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	Sailendra Dewan
Project Title	Long-term Monitoring of Butterflies in the Eastern Himalaya (LMBP-EH): a citizen-science approach.
Application ID	43715-2
Date of this Report	06-02-2026

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

Objective	Not	Partially	Fully	Comments
Identifying sites and key stakeholders for initiating a long-term butterfly monitoring program in the Eastern Himalaya			√	**A. Identification of Monitoring Sites** Sikkim, situated in the northeastern region of India (27°03' to 28°07' N and 88°03' to 88°57' E), is a small but ecologically diverse Himalayan state. Its landscape varies from 300 m to 8586 m above sea level, reaching the summit of Mt. Khangchendzonga, the second-highest mountain in the world. For this study, long-term butterfly monitoring sites in Sikkim were selected across three major landscape categories: protected areas, agroforestry systems, and urban environments. The detailed site information is provided below: **Protected Areas** 1. Kitam Bird Sanctuary (500–1000 m asl): Two monitoring sites 2. Khangchendzonga National Park (2100 m asl-4000 m asl): Two monitoring sites **Agroforestry Systems** 1. Martam (800–1200 m asl): Two monitoring sites 2. Yuksom (≈1800 m asl): Two monitoring sites **Urban Area** 1. Gangtok (800–1200 m asl): Two monitoring sites Several of these, including Kitam Bird Sanctuary, Khangchendzonga National Park, and Yuksom, have been part of continuous butterfly surveys since 2016 under the first Rufford Foundation Grant (Project ID: 20758-1). Engaging citizens to monitor butterflies across all study sites proved challenging, as several locations were remote and others fell within protected areas where access is restricted without official permits. These sites were mostly monitored by our

research team with co-funding of the AMP – Himalaya project at ATREE.

Therefore, citizen science activities were focused within and around academic institution campuses, integrating MSc dissertation projects and community-based documentation efforts to expand site coverage and encourage participation. Participants also contributed butterfly observation records through opportunistic surveys around these areas. The permission to carry out monitoring was obtained from the Forest and Environment Department of Sikkim.

