

The Rufford Foundation Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other 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. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Irungbam Jatishwor Singh
Project title	Study of butterfly diversity and its conservation in Tsirang district, Bhutan
RSG reference	17023-1
Reporting period	12 months
Amount of grant	£5000
Your email address	ijatishwor@yahoo.com
Date of this report	April 2016

1. Please 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
Baseline information on butterflies			√	First of its kind study in Tsirang, reported 241 species of butterflies during the study. Samples from high altitudes and area which do not have road access are left out during the survey.
Voucher specimens		√		Due to some restrictions from local community (religious point of view) not able to collect all the specimens. Collected specimens are cured and deposited at National Insect Referral centre, NBC, Thimphu.
Scientific paper			√	1 st review paper published on butterflies of Bhutan published at <i>Journal of Bhutan Ecological Society</i> . 2 nd manuscript accepted by Journal of Threatened Taxa (Report on the occurrence of <i>Chitoria sordida</i> at Tsirang). 3 rd manuscript accepted by Journal of Asia-Pacific Entomology (Butterflies recorded from Tsirang district-A checklist).
Threats for conservation of butterflies			√	Identified the threats to the butterfly community in the study area. Stone quarry, clearing for agriculture, habitat fragmentation for electricity towers, etc. were observed in the study area.
Information sharing to School, and local communities			√	<ul style="list-style-type: none"> • Shared the information on butterfly, its importance and needs for their conservation to the community, students, and other related departments through seminars, pamphlets, butterfly charts, etc. (PowerPoint presentations, etc.) • Based on the result of the project, a website on Butterflies of Tsirang has been developed and launched to share the research results to the general public; http://www.bhutanbutterflies.org/ • The work was promoted during national level symposium organised by Bhutan Ecological Society at Thimphu, Bhutan (Posters presentation) and at one

				International Seminar organised by Dutch Butterfly Conservation (4 th International Symposium: Future for Butterflies in Europe at Wageningen, the Netherlands) (Posters presentation).
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

No major problem was encountered in the field except during the monsoon season field works were disturbed and few localities are left out during the study due to high altitude and not accessible to motor able roads which were find difficult for the team to reach the area.

3. Briefly describe the three most important outcomes of your project.

The most important outcomes of the study are;

- It was the first major study of butterfly in the area, and identified 241 species from five families which help us to develop a baseline information on the butterfly fauna for the area which will help the future researchers, wildlife planners and enthusiast to plan for future conservation programme in the area in which it was neglected for a long time.
- This project helped me to teach my team members about handling techniques of butterflies and identifying of butterflies. A volunteer and three students were trained during the project which will benefit the students to choose their career in the future as butterfly conservationist. The project further encourage school, local community and related government organisations to take up similar steps towards the conservation of biodiversity.
- Awareness programme were successfully conducted on butterfly to the school and community level. Students show their interest and eagerness to learn more on about butterflies. A website was developed which is first of its kind in the country, to encourage the young enthusiast and butterfly lovers which can used as a guidance on identifying the butterflies. (<http://www.bhutanbutterflies.org/>).

4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant). And

Local people were not involved during the field works or other activities but they were given awareness on the butterflies and what they do in the ecosystem?

Local peoples were made aware on the harmful effects on clearing jungles/forest for agriculture, monoculture techniques practice in the fields which directly or indirectly affects the butterfly community.

A volunteer and three students were trained during the project on field activities; Butterfly observation, collection of voucher and curing in the lab, and spreading techniques of lepidoptera specimens for storage and future used.

5. Are there any plans to continue this work?

The successful completion of the current project give us confidence and encouragement to carry out or strengthen the current work in the future.

With this knowledge and baseline information, we are looking forward to continue on the mapping of distributional patterns of butterflies and develop a database for the nation in collaboration with the other researchers and institutes in the country.

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

Result is being shared through conference and seminars attended in National (3rd Annual Research Symposium & Environmental Fair on 27th-29th August 2016 in Thimphu, Bhutan) and International level (4th International Symposium on Future of Butterflies in Europe, held in Wageningen, the Netherlands, on 31st of March to April 2nd 2016).

