

## The Rufford Foundation Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Kinley Tenzin
<b>Project title</b>	Inventory and Conservation of Bees and Wasps in Western Bhutan
<b>RSG reference</b>	20983-2
<b>Reporting period</b>	23 <sup>rd</sup> January, 2017- 23 <sup>rd</sup> January, 2018
<b>Amount of grant</b>	£4993
<b>Your email address</b>	Kintshen606@gmail.com/kinleyt@nrdcl.bt
<b>Date of this report</b>	23 <sup>rd</sup> January, 2018

**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
To determine bees and wasps diversity in western Bhutan.				The first objective has been completed successfully. The bee and wasp community (order Hymenoptera) in the study area was represented by 352 specimens belonging to 44 species in 18 genera and 15 families.
To determine distribution pattern and find out what types of habitats are preferred by different types of aculeate species.				The species richness and the number of individuals vary with different altitudinal ranges. Species diversity and richness of bees were found to be highest at altitudinal range of 2501-3000 m asl.
To assess which species of bees and wasps are most commonly known and/or less bothered by the people.				Through the interview with the peoples of western Bhutan, it was learnt that people were aware of only common and social wasps and bees and does not care of other solitary insects in the study area.
Educate the general public on importance of bee and wasp fauna in natural ecosystem.				Awareness campaign has been conducted to different groups of people viz: students, villagers and conservationists. Every member of the campaigns was fully convinced and they assured to help in the conservation of these ecologically important insects.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

The project is field-based and more related to field excursion collecting data, nothing much of difficulties were faced during the time of execution. However, exploration of such important insects is quite a new journey and finds difficult in identification, so the identification was done at taxonomic level using best field guide books and in close consultation with the scientists/experts from neighbouring countries.

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

Of the many, important outcomes of my project are as follows:

**Baseline Information-** The first outcome is that the study provided important baseline information on bees and wasps in western Bhutan in terms of diversity, distribution, and habitat type and conservational issues. The study recorded 44 species of aculeate (bees and wasps). Bees and wasps are occasionally encountered from forest followed by agricultural land. Species diversity and richness is found to be highest at altitudinal range of 2501-3000 m asl. Thus, species list and their spatial distribution produced from this project will be most reliable scientific information established and available for the western region of the country. This field reality made the people aware of diversity of bee and wasp fauna available in their locality.

**Capacity building** - Unlike in the first project, most of the high school and college students were actively involved in this research project. Some forest rangers and conservationists from the Department of Forests and Park Services, and Natural Resources Development Corporation accompanied the team during the whole period of data collection. All of them adequately learnt the sampling techniques and identification of not only bees and wasps but also other insects. Some of them started doing field research independently and confidently in this field. This was how this project helped other interested individuals and professionals get involved and explore in researching this ecologically important insects.

**The awareness and educational campaigns** - Through this programme, the people of the western Bhutan were made aware of the importance of conserving local environment and biodiversity. The educational awareness brought multi age group, sex and works. The participants include majority of conservators, local residents, monks, teachers and students. The campaigns were very fruitful with participants engaging in very educative discussion, presentations and opinion sharing. Now more people are willing to support conservation programmes and they are more supportive and the people were seen fully convinced and motivated towards the importance and conservation of these important insects.

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

All possible areas of bees and wasps occurrence in the study area were identified through consultation with local people. During data collection, some local people were hired for guidance in the study area. Involvement of local communities in every conservation approach is considered significant. Students, people from different community groups' and backgrounds were invited during the awareness campaigns, meetings and provided opportunity to discuss among the group on various subjects on bees and wasps.

For this, daily subsistence allowance was paid for as per the standard rate fixed by the government. The payment that we have made for food and lodging during the

whole fieldwork period has benefited local residents. They were also provided with incentives and food items/working lunch in the time of conservation awareness.

#### **5. Are there any plans to continue this work?**

As I have already mentioned, conservation programmes are targeted mostly for large mammals, birds, reptiles and amphibians in Bhutan. Due to inadequate conservation fund, interest of the individuals the very diverse and ecologically important insects are neglected and not prioritised in exploring and conserving them. Thus, I feel it is necessary to explore more on insects especially Hymenopterans in all the potential areas so as to come up with checklist for the country and strengthen the conservation of bees and wasps.

The species diversity and conservation initiative in north, central and western part of the country has been studied with the completion of my first and second project. Thus, my future plan is to expand similar study in southern belt of Bhutan covering larger area, fundamentally focussing on species inventory, public awareness and educational outreach of bee and wasp fauna.

Therefore, I look forward for a similar grant from RF in future that is indispensable for the study.