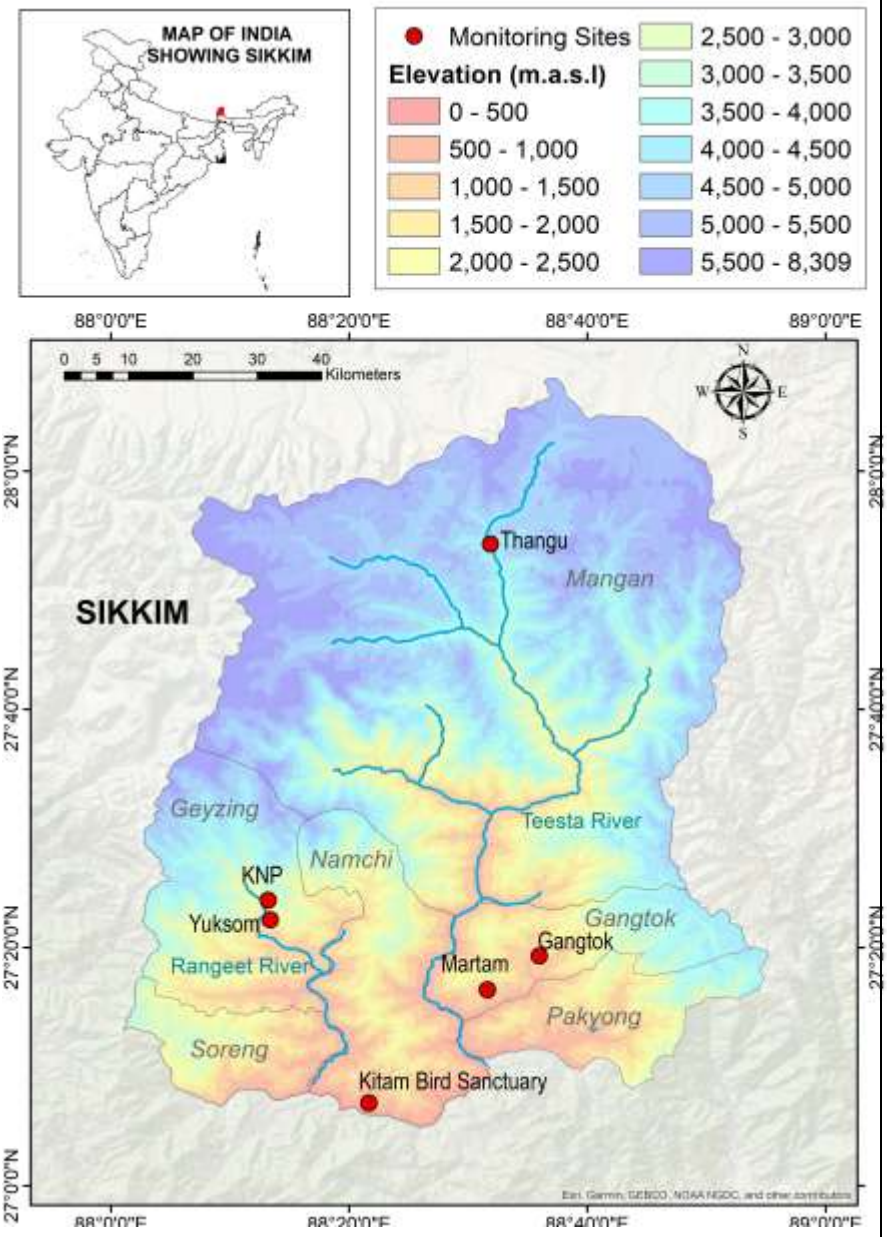

				Figure: Map showing butterfly monitoring sites in Sikkim, India. **B. Identifying Stakeholders** Upon initiating the project, we identified key stakeholders essential to the implementation of long-term butterfly monitoring. These include: 1. Academic Institutions (Sikkim) • Sikkim University: Students and faculty • Sikkim Alpine University: Students and faculty • Nar Bahadur Bhandari Degree College: Students and faculty • Namchi Government College: Students and faculty 2. Local NGO • Butterfly and Moths of Sikkim, Nature Conservation Society 3. Government Institutions • Forest and Environment Department, Government of Sikkim • Gangtok Municipal Corporation These institutions are actively involved in the research and conservation of Sikkim's biodiversity. Additionally, some government agencies contribute indirectly, as the policies they implement have direct impacts on butterfly habitats across the landscape.

Developing a protocol for monitoring and outreach materials			√	To survey butterflies systematically, we used fixed width circular point count method along the transect for sampling butterflies (Acharya & Vijayan, 2015). Transects of 600 to 1000m were laid in different land use types. Along the transects, permanent points were marked at 50-100 m apart. Butterflies within a radius of 5m from the centre of the point were recorded for five to ten minutes. Sampling was conducted during clear sunny days in the morning from 10:00 hrs to 13:00 hrs. Butterflies were identified using the standard pictorial field guide of Kehimkar (2016), Smetacek (2017) and databases such as ifoundbutterflies.org (Kunte et al. 2019). For citizen science–based butterfly monitoring, we developed a brochure that introduces the importance of butterflies as pollinators, biodiversity indicators, and contributors to ecosystem health, explains why butterfly monitoring is necessary to track environmental change and support conservation, highlights major threats such as habitat loss, pesticide use, invasive species, and climate change, and provides practical guidance on when and how to survey butterflies—recommending monitoring during peak activity seasons on warm, calm days between 0900–1500 hours, with regular bi-weekly or monthly surveys, and outlining commonly used methods including Pollard Walks, Point Counts, Timed Surveys, Photographic Records, and the use of citizen science platforms like iNaturalist. Additionally, the systematic monitoring techniques were introduced to the participants of the capacity-building workshops through a series of presentations.
Capacity Building, Outreach event and Dissemination Workshop			√	Altogether, 5 outreach events were conducted in 2024 and 1 in 2025, including a dissemination workshop. Approximately 294 students who are local students have been trained through this initiative **A. Capacity building and butterfly documentation event 2024** The workshops were conducted across four institutions,

