

Final Evaluation Report

Your Details	
Full Name	Pema Yangden Lepcha
Project Title	Wild Edible Plants of Dzongu Valley, Sikkim, India: Conserving Diversity, Traditional Knowledge and Practices for Sustainable Use
Application ID	37294-1
Date of this Report	24-01-2024

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
To conserve wild edible plants that are biodiversity resources as well as a vital component of indigenous people's food				
To strengthen the existing database on wild edible plants with more detailed and in-depth information				
To engage with local communities for a comprehensive understanding of the use of wild edibles and traditional knowledge				

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

a). Documentation: Documentation of various edible plants found in Dzongu Valley completed. The methods applied to document the data mostly involve household surveys (n=110) in 24 villages, key informants (n=30) and community transect walks (n=5) to document the traditional knowledge and practices associated with wild edible plants. This documentation is a valuable resource, especially considering the shifting aspirations of the younger generation and their potential disinterest in natural resources. Preserving this extensive knowledge base contributes to the conservation of traditional practices and guarantees their transformation to future generations.

b). A comprehensive information base on wild edibles which form a critical component of the community's diet as well as plant diversity of the Dzongu valley in north Sikkim has been documented. This information serves as a crucial resource for understanding the critical role of wild edibles in the local community diet and identifying the various plant species present in the region. Through this extensive research and data collection, the project has provided valuable insights into the changing trends of usage, threats, and availability of wild edible plants. This project has compiled a comprehensive list of edible plants; thus, this list serves as a vital reference for accessing the diversity and importance of wild edible plants in the Dzongu Valley. Through interactions and engagement with the local communities, the project has identified key threats to wild edible plants and developed strategies to sustain these species in their natural habitat, which will contribute to the conservation of plant diversity, sustainable use of resources, and the preservation of local traditions and practices.

c). Outreach: Outreach events were organised in Gnon-Sangdong Junior High School, involving students from five different schools as a part of an outreach event on the occasion of International Day of Forest 2023. The primary objective of this event was to raise awareness among the students about the diverse range of wild edible

plants present in Dzongu, emphasising their significance in traditional practices, livelihood uses, and other related aspects. To actively engage the children various activities were conducted, including a quiz completion, nature collage creation, and painting completion, all revolving around the theme of forests. This outreach programme was organised by Ashoka Trust for Research and the Environment in collaboration with Biodiversity Management Committee and Sikkim Lepcha Youth Association. The programme was acknowledged by the Forest Department and Education Department and funded by the Rufford Small Grant.

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

The scheduled outreach event focused on wild edibles in our study region, originally planned for October 2023, had to be postponed due to an unforeseen Glacial Lake Outburst Flood (GLOF) incident on 3rd October in Sikkim. The aftermath of the event has significantly impacted the region, rendering the current situation unsuitable for conducting any form of community engagement. In response to these challenges, we are adapting our outreach strategy by developing informative materials through animation and comics. This innovative approach aims to effectively reach the local community, especially children and serves as a major output of our outreach efforts. Despite the constraints posed by the GLOF incident, our commitment to disseminating valuable information on wild edibles remains steadfast, and we believe that these materials will contribute meaningfully to our scientific endeavours.

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

The engagement of the local community played a crucial role in this project, particularly in identifying wild edible plants that are consumed or used by the people of Dzongu Valley, Sikkim. We were able to compile a comprehensive list of wild edible plants which includes leafy greens (n=43 spp.), fruits (n=31 spp.), shoots (n=9 spp.), mushrooms (n=26 spp.), tubers and roots (n=22 spp.) and spices (n=5 spp.) from which *Elatostema lineolatum*, *Machilus edulis*, *Laportea bulbifera*, *Juglans regia*, and *Trupistra nutans* are some common edible plants used by the community. These plants have multiple uses other than food. These are used as medicine, handicrafts, tools, ornamental value, and so on. The community members also helped in identifying key threats to wild edible plants, they shared their observations and experiences, highlighting factors such as overharvesting, habitat destruction, climate change, and changing livelihood patterns as significant threats to the sustainability of these plants. Outreach material and events were implemented, focusing on raising awareness about sustainable harvesting practices, promoting responsible use of resources, and encouraging the younger generation to understand the value of traditional knowledge based on wild edible plants. Posters were prepared to enhance understanding of the ecological importance of wild edible plants and showcase the diversity of wild edible plants in the region used by the Lepcha community residing in Dzongu.