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

I will participate in national and international conferences to share the results of my study. I expect to generate a field guide and educational material to be shared with local communities and researchers. In addition, the findings of this project will be made accessible to park managers, foresters, schools, researchers and abroad through Rufford website, publication and presentation.

#### **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 Rufford Foundation grant was used for a period of 12 months starting from January, 2017 to January, 2018. The team has successfully conducted and completed scheduled activities of the study as planned in the proposal, due to matching of time for study/data collection and receipt of budget from the Rufford. The actual data collection has been started from late February.

**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
EXTENSION KIDS: Purchase and issue of sleeping bags, rain gears, ruck sacks, boots and pack bags for staffs including myself during the project (£162/set*6	972	1100	-128	Extra four sets of gumboots and rain gear has been purchased and issued to the local guides who guided the team during the study which necessary for them too.
WAGES AND LABOURS: Wages and payments to the surveyors/field staffs ( £6/day *40-days *5-men)	1200	1200	0	Wages to labour has been maintained with the proposed/ approved budget
FOODING & LODGING: Food and refreshment to the field staffs including myself during the entire course of study: (£4.8/day *40-days *6-men)	1152	1152	0	
Lodging/Accommodation: (£12/night*4- nights *3-rooms)	144	0	+144	This has been adjusted from the above budget for food and lodging
Educational outreach program and creating conservation awareness: group Catering to around 200 students and 500 local Communities.	580	580		
Educational outreach program and creating conservation awareness: Preparation of banners, sign boards, pamphlets, shirts and caps with designed logo and sticker	945	950	-5	Little changes in the cost from the time of negotiating with the supplier.
<b>Total</b>	<b>4993</b>	<b>4982</b>	<b>+11</b>	<b>Balance of £ 9 is left with me after the completion of the project</b>

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

The next important steps that I feel are the documentation of bees and wasps for the country and strengthening public understanding through participatory

approach. More people need to be made aware of and younger generation need to get educated on conservation significance on concerned taxa. Sensitisation activities through scientific forum, developing monitoring guidelines and seminars regarding the importance of these ecologically important insects must be prioritised. The continuation on this study has to be maintained and explore through the unreached areas and built interest in the field of such insect fauna alike other countries.

**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?**

Rufford Foundation logos were used while making presentations in public gathering, colleges and schools. It has been proudly used in the banners, posters and shirts. Staffs, local people and participants were also informed about the support of Rufford Foundation. Rufford Foundation has been prominently acknowledged in all the reports.

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

<b>Name and Designation</b>	<b>Job</b>	<b>Organization/Institute</b>	<b>Role and Responsibilities</b>
Kinley Tenzin	Manager	Natural Resources Development Corporation	Team leader
Jigme Wangchuk	Forest Ranger	Department of Forest and Park Services	Field assistant, data collectors (throughout the project)
Karma Choda	Forest Ranger	Department of Forest and Park Services	Field assistant, data collectors (throughout the project)
Mr Ranjung	Unit Manager	Natural Resources Development Corporation	Field assistant, data collectors (throughout the project)
Sangay Tenzin	FA	Natural Resources Development Corporation	Field assistant, data collectors (throughout the project)
Kesang Wangchuk	FA	Natural Resources Development Corporation	Field assistant, data collectors (throughout the project)
Choney Dorji	Undergraduate students, Forestry and Sustainable	College of Natural resources	Field assistant, data collector and compilers on need

	development		basis
Mr Kado	Undergraduate students, Forestry and Sustainable development	College of Natural resources	Field assistant, data collector and compilers on need basis
Kinley Penjor	Undergraduate students, Forestry and Sustainable development	College of Natural resources	Field assistant, data collector and compilers on need basis
Tshering Yuoden	Undergraduate Students, Environmental science	Sherubtshe College	Field assistant, data collector and compilers on need basis
Chado Namgay	Undergraduate Students, Environmental science	Sherubtshe College	Field assistant, data collector and compilers on need basis
Mr Kesang	Local	Paro	Local guidance on need basis
Tashi Phuntsho	Local	Paro	Local guidance on need basis
Mr Dorji(	Local	Paro	Local guidance on need basis

## 12. Any other comments?

Bhutan being the underdeveloped country, she has to depend on outside funding sources to promote the research and conservation activities. I am extremely grateful to Rufford Foundation for being providing financial support to complete both first and second projects successfully. On behalf of Bhutan and on my own behalf, I would like to express my heartiest appreciation and gratitude to Rufford Foundation for your prestigious fund on my project. Truly speaking I appreciate the role played by the Rufford Foundation in nature and biodiversity conservation all over the world. Thank you (Rufford) very much for awarding the grant and I will keep my interest in studying Hymenoptera more extensively across the country in immediate future.