Talks on butterflies and its importance; threats; conservation was conducted at various schools in the study area (PowerPoint presentation).

1st paper has been published and can be available on website Journal of Bhutan Ecological Society (<http://www.bhutanecologicalsociety.org.bt/documents/2015/CLOBOB.pdf>).

2nd manuscript accepted by Journal of Threatened Taxa (Title: Notes on the occurrence of *Chitoria sordida sordida* at Tsirang).

3rd manuscript accepted by Journal of Asia-Pacific Entomology (Title: Butterflies recorded from Tsirang district-A checklist).

Vouchers specimen collected during the study are submitted at Invertebrate Referral Collection Centre at National Biodiversity Centre, Thimphu (Bhutan) and made available to all the researcher and students of the country.

A website dedicated on Butterflies of Tsirang have been launched to share our results and give access to all the interested people of Bhutan. (<http://www.bhutanbutterflies.org/>)

7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?

The study was started in 2013 in a small area of Tsirang district called Mendrelgang division. In March 2014, we have received the grant from Rufford Foundation and study was extended to all the other parts of Tsirang district.

The study period for the funds received from Rufford Foundation was for 12 months and fund was exclusively used for project accordingly. In the present study we have successfully completed the project as planned.

8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Digital Camera (DSLR)	800	800	0	Purchased according to allocated budget.
GPS (best quality)	600	600	0	Purchased according to allocated budget.
Rent and maintenance of field vehicle and Fuel	750	750	0	Used according to the budget allocated.
Daily allowance for field assistants and meals during field works	500	500	0	As DA is not allowed for the students, meals and snacks were provided to volunteer students and driver during the field trips.
Equipment for preservation of specimens (chemicals, storage cabinets, pins)	250	350	-100	Extra equipment's were purchased for the field visits for the volunteer students like butterfly nets; boots; etc.
Awareness campaigned materials (Pamphlets, Information Brochures, etc.)	500	500	0	Carried out with the allocated budget.
Talks in schools and local communities (refreshment and information materials)	700	700	0	Carried out with the allocated budget.
Dissemination of results (Posters, pamphlets, information brochures, publication fees on peer reviewed journals, website designing and launch)	900	800	100	All information dissemination was done within the allocated budget. Some amount have been diverted to purchase some extra equipment for field work.
Total	5000	5000	0	

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

- Looking forward to extend the present work in the other parts of the country.
- Looking forward to work on the mapping of distributional patterns of butterflies and develop a database for the nation in collaboration with other researchers and institutes of Bhutan who is working on the topic for better understanding of its conservation status in Bhutan.
- Thus, it is necessary to bring all the researchers and institutes working on butterfly in one platform and work together to achieve the goal (Distribution Mapping of Bhutan butterflies) in future.

**10. Did you use The Rufford Foundation logo in any materials produced in relation to this project?
Did the RSGF receive any publicity during the course of your work?**

Logo was used in the present projects related publications like brochures, pamphlets, PowerPoint presentations and scientific paper (journal).

I personally have shared information on RSG to fellow researchers and one of my friends had received grant in 2015 who is presently working on conservation of Rufous-necked hornbill (*Aceros nipalensis*) in south central Bhutan (http://www.rufford.org/projects/mr_kinley).

Logo is promptly displayed in our webpage (<http://www.bhutanbutterflies.org/bot-sponsors.html>) which is developed to share the research findings to all the peoples of Bhutan.

11. Any other comments?

We the team is thankful to the Rufford Foundation for funding this project, which provided us the opportunity to conduct the project successfully. The project has really increased our knowledge and capacity.

As a whole our school, the Mendrelgang Central School has been recognised at national level as an organisation which actively involved in the Lepidoptera research in Bhutan, which was possible to proof our capabilities due to the funds received from RSG.

After this recognition now our school and teacher Mr. Irungbam Jatishwor Singh was nominated as Principal Investigator on Lepidoptera studies of Bhutan which was initiated by the National Biodiversity Centre, Ministry of Forest and Park, Royal Government of Bhutan.

We are looking forward for the same funding for our future research on the Lepidoptera of Bhutan.