

# Final Evaluation Report

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Your Details	
Full Name	Soham Sadashiv Kacker
Project Title	Socio-ecological practices and medicinal plant conservation in the Western Himalayas
Application ID	43589-1
Date of this Report	4 <sup>th</sup> January 2025

**1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

Objective	Not achieved	Partially achieved	Fully achieved	Comments
1. Research Design and background			Yes	A strong basis for the study was constructed through a thorough review of previous literature.
2. Fieldwork and data collection			Yes	A month-long field expedition to the high-altitude villages in Uttarakhand, India was completed for data collection. Data was collected through a series of interviews with plant collectors across 11 alpine villages.
3. Analysis and preparation of results			Yes	Data obtained was analysed using frameworks of non-human governance and traditional ecological knowledge. The results obtained from analysis were prepared into a dissertation submitted to the University of Oxford in September 2024.
4. Communication of results (academic)		Yes		The research team is presently in the process of preparing the results for publication in an academic journal. We expect to submit a manuscript by March 2025.
5. Dissemination of results (community)			Yes	A community event was organised in Munsiyari, Uttarakhand on the 27 <sup>th</sup> of November 2024. All interviewees were invited to attend a one-day event where the research team shared the outcomes of the research, and elicited community feedback and discussion.

**2. Describe the three most important outcomes of your project.**

The field team completed 4 weeks of intensive fieldwork in June 2024, including a 125 km trek over 2 weeks in the remote alpine villages of the Gori Ganga valley in order to speak with medicinal plant collectors, village elders, local priests, healers, and forest council leaders. A total of 38 respondents were engaged, and 28 in-depth, semi-structured interviews were conducted based on the study's principal research questions. Interviews were conducted in a total of 11 villages in the region.

The data analysis followed an inductive, ethnographic approach which built on our first-hand observations in the field, and patterns and points of interest which emerged from the fieldwork. Three key findings from the analysis are as follows, which add significantly to the pre-existing literature in the field:

- a) The concept of traditional practice in medicinal plant collection is not merely an accumulation of historical knowledge, but a living and changing entity which combines different ancient and contemporary forms of resource governance. This includes ecological, social, and spiritual guidelines which overlap significantly with, and at times incorporate state-led governance such as forest councils. This lays the groundwork for defining a distinct "local world" or ontology within which plant collection functions, which may interact synergistically or antagonistically with mainstream conservation policy and governance
- b) While our background research as well as field studies indicate that traditional practices do contribute to mediating the relationship between people and plants in the landscape, these practices are constantly in flux. Changes in traditional practices are being caused by a variety of internal and external factors, including changing livelihoods and ambitions, a change in demographic of plant collectors, changes in spiritual beliefs, and an increasing exposure to and interaction with global and regional markets and economies. This has important implications for the ways in which plants are collected, and the study reports on how these impacts may differ from previous assumptions.
- c) An important symbol and driver of systemic change in the landscape is the discovery of the high-value natural commodity Cordyceps, which is a parasitic fungus harvested exclusively for trade to international markets. By changing the belief system, traditional practices, and trade networks associated with medicinal plants, this singular factor may have disproportionate impacts on plant diversity and conservation in the region.

### **3. Explain any unforeseen difficulties that arose during the project and how these were tackled.**

The project faced some unforeseen challenges at the data collection stage, particularly with respect to respondent demographics, data collection ethics, and participant availability during the field study. The number of women respondents was very low in the study, and this was addressed in the data analysis by acknowledging the social factors which may lead to a non-representative pool of respondents. We also point out considerations which future studies would need to incorporate in order to specifically understand the role of women, lower caste groups, and outsiders in plant-collection dynamics. Another challenge was

interviewees openly speaking about illegal practices during interviews, which was challenging from an ethical standpoint due to the risk at which this placed research participants. We tackled this by altering our consent seeking process to include potential avenues of future research communication, and adopting a blanket approach to respondent anonymity and confidentiality. Our results are reported in a manner such that both the identity and the village of the respondents are anonymised.

During fieldwork, we ran into issues with participant availability, since the season during which we conducted our field studies was the peak season for local religious festivities. We altered some of our target villages while in the field to ensure the largest possible sample size of collectors, but focused solely on collectors and no other stakeholders to best address our specific research objectives. Future studies may need to plan field seasons in alternate times, to optimise participant engagement.

#### **4. Describe the involvement of local communities and how they have benefitted from the project.**

Our study engaged directly with local communities who specialise in plant-collection from the wild. Our approach, which includes ethnographic and inductive methods was able to better understand the relationship between people and plants in the landscape, the challenges which face plant collectors, and the opportunities and interventions they expect from state and non-state conservation programmes. This more granular understanding of the ground realities of medicinal plants collection in Uttarakhand was possible largely through the cooperation of local communities.

