

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	Choney Yangzom
Project title	Conservation and understanding of anthropogenic pressures, and prey abundance and availability of endangered Snow Leopard in Jigme Dorji National Park
RSG reference	21288-1
Reporting period	1 st Jan 2017- 31 st Dec 2017
Amount of grant	£5000
Your email address	Choneyyangzom333@gmail.com
Date of this report	29 th Jan 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
Prey Abundance and Availability Assessment				Natural prey base abundance and availability was assessed in all the ranges of JDNP. Ungulates was studied as the natural prey base for snow leopard to generate some ideas about the health of the ecosystem and snow leopard habitat.
Anthropogenic Pressure Assessment				All the threats recorded by direct observation, semi-structured questionnaire, PRA technique, focus group discussion and through interviews are collected and analysed for intensity and occurrence in the habitat.
Conservation Awareness and Wider Information Sharing				Awareness campaign was conducted to develop positive attitude and perceptions towards conservation of snow leopard. Posters, information pamphlets, vouchers, cards, bookmarks and brochures were printed and distributed to schools, institutions, NGOs and villages. Sign boards and posters were erected at important sites. Forest officials were invited to the social gatherings to talk on the conservation of the species. Many people participated in the campaigns so the information has been shared to wider audience.

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

As per the schedule, the project was supposed to be completed by 31st December, 2017 but due to climatic conditions (heavy monsoon rain in summer and snow in winter), rugged terrain with varied topographical gradient, the project team had to extend data collection till December, 2017. For this reason the reporting of the project was delayed as it took some more time to analyse all the collected datas. The project team had to wait for the favorable weather and had to walk days to cover different ranges of JDNP due to inaccessibility of motor road. Apart from all these challenges, project went according to the plan with continued support and advice from the referees during its tenure.

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

i. Prey abundance and availability conducted:

The field survey for prey abundance and availability was carried out by two teams of two observers in a 'single observer mode'. The field work was scheduled for 8 months (April-November) but had to be extended till December 2017. A total of 182 days were spent by the four researchers in the field data collection. The ungulates form the natural prey base of the snow leopard. Three species of ungulates which forms the prey base of snow leopard were recorded with blue sheep (66.7%) being the most abundant followed by Himalayan goral (31.81%) and then musk deer (1.49%). The ecological densities for blue sheep is estimated and found to be 3.51 individuals per km² similar to the result recorded by Leki (2015) at 3.43 individuals per km². The density for Himalayan goral is 1.67 individuals per km² and 0.07 individuals per km² for musk deer based on total habitat available for each species.

ii. Anthropogenic pressure assessment:

As one of the objective of the study, all the anthropogenic threats such as habitat degradation and fragmentation, poaching, illegal trade, environmental pollution and conflict with local people are collected and analysed. Human-snow leopard conflict was studied in detail and the severity and frequency of the conflict was assessed using questionnaire and PRA technique. Anthropogenic threats prevalence and intensity was assessed using regression analysis, one way ANNOVA, Chi square test and t-test in SPSS.

iii. Conservation awareness and wider information sharing:

Another legacy of the study is awareness education outreach. The locals were thoroughly educated on the conservation importance of the endangered snow leopard and overall conservation of nature. With the funds from Rufford Foundation, awareness campaign, reconnaissance survey and stakeholder consultation was conducted. Wider information and messages on the conservation importance of snow leopard was shared via placing sign post in critical sites, issuing of posters and brochures in schools, institutions, conservation stakeholders and local communities. The study result will be published in international peer reviewed journal acknowledging RF as sole sponsor for the study for the purpose of sharing information to much wider audiences.

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

Throughout the project, local communities were engaged in awareness campaign, stakeholder workshop and data collection through questionnaire survey. They

benefitted with the education from the project initiatives with support from RF as part of awareness campaign. At the outset, all the possible areas of ungulates occurrences in the study area were identified and recorded through household surveys and consultations with local communities. During awareness campaign and consultation workshops, local people were provided with working lunch and daily allowances. They provided porter pony services in places without proper motor road and were paid daily subsistence allowances and service charges in full as per entitlements under the RGOB rules. As they are the ones who literally live with the species, their knowledge and experiences were valuable for the success of this project.