				namely Nar Bahadur Bhandari Government College, Sikkim Alpine University, Sikkim Government College, and Sikkim University. Each session combined lectures with hands-on field activities, offering students both theoretical knowledge and practical experience in butterfly conservation. On the first day at each location, participants were introduced to the basics of butterfly diversity and identification. Engaging interactive sessions covered topics such as butterfly anatomy, behaviour, and their ecological importance. The sessions also emphasised the role of citizen science in biodiversity documentation and included training on using the iNaturalist app to upload butterfly observations. This blend of classroom instruction and real-world application helped students understand the significance of their contributions to biodiversity records. On the second day, students ventured into various natural habitats to apply their new knowledge. Guided by ATREE experts and faculty members, they documented butterfly species in locations such as college campuses, riverbanks, and forest patches. This fieldwork allowed students to refine their identification skills and contribute valuable data to local biodiversity initiatives. The participants who made the highest records were gifted with butterfly guidebooks. The highlight of the programme is given below: 1. Nar Bahadur Bhandari Government College (September 4-5): Over 70 students attended lectures, with 20 actively participating in the documentation. Their fieldwork at the college campus and nearby Tadong led to the identification of 29 butterfly species, highlighting the campus as a significant green space within urban Gangtok. 2. Sikkim Alpine University (September 10-11): With 45 participants, the event included lectures and field documentation along the Rangeet River at Kitchu Dumra. Students recorded 28 butterfly species, contributing valuable data to the university's biodiversity knowledge (https://sikkimalpineuniversity.edu.in/the-big-butterfly-month-2024-workshop/). 3. Sikkim Government College (September 12-13): 60 students participated in lectures and field activities, documenting an impressive 59 butterfly species at the college campus and surrounding areas. This outcome underscores the importance of the campus as a biodiversity hotspot.

4. Sikkim University (September 19-20): Thirty-one students and scholars joined ATREE for lectures and fieldwork around 6th Mile in Gangtok, documenting 41 species. This effort emphasised the role of urban green spaces in supporting local wildlife.

Figure: Butterfly documentation and identification training events in 2024, Gangtok, Sikkim, India.

B. Citizen Science event and knowledge dissemination workshop in 2025

A citizen science capacity building and knowledge dissemination program was conducted at Nar Bahadur Bhandari Government College, Tadong, Sikkim, on 11–12 September 2025 for students and faculty. The objectives were to record butterfly diversity on campus, train participants in basic survey techniques, and introduce iNaturalist and share the knowledge generated during the project phase.

The event engaged 88 participants, including students, faculty, local authorities, and conservation organisations. Key stakeholders included Mrs Tshering Palden Bhutia (Deputy Mayor, Gangtok Municipal Corporation), Mrs Smita Silal (District Forest Officer, Gangtok), Mr Nawang Bhutia (President, Butterfly and Moths of Sikkim, Nature Conservation Society), researchers for Sikkim University and

				faculty and students from Nar Bahadur Bhandari Government College. The event featured expert talks on the project's progress, biodiversity, and monitoring techniques, and practical training in Pollard walks, stationary counts, photographic documentation, and iNaturalist usage. The field survey on Day 2 yielded 240 observations of 33 butterfly species and created 30 new iNaturalist accounts. Overall, the outreach and training programmes significantly enhanced awareness, strengthened community engagement, built long-term monitoring skills among students, and underscored the importance of conserving Sikkim's rich natural heritage. One of the most important achievements of the event was the launch of a book on "BUTTERFLIES OF NAR BAHADUR BHANDARI GOVERNMENT COLLEGE" made by the students and its faculty and supported by this project.   **Figure:** Citizen Science event and knowledge dissemination workshop conducted in Nar Bahadur Bhandari Government College, Tadong, Sikkim in 2025

				Media Coverage: 1.https://www.facebook.com/thesikkimchronicle/videos/two-day-citizen-science-programme-on-butterfly-identification-and-documentation-/780295437931196/ 2.https://www.facebook.com/thesikkimchronicle/videos/two-days-workshop-on-butterfly-identification-and-documentation-organizes-by-atr/1866674023918660/
Butterfly monitoring and documentation			√	The monitoring framework employed in this study follows a surveillance monitoring approach, which involves systematic, long-term observation of butterfly populations across the plantation landscape. Unlike targeted monitoring, which focuses on specific species or interventions, surveillance monitoring aims to capture broad patterns in species diversity, abundance, and distribution over time. This approach allows for the detection of changes in community composition, seasonal dynamics, and responses to environmental variables, providing a comprehensive understanding of butterfly ecology in the socio-ecological context of tea plantations. By continuously documenting these trends across multiple sites, surveillance monitoring facilitates early detection of ecological shifts, helps identify potential conservation priorities, and supports the evaluation of management practices without being constrained to pre-selected species or experimental treatments. Through this framework, we adopted three complementary strategies to monitor butterflies and generate baseline data. First, we conducted systematic butterfly surveys across selected sites. Second, butterfly monitoring was carried out through student projects, where students surveyed their campuses and surrounding areas. Third, we used a citizen science approach by training multiple students and advertising butterfly count through online social media to record butterfly observations and upload them to the iNaturalist app. The first two approaches generated population abundance data, whereas the citizen science observations provided point-location (occurrence) data only.

