multiple purposes. As well as being central to a centuries-old subsistence-based tradition, yak herding is an effective tool for rangeland management in the highlands.

Rangelands provide multiple essential ecosystem services. Yak herding needs to be incentivised as it contributes to maintaining ecosystem services. This could be done by providing subsidies for supplementary foods for yaks and subsidies to meet the daily needs of herders.

Rangeland degradation is threatening yak herders' livelihoods. Therefore, it is important to involve yak herders in making and implementing decisions related to rangeland improvement. Yak herders have shown their willingness to contribute financially to initiatives aimed at improving herding practices, such as forage and feed production, construction of sheds to protect yaks from harsh weather and wildlife attacks, animal health services, and risk mitigation through insurance.

Youth in the Kangchenjunga Landscape are leaving the yak herding profession. A main reason is that herders are not able to earn an income from their products. Therefore, linking yak herding with tourism and promoting technology and innovation (e.g. a yak milk processing plant) would help attract the youth to yak herding.

Background

Rangelands are uncultivated lands suitable for grazing livestock. They provide important ecosystem services such as the provisioning of food and fibre, carbon sequestration, and biodiversity conservation. In the Kanchenjunga Landscape (KL) in the eastern Himalaya, which spans parts of Bhutan, India and Nepal, rangelands are integral to the survival of culture as well as the livelihood of yak herders.

Yak herding is an ancient Himalayan tradition. In the past, yak herders migrated seasonally between summer and winter pastures, allowing recovery of heavily grazed meadows. Grazing increases rangeland productivity. Yaks supply nutrients to the soil through urine and dung and improve rangeland health by controlling weed invasion. Yak herders and rangelands have thus maintained a symbiotic relationship for generations.

However, both rangelands and the yak herding tradition are now increasingly under threat. Rangelands face several challenges due to increasing socioeconomic changes and climate change. As yet, there remains a dearth of effective policies to address these challenges. Although yak herders bear the brunt of rangeland degradation, they are often blamed for it. Governments have enforced policies that curtail access to grazing areas. These policies have had serious impacts on herders' livelihoods and cultural identities.

Yak herders also face other challenges – conflicts with community forest user groups over rangeland use, winter fodder shortage, water scarcity during the dry season, and lack of permanent infrastructure in the herding sites. In addition, herding communities in the region are grappling with the effects of reduced genetic diversity among yaks resulting in lower growth rates and decreased resistance to disease. They also face market access challenges – attributable to geographic isolation, limited transportation infrastructure, lack of market information, and lack of linkages to market networks.

In recent years, yak numbers have decreased rapidly, and yak herders are giving up their ancestral occupation as they do not find it socially or economically attractive. The younger generation is no longer interested in pursuing this way of life. One direct result has been the rapid degradation of high-altitude rangelands. Biodiversity-rich meadows are being invaded by weeds and shrubs, and the habitats of both prey and predators are shrinking as a result.

There is a need to improve the health and sustainability of high-altitude ecosystems. Understanding the local dynamics of rangeland management is the first step towards effectively managing rangelands. This study assesses challenges and opportunities in yak herding and recommends activities for protecting this ancient tradition in three rangelands within the – Phalelung, Sidingwa, and Yangwarak, which span the Panchthar and Taplejung districts of Nepal. While the challenges and possibilities outlined below are specific to these areas, they could be applicable to other rangelands across the KL.

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Challenges

Rangelands
comprise a unique
ecosystem in their
own right, requiring
specific and
sustainable methods
of management

Given the harsh environments in which yaks are raised and the limited market for yak products, yak herding is no longer a profitable business.

Increased yak (adult and calf) mortality, mainly caused by disease, has increased financial risk for yak herders. There are no appropriate veterinary services in the highlands.

Rangeland degradation has increased the cost of herding as herders must buy supplementary food to ensure that yak reproductive performance and milk productivity are not drastically reduced.

Climate change and over-exploitation of resources coupled with government policies have led to the degradation of high-altitude rangelands in the KL.

In Nepal, rangeland management tools such as managed grazing, clearing and cutting of shrubs and brush, and prescribed burning are banned, as rangelands are treated as a component of the forest ecosystem. Rangelands comprise a unique ecosystem in their own right, requiring specific and sustainable methods of management. As many rangelands are under the community forestry regime, a ban on grazing – considered as one of the major drivers of deforestation and therefore banned in community forests – applies to high-altitude meadows as well. This has direct consequences for yaks and yak herders.

