

Progress Report: Balancing Conservation and Cordyceps-Based Livelihoods in the Himalayas

This project explored the conflicts between biodiversity conservation and livelihoods centered on Cordyceps harvesting in the Dolpa region of Nepal. We conducted in-depth interviews with local stakeholders, including ward chairpersons and community leaders from different villages. These respondents provided diverse perspectives on the economic benefits, environmental challenges, and governance issues surrounding cordyceps collection. Their insights explain the interplay between livelihoods and conservation in this resource-dependent region.



Figure 1: Conducting interviews with cordyceps harvesters to understand their perspectives on sustainable harvesting practices and livelihood challenges.

1. Economic Impacts:

Cordyceps harvesting has been a major economic activity for the high-altitude communities in Dolpa and adjacent districts. It provides notable financial benefits. Local leaders and stakeholders highlighted the following:

1.1.Income Generation: Many families directly rely on cordyceps harvesting for seasonal income, which helps alleviate poverty. Families can earn substantial amounts (up to NRs 12,00,000 annually) by harvesting Cordyceps.

1.2.Financial Mismanagement: Some community members have developed poor financial habits despite their income. They rely excessively on cordyceps-based seasonal earnings and neglect other income-generating activities such as ecotourism and horticulture. Local leaders believe this seasonal financial dependency can lead to economic instability in years with low yields or fluctuating market prices.



Figure 2: Temporary community set up in the high-altitude area, where harvesters reside during the cordyceps collection season. (Photo by Shrijan Pandey).

2. Social Impacts

Community Interactions: During the harvesting season, a significant influx of people enters the region. The local leaders believe this might alter community dynamics, leading to social change and fostering interactions between locals and outsiders. They believe this seasonal migration can sometimes lead to disputes over resource use.

3. Environmental Impacts

The majority of respondents believe that the harvesting of cordyceps has caused substantial environmental degradation. The overharvesting of cordyceps has led to severe biodiversity loss in the region. Due to this, the habitats of iconic species such as the snow leopard and Tibetan wolf

are significantly affected. The influx of harvesters into fragile high-altitude ecosystems has degraded these habitats through deforestation, soil erosion, and habitat fragmentation. During harvesting season, large amounts of waste, including plastic and human waste, are left in the harvesting areas, polluting the environment and impacting wildlife habitats.

Additionally, the prey base of snow leopards, such as blue sheep, is under threat due to illegal poaching, further disrupting the ecological balance and survival of these apex predators. Local leaders believe that this unsustainable activity threatens biodiversity and undermines the region's ecological integrity.



Figure 3: Harvesters searching for cordyceps in the high-altitude pasturelands, navigating challenging terrain to collect this valuable resource.

4. Governance and Institutional Challenges

The respondents indicate weaknesses in governance and institutional involvement. Although local government and conservation agencies collect taxes during the cordyceps harvesting season, there are minimal efforts to implement sustainable practices or educate harvesters on environmental conservation. Respondents noted a lack of investment in reforestation, waste management facilities, and other environmental protection measures. They also argue for the need for community participation. The majority of the respondents stated that community awareness and cooperation in conservation are low, with limited initiatives to involve local communities in sustainable management efforts.

5. Proposed Solutions

Stakeholders proposed several solutions to address the challenges of cordyceps harvesting, emphasizing environmental conservation, sustainable practices, governance, and economic diversification. Some of the recommendations include establishing proper waste disposal systems, pasture land management programs, and promoting alternative energy sources to mitigate environmental degradation and biodiversity loss. Sustainable harvesting can be achieved by enforcing specific rules, such as designated collection periods and rotation harvesting cycles and educating harvesters on the ecological consequences of overharvesting. They believe strengthening governance through increased investment, stricter regulations, and community involvement is essential to ensure effective resource management. Additionally, promoting alternative livelihoods like eco-tourism and small-scale agriculture can reduce dependency on cordyceps and build community resilience.

Community Outreach:

From the data we gathered, we published the paper by Upadhaya et al. (2024), “*Integrating divergent stakeholder perspectives for sustainable management of high-altitude ecosystems: insights from cordyceps harvesting in the Himalayas in the journal Sustainability Science.*” This paper examines the complexities of balancing ecological sustainability and local livelihoods in high-altitude ecosystems. To further our outreach efforts, we collaborated on the article *The Human Cost of Nepal’s Yarsa Gold Rush*, published in the *Nepali Times*. The article highlights the social and environmental challenges associated with cordyceps harvesting and its broader implications for local communities. The articles can be found here

Upadhaya, S., Poudyal, B. & Tumpach, C. Integrating divergent stakeholder perspectives for sustainable management of high-altitude ecosystems: insights from cordyceps harvesting in the Himalayas. *Sustain Sci* (2024). <https://doi.org/10.1007/s11625-024-01592-5>

<https://nepalitimes.com/multimedia/the-human-cost-of-nepal-s-yarsa-gold-rush>