				A. Systematic Butterfly monitoring by ATREE team Butterfly monitoring across five sites in Sikkim recorded 942 observations comprising 1,994 individuals from 193 species between March 2024 and November 2025. Across all transects, the Indian Cabbage White (*Pieris canidia*) was the most abundant species (396 individuals), followed by the Pale Grass Blue (*Pseudozizeeria maha*, 159 individuals) and the Indian Tortoiseshell (*Aglais cashmirensis*, 124 individuals). Notably, 77 singleton species (39.9% of the total species recorded) were observed only once across all transects in this study. Transects recorded an average of 15.3 species and 41.5 individuals per survey. In Gangtok, 12 transect counts at Adampool recorded 784 individuals from 73 species, while 10 transects at Tadong recorded 544 individuals from 37 species. In Kitam Bird Sanctuary, three transects at Kitam–2 recorded 122 individuals across 54 species, and four transects at Kitam recorded 116 individuals from 41 species. In Martam, five transects at Martam Forest recorded 101 individuals representing 49 species, while four transects at Martam Paddy recorded 116 individuals from 40 species. In Yuksom, four transects below Yuksom (LCAS) recorded 65 individuals across 35 species, and two transects at Yuksom Aquaculture (LCAS) recorded 45 individuals from 21 species. Within Khangchendzonga National Park (KNP), transects at Pakhola recorded 53 individuals from 28 species while the transect count at KNP 2 recorded 48 individuals. **B. Dissertations and Projects on Butterfly Monitoring by Academic Institution** A total of three dissertations were conducted by students with support from ARTEE through this project at three academic institutions: Nar Bahadur Bhandari Government College, Sikkim Alpine University, and Sikkim Government College. Although the initial plan was to encourage dissertations from four institutions, including Sikkim University, this could not be implemented as the dissertation process had already commenced at that institution. The students documented butterfly diversity within their

				respective campuses and the surrounding areas. Below are the brief results of each dissertation: **I. Nar Bahadur Bhandari Government College, Gangtok, Sikkim, India:** **Title:** *Community composition and diversity of butterflies in and around Gangtok, Sikkim, India* **Student:** Pema Ongmoo Bhutia (MSc Zoology) **Highlights:** This study assessed butterfly diversity across three habitats in and around Gangtok, Sikkim—Adampool (semi-urban), Saramsa Garden (urban park), and Tadong College Street (urban built-up area). Using the Pollard Walk method across 10 transect surveys per site during October 2024, December 2024, March 2025, and April 2025, a total of 2,266 individual butterflies representing 77 species from six families were recorded. Adampool showed the highest species richness (59 species) due to its semi-natural conditions and mixed vegetation, Saramsa Garden had moderate diversity (50 species), and Tadong recorded the lowest richness (36 species), reflecting the negative impacts of urbanization. Diversity indices (Shannon–Wiener, Simpson's, and Pielou's Evenness) revealed clear differences in community structure among habitats, with Nymphalidae being the most dominant family and Riodinidae the least represented. Species accumulation and iNEXT analyses indicated the potential for additional species discovery in semi-natural habitats, while Sorenson and Bray–Curtis indices confirmed significant species turnover, especially between semi-urban and highly urban sites, emphasizing the importance of conserving semi-natural and well-designed urban green spaces for butterfly conservation. **II. Sikkim Alpine University, Namchi, Sikkim, India.** **Title:** *A Preliminary Survey of Butterfly Diversity in and around Sikkim Alpine University, Kamrang, South Sikkim* **Student:** Sarala Limboo (MSc Zoology) This study assessed the diversity, abundance, and seasonal patterns of butterflies around Sikkim Alpine University, Kamrang, a semi-urban landscape with mixed vegetation