Bush encroachment is contributing to the conversion of grasslands to shrublands, reducing the available grazing area.

Water shortages are becoming more common, mainly due to decreasing rainfall. This has led to the drying up of water resources.

Invasion of alien species and unpalatable plant species is gradually increasing, which is directly affecting forage quality and livestock health and productivity.



Considerations

Rangelands in the
Kanchenjunga
Landscape are crucial
for the survival of
culture and the
livelihood of yak
herders

Herders are willing to contribute to rangeland management. They are willing to pay for insuring yaks against disease and wildlife depredation, cultivation of improved varieties of grass at lower altitudes, improved health services in the rangelands, the construction of permanent yak sheds, and prescribed burning as a rangeland management tool, although the practice is currently banned in Nepal.

Herders think that value addition of milk products may increase their income. Currently, the only yak milk products they sell are chhurpi (cheese) and ghee (butter).

Hiring labour to maintain yak sheds has proven beneficial, creating employment opportunities for labourers while helping sustain the traditional practice of yak herding. Hiring labour means higher financial returns for owners of yak sheds as it allows them to focus on other tasks that require attention.

Including the social benefits of yak herding, such as preserving cultural and traditional practices, supporting local economies, maintaining rangeland ecosystems, living with family, and curbing illegal activities can help to increase the overall benefits of yak herding. Tourism enterprises that highlight the cultures and traditions of yak herders can have financial benefits for the herders. For instance, if promoted effectively, staying in huts (known as goth-stay facilities), could generate income for yak herders and attract tourists interested in experiencing the traditional ways of life of high-altitude herders. This is similar to how homestays have become a common feature across the KL.



Recommendations

Rangeland management: There is an urgent need to formulate and implement policy that supports yak herders, such as policies that enforce grazing regulation, support their traditional knowledge and practice, provide technical assistance to herders to improve their animal husbandry skills, and support their access to marketing of yak products. Efforts must be made to address the problem of winter forage shortage, including improving storage facilities, increasing hay production, and promoting cultivation of winter forage crops such as rye grass. Studies should be conducted on how improved varieties of seeds might help increase rangeland productivity. Herders can have access to improved seeds through Government extension services and community seed banks.

Incentivise yak herding: Yak herders need to be incentivised as they contribute to maintaining essential ecosystem services. This could be done by providing subsidies for supplementary foods for yaks and subsidies for fodder, transportation costs, veterinary services, water access, and the construction of corrals.

Involve yak herders in decision making, in order for them to have a voice in managing their resources and sustainably managing rangeland resources. Yak herders are interested in contributing financially to efforts aimed at improving forage and feed production, constructing sheds to protect animals from harsh weather and wild animal attacks, obtaining veterinary health services, and mitigating risk through insurance.

Provision of yak insurance to herders is important. One option is to set up a community-owned insurance mechanism that provides funds directly herders, to cover the loss of yaks to predators or other accidental deaths. Community-managed insurance schemes will compensate against yak loss and can reduce fraudulent claims. Appropriate insurance modalities should be explored, and an efficient compensation scheme needs to be developed.

Rangeland management regulations: Forests and rangelands require different management policies and regulations. There is a need to revisit the Nepal government's categorisation of rangelands under the forest ecosystem and to review the regulations on managing rangelands.

Improved health services: Calf mortality is considered one of the main constraints to making yak herding profitable. Veterinary services are essential for controlling contagious and zoonotic diseases in yaks, but such services are very limited in remote yak-inhabited rangelands. Therefore, there is a need to strengthen and improve access to veterinary services and animal disease surveillance, particularly in summer pastures. This should be best done in coordination with local municipalities.

Livelihood diversification: It is impossible to promote yak farming without linking it to tourism or adding value to yak products (e.g. by establishing milk processing plants at the local level). In addition, private-sector partnership can help in the development of new yak products and their certification and branding, and thus improve the marketability of yak products.

Supporting yak herders through policy, incentives, and community involvement is crucial for sustainable rangeland management and the preservation of essential ecosystem services.





Notes

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For more information, read:

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