Our study team included 3 members of the local community, who served as vital aides in navigating the landscape, helping to understand social dynamics, and providing points of entry into community spaces. Their knowledge of the local ecology served as a complement to the more socially-focused objectives of the study. They also received training in social science research methods, primary data analysis and community engagement, which can ensure their continued involvement with similar work in the future.

Finally, the community event organised in November 2024 to share the results of the study with the community allowed members of the community to directly engage with the research, provide their feedback, and discuss solutions to common problems together. The event included a group discussion portion, where concerns were raised, and several members suggested solutions based on strengthening community management institutions, building shared conservation ethics, promoting sensitive ecotourism, and instituting a local festival to celebrate plant diversity and conservation at the local scale.

#### **5. Are there any plans to continue this work?**

This project aimed to serve as a pilot project in the region, which can go on to inform future work on the plant sciences and plant humanities in the landscape. Our study has yielded several avenues for future research, in both ecology and ethnobotany, including the questions about mapping local perceptions of environmental change,

mapping the value chains of specific medicinal plants, and investigating the role of women, lower caste groups, and outsiders in the dynamics of local plant collection. Each of these research avenues was deemed important by the members of the community during the community event, who were enthusiastic about future research, collective action, and local conservation efforts in the future. Ecological monitoring of alpine meadow ecosystems, and setting up manipulative ecological experiments are also crucial steps in better understanding the ecology of the region beyond the cursory studies by previous research groups.

The project aims to expand the project team (both on and off the ground) in the coming year, and facilitate research into some of these questions. Apart from research, the project could expand into a community engagement initiative to act on some of the suggestions received from community members during the community dissemination event. Sustained future collaborations with local people, especially young people, offering them training and making them part of the team in a constructive manner remains central to our vision of the project. IN subsequent seasons, the project can also increase its focus on the applicability of research findings, again working in concert with local village leaders, NGOs, peoples' groups, and citizen science organisations.

## **6. How do you plan to share the results of your work with others?**

The dissemination plan for the results of the project includes academic and a non-academic avenues.

At the community level, our community dissemination event involved a research presentation by the research team, a discussion group, a visual poster-calendar distributed to research participants and community members, as well as a small booklet which contained key findings of the study and details of several species of endangered medicinal plants which are found locally. All communication materials at the community level were prepared in Hindi.

At the academic level, the research team is working on preparing a manuscript of the study to be submitted to an academic journal by February or March, 2025. This will add current insights to a growing literature base from the region, which is vital to enabling future research and effective local conservation.

At the public level, there are plans to prepare popular print articles, visual narratives, and public talks at symposiums, online, and elsewhere – after the publication of the academic article. The team may also consider collaborating with local film-makers to document and present the next season's work, which will be a very accessible way of communication our work to wider audiences in India and abroad.

## **7. Looking ahead, what do you feel are the important next steps?**

The next steps for our project involve gathering future avenues for research and community engagement, and adding to our team based on these possibilities. A second field season in June-July 2025, and perhaps a follow up season in August-September 2025 will help continue our engagement with local communities and collect data towards addressing some of the research questions resulting from our current work. This will be dependent on drawing up proposals and obtaining funding

for the future stages of the project, and shifting the academic anchors of the project from the University of Oxford to an Indian Institution which can continue to support the project.

**8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?**

The logo of the Rufford Foundation was used on all materials distributed during the community event, including the poster-calendar and the research communication booklet. The logo will be used in all future talks and events planned after the publication of the research article.

**9. Provide a full list of all the members of your team and their role in the project.**

1. Soham Sadashiv Kacker, Primary Researcher: project management, fieldwork, data collection, data analysis, results preparation, community dissemination event, and training of field collaborators.
2. Dr. Chloe Montes Strevens, Project Supervisor: guidance with project conceptualisation, analysis of results, and preparation of academic communication materials.
3. Dr. Oliver Owens, Project Supervisor: guidance with project conceptualisation, analysis of results, and preparation of academic communication materials.
4. K. Ramnarayan, Field Associate: logistical coordination of field season, recruitment and initial training of field-assistant-collaborators, community engagement, interpretation of results, assistance with organising and delivering community dissemination event.
5. Bablu Farswan, Field assistant-collaborator: local liaison, community recruitment and engagement, interpretation of results, assistance in navigating the landscape and collecting data, assistance with organising and delivering community dissemination event.
6. Kailash Rana, Trek assistant-collaborator: assistance in navigating the landscape and collecting data, community recruitment and engagement.