				and moderate human influence. Using standardised transect surveys at five fixed sites from November to May to record key climatic variables, the study documented 41 butterfly species, with the highest richness and abundance occurring during winter and early spring (December–March) under favourable temperature and low-wind conditions. Diversity indices indicated a well-balanced community in cooler months, which shifted toward dominance by heat-tolerant species such as *Pieris canidia* during warmer months (April–May). Temperature and cloud cover strongly influenced species occurrence, with some species showing broad adaptability and others declining with rising temperatures and reduced floral resources. The results highlight the ecological importance of the Kamrang region for butterfly conservation and emphasize the need for long-term, multi-seasonal monitoring to guide effective biodiversity conservation and policy planning in the Eastern Himalayas. **III. Sikkim Government College, Namchi, Sikkim, India**: **Title:** *Butterfly diversity around Sikkim Government College.* **Student:** Diya Chettri (BSc Zoology) This study documented 22 butterfly species in and around the Sikkim Government College campus in Kamrang Namchi. The wide distribution of species across all four plots indicates that the campus supports significant butterfly diversity despite its semi-urban setting. The dominance of generalist species reflects habitat flexibility, while the presence of specialist species highlights the conservation value of the site. Butterfly distribution was strongly influenced by habitat specialization and feeding behaviour. Generalist and polyphagous species were more resilient and widely distributed, whereas specialist and monophagous species were more vulnerable to habitat disturbance and vegetation loss. Kamrang's low-elevation setting makes it attractive for infrastructure and urban development, but this also increases vulnerability to environmental risks such as flooding and waterlogging. Therefore, sustainable planning that integrates biodiversity conservation is critical. The findings underscore the importance of conserving

small green spaces within semi-urban landscapes and provide baseline data for future monitoring and conservation initiatives in the region.

C. Butterfly observation and record through a citizen science monitoring

A total of 802 observations representing 77 species were contributed by 174 observers in the iNaturalist app since the inception of the project. The top three contributors based on the number of observations were by the ids *pemayangdenlepcha* (65 observations across 10 species), followed by *tulshi2* (55 observations) and *zethmit* (36 observations) (https://www.inaturalist.org/observations?d1=2024-08-01&d2=2025-12 01&place_id=7454&q=BUTTERFLY&subview=map&view=observers). Notably, Pema Yangden Lepcha is a member of the ATREE project team, while Zethmit Lepcha and Tulsi Rai are students from Sikkim Alpine University who were trained under the ATREE butterfly monitoring programme implemented through this project.

Figure: Orange Oakleaf butterfly (*Kallima inachus*), commonly found in Sikkim, India.

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

a). Long-term monitoring sites identified for the first time in Sikkim Himalaya and increase in observation data: Setting up permanent transects for long-term butterfly monitoring is one of the most meaningful outcomes of this project. These fixed sites allow us to repeatedly study the same areas over many years, helping us understand how butterfly populations are changing due to climate change, habitat loss, and human activities.

This work is especially important because it is one of the first dedicated efforts to monitor butterflies in fixed locations in the Khangchendzonga Landscape of the Eastern Himalaya, which encompasses Sikkim and the Darjeeling region in India. Some of these sites, such as Kitam Bird Sanctuary, Khangchendzonga National Park, and Yuksom, have been surveyed since 2016 under the first Rufford Foundation Grant, creating a very rare long-term dataset for this biodiversity-rich region.

Beyond science, some of these permanent sites also act as learning and engagement spaces, where local students, researchers, and citizens can connect with nature and contribute to conservation. This makes the work not just scientifically valuable, but also meaningful for local citizens.

b). Capacity building of students to document and identify butterflies: The most important outcome of the project was building long-term capacity for biodiversity documentation among local students and institutions. Through five outreach and training programmes, nearly 300 students and faculty members were trained in butterfly identification, field survey methods, and citizen science tools such as iNaturalist, creating a sustained network of young biodiversity monitors in Sikkim.

Supporting local students in their graduate dissertations was one of the key outcomes of the project. Students from remote parts of Sikkim, which is geographically distant from mainland India and faces logistical and infrastructural constraints, received access to academic resources and research support that are often difficult to obtain elsewhere. This support strengthened their research capacity and improved the overall quality of their dissertations.