5. Are there any plans to continue this work?

With working on snow leopard related project over a year, I see many knowledge gaps about the species. The most important aspect that requires immediate action is the resource utilization pattern and resource competition faced by the Snow leopard with other big cats and continued awareness education outreach initiatives.

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

The findings and results of this project will be published in the national and international peer reviewed journals to reach to maximum audiences with acknowledging RSGF. Presentation to College of Natural Science, Bhutan.

1. Presentation to local communities and forest officials of JDNP.
2. Posters and brochures was made and circulated to important stakeholders.
3. Result will be also published in scientific national (Bhutan Ecological Society) and international journal.
4. The findings and recommendations developed from the study will be shared with the government agencies (Wildlife Conservation Division, national parks, NGOs, conservation stakeholders, law enforcing agencies and policy makers).

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 project time line was from 1st January 2017 to 31st December 2017 but I have secured funding at the end 2016, actual grant was used from 10th February 2017 to 28th December 2017, though the study has started from January 2017. During start of the study, activities which requires no money was carried out.

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
Transportation and communication	£660	£660		Mobile phones and email/internet
Field Assistants and researchers salary for 182 days	£1100	£1100		Sufficient budget
Capacity development of field assistants through training and orientation	£200	£200		Sufficient budget
Awareness campaign (Working Lunch and refreshments to participants and speakers, daily allowances to the speakers and presenters, Hall fees, etc)	£670	£820	-£150	The cost of working lunch and refreshments were more than anticipated amount. This extra cost of £150
Field gears like neoprene suit (4 nos), Gumboot (4 nos), and Basic utensil -for 4 researchers(Data Collection)	£200	£200		Sufficient budget
Safety equipment like Hand Gloves and First Aid Kits	£90	£90		Sufficient budget
DSLR camera and GPS	£500	£500		Sufficient budget
Binoculars and spotting scope	£200	£200		Sufficient budget
Laser Range Finder, altimeter, compass and clinometer	£350	£350		Sufficient budget
Rope, measuring tapes, hammer and poles	£130	£130		Sufficient budget
Printing of information pamphlets, vouchers, cards, signboards, banners, data sheets etc.	£600	£500	+£100	The Budget was adjusted for awareness campaign
Report Preparation, presentation and dissemination	£250	£250		Refreshment was given to the team members and colleagues who helped in data entry and analysis
Miscellaneous	£50		+£50	The budget was adjusted for awareness campaign
Totals	£5000	£5000		

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

The important next steps would be:

1. Actively engage upland communities as stewards for the snow leopard, its prey and habitat (forming snow leopard conservation committee).
2. Generate landscape scale genetic information which supports the creation of science-based management units for snow leopards.
3. Perform diet assessment of snow leopards to validate and monitor livestock depredation indices (resource utilisation pattern and competition).
4. Use information from scat and camera-trap monitoring to refine community-based habitat and livestock management actions that better ensure the cohabitation of local people with snow leopards, especially in areas with high human-wildlife conflict.

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

Yes, the logo of RF is used in every presentation and awareness materials (posters, pamphlets, brochures, leaflets) with proper acknowledgement of funding source during awareness programmes and stakeholder workshops. All the research crew, local communities, students, teachers, lecturers, foresters, biologists, researchers from various agencies, conservationists and several other relevant stakeholders were inspired and motivated in the foundation's effort in funding conservational projects. As a result, most of the research enthusiasts were excited and looking forward for applying RF to conduct conservation research. All future publications and related works will sincerely find a special place for RF to be acknowledged.

11. Any other comments?

With a heartfelt appreciation, I would like to sincerely thank your esteemed Rufford Foundation for being the leading foundation in biodiversity conservation forefront and for providing the financial assistance without which the project's completion as planned was not possible. I would like to acknowledge the guides, all the research team members, stakeholders and local people who made this project a successful one. According to International Union for Conservation of Nature, snow leopard is no more endangered but vulnerable. There are 96 snow leopards in the country as per the "National Snow Leopard Survey" carried out by the Department of Forests and Park Services from 2014-2016. The change in the status of this species is due to the conservation efforts and the funds received from the Rufford Foundation towards nature conservation projects around the globe in general and in Bhutan particularly. To strengthen snow leopard conservation in Bhutan, it is imperative to conduct study on resource utilization pattern and competition with other big cats, I look forward for similar financial support from your esteemed foundation to successfully conduct the aforementioned study as it would make vast contributions in nature conservation projects.