Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF format**. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	**Anisha Jayadevan**
Project Title	**Assessing the motivations for, extent, and carbon sequestration potential of massive afforestation projects in semi-arid savannas in India**
Application ID	**43249-1**
Date of this Report	**1-October-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
Interviews to understand motivations for tree planting in open natural ecosystems			✓	I interviewed 20 restoration practitioners across six non-profits and the Indian forest department working across multiple states in India. My preliminary key findings indicate that grassland restoration is conducted for diverse reasons that include increasing biodiversity, carbon sequestration, and generating livelihoods. Tree planting is often priroitized to improve livelihoods, increase tree cover, and improve "barren" lands.
Data collection for patterns in tree cover due to tree planting in open natural ecosystems			✓	I carried out fieldwork in four administrative divisions (taluks) in the district of Pune, Maharashtra, at an increasing gradient of rainfall (450- 1000mm). Fieldwork was carried out between August – November 2024. Overall, I sampled 12 pairs of tree plantation and open natural ecosystem sites. In each site, I selected three 25*4 m belt transects. In each transect I sampled the height and girth of trees, and geolocated sampled trees using a GPS. In total, I sampled 853 trees. During the analysis phase I will use this data to predict aboveground biomass and patterns in tree cover across the district of Pune. As part of this analysis, I will use optical and radar

				satellite imagery to develop a relationship between field-measured aboveground biomass and radar datasets.
Fieldwork and laboratory analysis to assess the carbon sequestration potential of tree plantations in open natural ecosystems			✓	In each of the12 pairs of tree plantation and open natural ecosystem sites described above, I collected a total of 187 herbaceous biomass samples and 372 soil samples. I collected girth and height measurements of 853 trees. Herbaceous samples were dried in the Indian Institute of Science Bengaluru. I completed laboratory work to analyze soil organic carbon in August 2025 at the National Centre for Biological Sciences Bengaluru. Due to time constraints, I did not conduct soil isotope analysis. However, my overall objective of assessing the carbon sequestration potential of tree plantations in open natural ecosystems has been fully achieved. My findings indicate that tree plantations lead to limited gains in whole ecosystem carbon, with aboveground carbon accounting for the dominant proportion of whole ecosystem carbon.

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

a). An understanding of the challenges and opportunities associated with the restoration of open natural ecosystems (ONEs) in India.

b). An understanding of aboveground and belowground carbon sequestration of tree plantations in ONEs across a precipitation gradient in Pune, Maharashtra.

c). An outcome of the remote sensing analysis of tree cover patterns in ONEs will help understand the temporal and spatial patterns of tree cover due to tree plantations in ONEs. Using these results I will generate a map of tree planting in the district of Pune that will be available as an interactive website.

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

Fieldwork was carried out during the post-monsoon season of August to September. Although we were a team of 3 people, fieldwork was still intensive and in the wetter study areas where accessibility of field sites was poor, our fieldwork days were 10-12 hours long which caused a lot of fatigue. We were not able to take a lot of rest breaks as we had to complete fieldwork before the soil hardened and became harder to core. For fieldwork that involves soil coring, and herbaceous cover sampling which is physically intensive, a larger team of 4-5 people may be ideal. Fieldsites close to the city were reported to be unsafe. We dropped one such field site, and requested for a forest guard to accompany us to a couple of others.

Laboratory analysis took longer than expected as it could not all be carried out at one lab. I oven-dried my samples at the Indian Institute of Science, and conducted soil analysis at the National Centre for Biological Sciences (NCBS). There are not many CN analyzers to analyze soil carbon in Bengaluru, so there was a lot of demand for the one I used in NCBS which extended the duration of my lab work by several months.

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

Local communities were not involved during this project.

I hired two interns from Maharashtra for fieldwork, as fieldwork was physically demanding and time intensive. I selected these interns by first advertising the positions on the MeetYETI mailing list which is a widely used mailing list in the ecology and conservation community in India. Interested interns were requested to send their CV and a letter of interest. Short-listed candidates were then interviewed over the phone. Preference was given to candidates who could speak Marathi, were familiar with tree species identification, and/or could drive a vehicle. Costs for both interns were covered from a graduate student research grant I received from my university, University of Maryland Baltimore County USA.

For laboratory work, I hired a third intern. I selected this intern in a process similar to the one above, with preference given to candidates who had prior experience doing laboratory work and could easily commute to National Centre for Biological Sciences Bengaluru. I covered the cost for this intern from a NASA FINESST fellowship I received in February 2025.

5. Are there any plans to continue this work?

I plan on disseminating the results from this work through different media.

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

Through popular articles and an illustrated book. I will also share the results with the restoration practitioners I interviewed.

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

There is already a lot of conversation going on about the importance of open ecosystems in India. However there are still significant gaps regarding the identification of open ecosystems its restoration. The results from my work will highlight some of these gaps and can aid more focused discussions on future directions.

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?

I haven't produced any materials in relation to this project yet.

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

Prithviraj Sarnobat (intern); Chirayu Shinde (intern); Lokesh Chouhan (intern).
Prithviraj and Chirayu provided assistance during fieldwork. They collected soil samples and helped me collect tree measurements and herbaceous biomass samples.
Lokesh assisted me in laboratory work.

10. Any other comments?

ANNEX – Financial Report
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