A landmark outcome of the project was the student-led preparation and launch of the book "*Butterflies of Nar Bahadur Bhandari Government College*", developed jointly by students and faculty. This publication represents the first campus-based butterfly field guide in the region and demonstrates how the project successfully translated training into lasting knowledge products, institutional ownership, and long-term conservation awareness.

One of the most encouraging outcomes of the project was the continuation and organic growth of butterfly documentation activities in 2025, building on our earlier

workshop we had conducted in the year 2024 through this project. Since the inception of the project, 802 butterfly observations representing 77 species have been contributed to the iNaturalist app by 174 observers. The top contributors were *pemayangdenlepcha* (65 observations, 10 species), followed by *tulshi2* (55 observations) and *zethmit* (36 observations). Notably, these contributors include ATREE project staff and students from Sikkim Alpine University trained under the project, demonstrating its impact on local capacity building and institutional collaboration in biodiversity monitoring.

The event at Sikkim Alpine University was conducted independently in 6th September 2025 (https://www.facebook.com/61550519085698/posts/-big-butterfly-month-bbm-2025-was-successfully-celebrated-on-15th-september-2025/1222832747780173 02/) , it reflected the capacity and enthusiasm developed during our previous initiatives. This demonstrates that the impact of the project extended beyond our direct intervention, fostering long-term interest and self-driven biodiversity documentation among academic institutions and students.

c). Outreach to different stakeholders and larger audience: While the previous project (20758-1) was largely research-focused, this project placed strong emphasis on outreach events and capacity building. In addition to building the capacity of students, we actively engaged a broader audience, including key stakeholders from the Government of Sikkim and local NGO such as Butterfly and Moths of Sikkim, Nature Conservation Foundation. Media briefings were conducted through local channels to document and disseminate information on workshop activities (. We also published an article in the Panda newsletter highlighting how citizen science can add value to biodiversity conservation. Overall, these efforts significantly enhanced public awareness and stakeholder participation in conservation initiatives.

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

A key limitation of this project was collecting the citizen science data. These data are primarily based on opportunistic observations uploaded to iNaturalist, rather than structured or standardised monitoring such as systematic count-based surveys or fixed-effort sampling. As a result, the data generated are largely presence-only records, which limited our ability to estimate population abundance, trends, or detect subtle changes in species populations over time. Also, Data collection by citizen scientists could not be done on all of the sites we have identified for monitoring of butterflies.

Another challenge was the variable skill level of participants and the students, which occasionally resulted in uncertain or incorrect identifications, particularly for cryptic or visually similar species. These records required expert validation and additional effort in data cleaning and verification.

Because observations were voluntary and unstructured, there was uneven spatial and temporal coverage, with more records coming from accessible and popular locations such as urban towns in Gangtok and Namchi in Sikkim, while remote or less frequently visited habitats remained under-represented. This introduced potential

sampling bias in the dataset. However, these limitations were recognised and we focused on capacity building, awareness generation, and baseline biodiversity documentation for the entire Sikkim state, rather than rigorous population monitoring. Despite these constraints, the project successfully generated valuable baseline occurrence data and strengthened local capacity for future, more robust monitoring efforts.
Another difficulty was in accessing some of the places during the monsoon season, which typically starts from the end of May to early September.

4. Describe the involvement of local communities and how they have benefitted from the project.
Local communities were engaged through the active involvement of students from Sikkim, all of whom are residents of the region, along with local stakeholders and institutions. Local NGOs also played a key role in capacity building, including participation by BAMOS, with its President Mr. Nawangla Bhutia, contributing to student training and outreach activities. Field surveys were supported by local field guides.

5. Are there any plans to continue this work?
Yes, there are plans to continue this work. Systematic butterfly monitoring will be sustained through co-funding from ATREE through the AMP Himalaya project, ensuring continuity of long-term data collection. The next phase of Rufford grants (if provided) will play a critical role in advancing citizen science–based butterfly monitoring in Sikkim. It will enable intensive training of local students, actively engage community members, and expand both the spatial and temporal coverage of butterfly observations. Therefore, butterfly monitoring will be more participatory.

