Final Evaluation Report

Your Details	
Full Name	Rahul Prabhukhanolkar
Project Title	Assessment & Conservation of Bats in Tillari Bioregion, a threatened wildlife corridor in Northern Western Ghats, India.
Application ID	31186-1
Date of this Report	20th July 2022

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
Bat diversity assessment and develop diversity distribution database				All important roosting sites and habitat types were surveyed multiple times and, so far, we have recorded 17 bat species in the region.
Habitat suitability in all representative habitat types in the region				During this project we intended to generate good data on the habitat preference of various bat species in the region and their response to large scale monoculture plantations of rubber, cashew, pineapple, etc. We have significant number of observations on bat occurrence in semi-evergreen, evergreen, lateritic plateau – grassland, etc. However, we need more sampling in monoculture plantations for statistically significant results. Hence, we have plans to continue the work in this landscape in post-monsoon season, from October 2022 for 4 months.
Creating echolocation call database for region				We have a good database of acoustic calls of all the insectivorous bats recorded during the assessment and are currently analysing the data.
Capacity building workshop for members of collaborating organizations & College students				Initially, only one capacity building programme was planned for 25 participants, but we successfully conducted two separate workshops. The first was for 45 members from all the collaborating organisations and nature enthusiasts in the region. The second was specially organised for 40 students of BSc Zoology course of an educational institute in the region, as per their request.
Capacity building workshop for members of state forest department				In Karnataka and Maharashtra, both the state forest departments agreed to conduct capacity building sessions for their forest staff. However, only one

				programme could be conducted, for Karnataka state, as Maharashtra Forest Department postponed the sessions couple of times due to official reasons, as it is difficult for them to bring together all the field staff at one location.
Outreach and awareness				Outreach and awareness activities were very successful. Together we conducted two online open sessions on bat ecology, organised by Manipal University and B.K. Collage, Belgaum, Karnataka with more than 200 participants. Two awareness programmes for school students were organised in the region (for more than 300 students). One programme for college students (more than 50 students) and one open session for students in the region (more than 100 students) were also organised. For outreach material, the initial plan was to print only 80 posters of A2 size, but to reach more people we modified the paper size and produced 900 foldable brochures for open distribution and a soft copy for free circulation. Involvement of reporters and media representatives in our programmes has also helped generate good publicity on bats and their conservation value. I also did a paper presentation on fate of bat pollinators, at National Conference on Pollination Ecology and Food Security organised at Belgaum, Karnataka, June 2022, with more than 300 participants.

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

The project has been very crucial in creating a baseline on bat diversity, acoustics and awareness on bat conservation in the region.

a). Bat diversity assessed for the first time in the region.

b). Reference call library for the region for future studies and monitoring.

c). Capacity building and mass awareness through programmes for school, college students, members of the forest department and distribution of outreach material. This has also helped creating a good understanding about bat ecological services and their conservation value in the community.

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

At the time of proposal submission, the project was planned to start in October 2020 and end in September 2021. Due to COVID-19 outbreak and first phase of nationwide lockdown, the project implementation started in December 2020 and continued till February 2021. Project activities were again stopped from March to October 2021 due to second phase of statewide lockdown due to COVID-19 second wave. We reinitiated project work from November 2021 and ended all the activities in June 2022. This delay was unavoidable, because of strict lockdown measures, restrictions on interstate movement of people, ban on field work, closing of schools and colleges etc., and we had to start and complete our project activities only when everything was back to normal conditions.

Apart from COVID -19 outbreak, there were no other difficulties that we experienced during the project work.

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

Since the beginning we had collaboration with local organisations (who have good rapport with the communities) and our team was welcomed everywhere to conduct the surveys. During our field work in the evening, many youth members were curious to see what work we do and volunteered. Many discussions on such occasions in the field and with community members have helped build consciousness among these families to conserve and protect bats. A few farmer families have assured to reduce usage of pesticide in their plantations or look for natural alternatives.

People from Dodamarg and Amboli villages came to appreciate our efforts to document and conserve bats in the region and have provided in kind support while organising capacity building programmes, programmes in schools and college etc., they took care of the local arrangements. Food and other required material for these programmes was supplied at discounted prices. During field work our team has always stayed with local people, home stays in the villages, friend's house etc., and all the funds for food, accommodation were given to these local communities.