Documenting this traditional knowledge ensures that valuable information about locally available food sources is preserved. It can help promote the utilisation of these

plants during times of scarcity or any circumstances. Documenting the traditional knowledge surrounding these plants helps preserve cultural practices, rituals, and beliefs associated with their use. It provides a platform for sharing this knowledge with the younger generation for future reference facilitating the sustainable use and conservation of wild edible plants. It can also empower community members by recognising and valuing their expertise in the natural resources they have used since their ancestral time. It also documents traditional knowledge on sustainable harvesting practices such as appropriate seasons, methods, and quantities for foraging wild edible plants. By documenting these practices, community members can ensure the responsible and sustainable utilisation of these resources. This can prevent overexploitation, habitat degradation, and loss of biodiversity, and conservation of this plant for future generations.

5. Are there any plans to continue this work?

There is a scope for further engaging in an in-depth exploration and comprehensive documentation of the Lepcha community's wild edible cuisine. By doing further in-depth research and documenting the whole process of making food out of wild edibles we can safeguard endangered traditional knowledge at the brink of extinction within this community. It will be an invaluable resource documentation for the community not just for the community but also significantly to the global discourse on sustainable food sources and preservation of cultural diversity. We'll be exploring some opportunities for funds for publishing a book based on wild edible plants, their uses, recipes, traditional uses and traditional knowledge.

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

Sharing outreach posters to share project results with school children, the local administrative centre and the local community in Dzongu to raise awareness, educate and sensitise individuals about the importance of wild edible plants and the project outcomes. This poster can serve as an educational tool, providing importance about the significance of wild edible plants, and their role in local culture and diet. By presenting this information in a visually appealing format, the poster can effectively engage and educate school children about the topic.

Publishing a scientific paper on the documentation of wild edible plants and their traditional knowledge helps reach the community by disseminating information, creating awareness, and empowering the community. It expands the project's impact and contributes to the long-term conservation and sustainable use of wild edible plants.

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

1. There are many aspects where the documentation of traditional knowledge is needed. Especially the plants and their traditional uses in the form of a pictorial book of recipes, descriptions, and traditional uses for future reference.

2. Engagement of the younger generation to learn and understand this traditional knowledge with the older generation needs to be taken into consideration.

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?

Yes, we used the Rufford Foundation logo in our outreach material while advertising. Also, during the presentation, we mentioned that the whole project was funded by The Rufford Foundation.

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

Ms. Pema Yangden Lepcha: She is the project lead, she led the whole field-based work, from collecting data, compiling data, arranging outreach events, preparing text for outreach material, writing reports, and will be writing manuscripts to be published too.

Dr. Sarala Khaling: He is a trained ecologist and interdisciplinary researcher from Darjeeling, India. She has over 19 years of experience in managing projects focused on enhancing sustainable livelihoods, biodiversity conservation, and ecosystem services at the landscape level. She holds a doctorate in Wildlife Ecology from North Bengal University. Currently, she is a Regional Director, Ashoka Trust for Research in Ecology and the Environment (ATREE) for the Eastern Himalayan Northeast Region. She has led the Wild Edible Plants and Food Future Initiative for ATREE in the region. She supervised and guided this project.

Mr. Rohit George: Is a trained programmer/coder and has skills of building biodiversity databases, web-based portals, and project databases and has vast knowledge and experience in data management, data analysis, and representing them in forms that will be understood by the public. He provides all support for the technical aspects of the project in building the ODK form, and databases, and helps in cleaning data and analysing data.

10. Any other comments?

I express my sincere gratitude for the invaluable opportunity provided by the Rufford Foundation through the Rufford Small Grant. This grant has enabled me to delve into the realms of a nearly forgotten traditional practice within my region. The experience has been truly enlightening, allowing me to explore, learn, and comprehend the profound significance of traditional knowledge in the area to which I belong.

During this endeavour, I had the privilege of immersing myself in the study of wild plants, unravelling their traditional uses, and understanding their cultural importance. This exploration underscored the critical need to conserve these traditional practices for a sustainable future.

I extend my thanks to ATREE and Dr. Sarala, my supervisor, for their unwavering guidance throughout this project. Special appreciation goes to Mr. Rohit for his

instrumental role in establishing the database, providing field assistance, and contributing to the overall success of the study. I am also grateful to the community members and other stakeholders whose support was integral to the accomplishment of this research.

This opportunity has ignited a passion within me to continue uncovering forgotten knowledge within the region. I look forward to future opportunities that allow me to contribute to the preservation and understanding of our rich cultural heritage.