6. How do you plan to share the results of your work with others?
The results of the project will be shared through multiple channels to reach both scientific and public audiences. One popular article, "Advancing butterfly documentation and conservation through citizen science in the Sikkim Himalaya" has already been written and published in PANDA newsletter, volume 16. Additional outputs include social media posts as below:

https://www.facebook.com/ATREE.org/posts/the-article-advancing-butterfly-documentation-and-conservation-through-citizen-s/1311226394367116/

https://www.facebook.com/reel/1866674023918660

https://www.facebook.com/reel/780295437931196

https://sikkimalpineuniversity.edu.in/the-big-butterfly-month-2024-workshop

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

Looking ahead, there are several priorities.

a. **Comprehensive Assessment of Citizen Science Data:** First, conducting a comprehensive assessment of the data submitted to the citizen science portal like iNaturalist will be essential to understand both the immediate and long-term outcomes of the citizen science–based monitoring program. This assessment will help evaluate how effectively the initiative has contributed to generating data on butterflies in the region.
b. **Ensuring Long-Term Sustainability:** A key focus will also be on ensuring the long-term sustainability of the program. While faculty members provide institutional continuity as mentioned in the initial proposal, student participation is inherently transient, with turnover creating potential gaps in ongoing monitoring. To address this, it will be important to develop strategies that maintain engagement over time.
c. **Developing a Citizen-Based Participatory Monitoring Framework**: More importantly, the next phase involves developing a citizen-based participatory monitoring framework for the Himalayan region**.** This framework will serve as a structured guide for engaging not only students and academic institutions but also local communities, NGOs, and other stakeholders.
d. **Scaling Citizen Science Beyond Academic Settings:** In parallel, it will be critical to design and implement programs that expand citizen science participation beyond the academic institution. These programs could include community workshops, training sessions, outreach campaigns, and partnerships with local organisations to increase awareness and involvement.

Overall, the next steps are aimed at moving the initiative from a primarily institution-centred model toward a community-inclusive, resilient, and scalable citizen science platform**.**

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, the Rufford Foundation logo was used on all project-related communication materials, including PowerPoint presentations, workshop banners and brochures, produced during the project.

The Foundation received public visibility through multiple channels, including coverage in local news reports such as Sikkim Chronicles (https://www.facebook.com/reel/1866674023918660) and media briefings by ATREE and partner institutions, as well as formal acknowledgements in articles, newsletters, and other written outputs produced as part of the project.

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

- **Sailendra Dewan** – Project Investigator: Led the overall project design, coordination, and implementation.
- **Aditya Pradhan** – Senior Research Associate, ATREE: Supported the implementation of citizen science workshops.

- **Rohit George** – Database Manager (Former) at ATREE: Contributed to project design, managed data collection, and trained citizens in using citizen science applications.
- **Pema Yangden** – Senior Research Associate at ATREE: Led the development of communication materials and organised citizen science programmes.
- **Niharika Bindal** – Research Intern at ATREE: Supported butterfly data collection and helped organize citizen science events.
- **Sangay Wandi Bhutia** – Research Associate at ATREE: Supported field activities and coordination with other project partners.
- **Sunil Dahal** – Senior Finance Officer: Oversaw financial management and compliance. .
- **Smita Mulgund** – Finance Officer, ATREE: Responsible for managing FCRA grants and financial reporting.

10. Any other comments?

The project successfully established long-term butterfly monitoring sites across Sikkim, generating valuable baseline data on species diversity, abundance, and distribution across protected areas, agroforestry systems, and urban landscapes. Through systematic surveys, student-led dissertations, and citizen science observations, nearly 300 students and faculty were trained in butterfly identification, monitoring methods, and digital tools like iNaturalist, fostering a growing network of local biodiversity monitors. Key outcomes include the launch of the student-led book "*Butterflies of Nar Bahadur Bhandari Government College*", expanded stakeholder engagement with government agencies and local NGOs, and the creation of a foundation for participatory monitoring in the region. Despite challenges such as opportunistic citizen science data, uneven spatial coverage, and limited access to remote sites during the monsoon, these were addressed through targeted surveys and training in the dry season. Looking forward, the project provides a strong platform to develop a citizen-based participatory monitoring framework, expand outreach beyond academic institutions to communities and NGOs, and strengthen long-term sustainability. New funding opportunities, including the Rufford booster grants, will be instrumental in scaling these efforts, enhancing capacity-building programs, increasing spatial and temporal coverage of observations, and fostering a resilient, community-inclusive biodiversity monitoring network across the Eastern Himalayas

ANNEX – Financial Report
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