Many people, farmers and community members have realised the ecological significance of bats, and a few were also able to link their observations on bat activity in their farms few years ago, when pesticides were not very common.

We have kept a few copies of our outreach brochures at shops, homestays, offices of few key individuals in the region for free distribution, to reach more people and to strengthen our network.

5. Are there any plans to continue this work?

During this project we intended to generate good data on the habitat preference of various bat species in the region and their response to large scale monoculture plantations of rubber, cashew, pineapple etc. While we have basic data on occurrence of bat species in these plantations, we need more sampling in these plantations for statistically significant results. Hence, we have plans to continue the work in this landscape in post monsoon season, from October 2022 for four months. We have secured funds (£700) from a local philanthropist to continue the field work for 4 months. We also have received request from the forest department to undertake a rapid study on bat diversity in wildlife sanctuary in adjoining region in Western Ghats.

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

We have already produced a brochure on "Amazing Bats" in English and local language (Marathi), for free distribution amongst community members, educational institutions, staff of forest department and nature enthusiasts. A printed copy of the English version was physically distributed, whereas an e–version soft copy in English and local language is available for open online distribution on internet, various nature groups etc. (copy of the brochure attached)

One newspaper article is already published in regional media for mass awareness and outreach.

For scientific publication we have started analysing for field observations and acoustics data, and soon shall publish the same.

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

Bats have been always neglected in most of the ecological studies at regional and national level and have never received the due conservation priority they deserve. This project in the region has helped us change people's perception to look at bats and understand their ecological value.

Similar more such projects need to be undertaken in different regions of Western Ghats and adjoining coastal as well as arid landscapes.

We need and intend to expand this project to further north (towards Sahyadri Tiger reserve) and further south (towards Kali Tiger reserve) of the current project location, so that we built a strong database on bat diversity, distribution and acoustics.

Adjoining region of the current project location is a tri state boundary of Karnataka, Goa and Maharashtra states, and is one of the reasons that the region is neglected and do not have effective conservation measures in place.

We need to work in collaboration with the communities, governments and forest officials of these Three states, for effective conservation and to ensure harmonious coexistence.

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?

Rufford foundation logo was used on all the printed material including our project banner, capacity building programme stationary, participation certificates, in all online – offline outreach presentations / programmes, "Amazing Bats" outreach brochure, etc.

Foundation has received good publicity in the region.

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

Rahul Prabhukhanolkar – Team lead
Rahul planned and implemented all the project activities to achieve all the objectives of the project. Rahul trained his team members with bat identification, capture methods, handling, using bat detector, conducting awareness programmes etc. Rahul planned and conducted capacity building programmes, conceptualised the design for the awareness - outreach brochure, undertaking data analysis etc.

Amit Sutar – Team Member
Amit has been working in the region for more than 5 years on various wildlife related projects and knows the region very well. Amit was present during all the field work for assessment of bat diversity, has learned bat identification, handling and even using bat detectors. Amit also helped in planning the field work in various habitats as he well aware of the landscape.

Amit is also a good wildlife photographer and digital illustrator, using these skills he has digitally illustrated (based on reference images) all the common bat species in the region for our outreach brochure.

Amit now works as field assistant with Wildlife Conservation Trust, India.

Sanjay Natekar – Team Member
Sanjay is also a member of local community and past of one of collaborating organisation "Vanashri" in Dodamarg region. He was very keen in field work, and his efforts to learn bat handling, identification, call recordings are worth appreciating. Because of Sanjay's prior work assignments as pathology lab technician at regions primary health centre run by government, many people in different villages knows him personally, his local network and contacts got us open access to many plantations and community lands in our study region. Sanjay also coordinated with local school and college managements in organizing awareness – outreach sessions for students.

Shashank Borkar - Team Member
Shashank joined our team during the first phase of the field work and was present for almost 40% of the field visits. Because of his formal educational background in Zoology and ecology, learning new skill was comparatively easier for him. Shashank is now helping us in analysing ultrasonic calls data because his keen interest in bioacoustics. He is also trying to develop system using R programming for automated analysis.

10. Any other comments?

Support from Rufford Foundation has played an instrumental role in implementation of this pioneering project on bat ecology and conservation in the region.