

Project Title: Tracking tree ferns for conservation in Gaurishankar Conservation Area

Project Update: March 2025

Overview

Tree ferns (*Cyathea spp.*) are a distinctive group of ferns that grow with a tall trunk and look like a tree. They are considered pre-date dinosaur species and hold a long historical importance, but most of them are threatened across the world due to ornamental trade. This project aims to document the tree ferns in Gaurishankar Conservation Area and help local communities and officials to protect them in the wild.

Progress

We made the following progress:

i) Research Permission obtained

We obtained the research permissions from the Department of National Parks and Wildlife Conservation, the Social Welfare Council, and the Gaurishankar Conservation Area. This allowed us to formally initiate the project activities. We also prepared a project implementation plan, including a proper timeline for activities, team responsibilities, monitoring indicators, progress indicators, and means of verification.

ii) Literature reviews conducted

We compiled all available secondary data on tree ferns, including relevant literature, published research papers, reports, and documents. We then reviewed documents and also assessed the herbarium specimen to have a broader idea of species and their habitats. This helped us map out key regions for further field studies.

iii) Project scoping

We interacted with the conservation area officials, botanists, and various experts to collect information on potential habitat. We also contacted Conservation Area Management Committee (CAMC) officials (n=17), medicinal plant traders (n=5), livestock herders (n=3) and delineated potential habitat sites. This was followed by a field-based preliminary observation in areas of Sindhupalchok and Dolakha districts to confirm tree fern occurrence. During the visit, we tested the prepared habitat data collection sheets and semi-structured interview questionnaires to refine our research methodology.

iv) Habitat surveys

We followed Focused and Intuitive Controlled Survey method as suggested by the Global Tree Campaign, 2013 to survey threatened species. As we delineated the potential habitat sites on the map, we further overlaid a 1 km * 1 km grid and visited most of the grids where tree ferns were present. We then conducted habitat surveys using the line transects and recorded key information on species such as presence location, distance of individuals from water sources, canopy cover, slope, associated species, direct/indirect threats to individuals, etc. Our early

observations showed that the species preferred moist gullies and north-facing slopes. We also encountered evidence of species overharvest and habitat disturbances.

v) Interviews

We conducted interviews with community members (n=30), which included frequent forest visitors, local herders, medicinal healers, schoolteachers, etc. These interviews helped us understand the perceptions of people about species and their conservation status within the region. Most of the participants were eager to interact with the team, as they had not realized the importance, uniqueness, and rarity of tree ferns.

vi) Knowledge products and outreach

We are developing field-based knowledge materials to support local engagement and enhance awareness among the stakeholders. We have documented the insights and quotes from interviews and have plans to publish newspaper articles based on those observations. As a part of our work, we have documented the video bytes and reached out to Nepal Television for the broadcast. This was planned as our targeted stakeholders preferred the television news section for impactful awareness-raising and wider coverage in the region.

The team has drafted the policy brief for the species, highlighting the field insights, including their distribution, ecology, and conservation. We have also identified key ideas and a framework for the manuscript and have started working on the document. These outreach materials will be finalized and shared more widely during the project completion phase.

vii) Participation

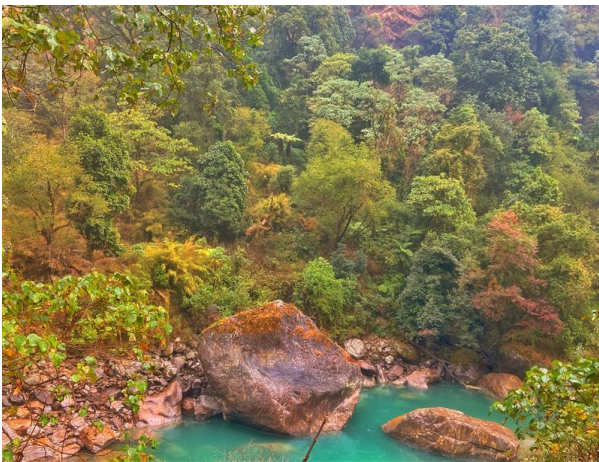
The project lead, Prakash Poudel participated in the Rufford Learning Event 2024 and presented his work on tree fern conservation among the participants. He also attended a storywriting workshop and is developing a storybook on tree ferns targeting schoolchildren.

Activities planned

- i. Complete remaining habitat surveys and interviews: *Progress so far*, we have visited 80% of the potential habitat, and interviewed 65% of the targeted individuals. We plan to complete the remaining activities in upcoming months.
- ii. Data entry and analysis: *Progress so far*, we have compiled available data from surveys and interviews. We will complete this activity as soon as our fieldwork and interviews are over.
- iii. Mapping distribution using GIS tools
- iv. Manuscript Submission (n=1): *Progress so far*, we have identified the target journal, developed a framework, and have started working on it.
- v. Disseminate policy brief (n=1): *Progress so far*, we have drafted and reviewed the contents and are currently working on designing the document.

- vi. Broadcast awareness video (n=1) in national television outlet: *Progress so far*, we lobbied with Nepal Television, and are planning further to edit and broadcast the video.
- vii. Newspaper article (n=2): *Progress so far*, we have drafted an article, and have plans to submit it to a national newspaper.

Photos



Photos: Overview of study sites, showing key habitat features



Photos: Visit to potential habitat to conduct ecological survey and document habitat disturbances

Photos



Photos: Interactions with the local communities to understand the status of tree ferns



Photos: Participation in workshops to share insights on tree ferns