

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	Sandhya Sharma
Project title	Conserving the Critically Endangered Chinese Pangolin (<i>Manis pentadactyla</i>) in Sindhupalchok, Nepal.
RSG reference	21665-1
Reporting period	March 2017 – March 2018
Amount of grant	£5000
Your email address	Sandhyasharma198@gmail.com
Date of this report	March 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 capacitate the members of District Forest Office (DFO), Community Forest Users Groups (CFUGs) and local youth				30 members of DFO and CFUGs of two municipalities Chautara and Barabise were trained and also provided the awareness on the habitat, ecology, threatened status and importance of pangolin.
To determine the trade of Chinese pangolin in the site				Five years trade data on the Chinese pangolin were collected from DFO. However, the trade was more than expected and was done illegally. So there has to be time to understand the trade flow in the local illegal markets, and chain of poachers.
To collect the social survey on the trade, ethno-zoological uses and hunting of Chinese pangolin				Semi-structured interviews were conducted with 1000 respondents for collecting the hunting, trade and ethno value of pangolin at the study area.
To conduct the spatial distribution of Chinese pangolin				Habitat, ecology and status of Chinese pangolin were studied in 204 plots. Three plots, each of 100 x100m, was laid out each at the equidistance of 100m along a 500m line transect. I hope my sampling sites will represent the major spatial distribution localities
To provide the awareness activities to the locals				Locals were educated using both verbal and power point presentation. Different educational materials were used for these activities. Quiz, essay and drawing competition along with the Hiking were performed for providing both theoretical and practical information on the pangolins. The information on the way of using GPS and its importance in ecology was also given. However, the information could not be completely done due to higher number of people who could not attend the programme or whom we could not approach

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

The study site (Sindhupalchok) was highly affected by the Gorkha earthquake 2015 consequently triggering the landslides. During the study period, on achieving the spatial distribution of Chinese pangolin was quite difficult due to earthquake triggered landslide where it was difficult to lay plots.

Pangolin is the most trafficked mammal in the world and hence protected in Nepal under the National Park and Wildlife Conservation Act-1973. They are highly traded for their scales and meat. People are scared of punishment by Act or law due to illegal trade so it is very difficult for us in collecting the trade data from the local respondents. People really hesitate in sharing ideas on trade and hunting of pangolins in the study area. Though it is really challenging task we tried to collect the ethno-medicinal values and trade data from the respondents with the help of forest rangers and key informants.



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

1. **Collect the spatial distribution data of Chinese pangolin:** Altogether we laid 204 plots in two municipalities searching for 236 burrows. Different environmental variables like slope, elevation, aspect, major vegetation, soil

types, texture and habitat types were recorded along with the proximate variables like distance to settlement and distance to water bodies that affects the spatial distribution of the pangolins. Most of the pangolin burrows were present in red soil (c. 76%) than in black soil (c. 24%). Medium soil texture (65%) was highly favourable for the pangolin followed by coarse soil (26%) and fine soil (9%). 81% of the burrows were available in agricultural land while fewest burrows were present in forest area (12%) followed by grassland (7%) with the major vegetation *Schima wallichii* (70%) followed by *Choerospondias axillaris* (19%) and *Pinus roxburghii* (11%). The mean and standard error of distance to human settlement and distance to water bodies from the plot laid out were 794.05 ± 62.72 and 460 ± 56.99 respectively.

2. **Determine the threats to pangolins:** Different threats were also studied, for instance logging grazing, litter collection, fire and natural calamities (earthquake triggered landslides). Among the major threats, natural calamities are most prevalent (72%) followed by logging (10%), fire (9%), grazing (4%) and logging (5%). According to the social survey, the factors responsible for the species' decline also demonstrated natural calamities as the key threats (33.1%) along with illegal hunting (32.6%), exploitation of natural resources (15.6%), forest fires (10.7%) and others (hunting by predators) (8%).

3. **Ethno-zoological values and hunting techniques of pangolin in the sites: Among the total respondents (1000), 31.6% of the respondents told about the ethno-medicinal value of the pangolin and its derivatives:**

A total of five body parts (scales, meat, blood, bones and oil) were identified for ethno-medicinal use for the treatment of 11 diseases and ailments i.e. back pain, joint pain, easy child birth during pregnancy, asthma, blood clotting, stomach diseases, heart diseases, infertility, high blood pressure, skin diseases and liver. The use value of pangolin body parts was for scales (4.44) followed by meat (4.33), blood (2.01), bones (1.88) and oil (0.12). All the respondents speculated that the numbers of pangolin are declining from the site. 8.1% of the respondent focused use of water as a hunting technique of pangolin followed by 6.2% focused use of dogs, 1.6% through excavating burrows, 28.5% through other technique like throwing stones and beating with sticks while 46.6% were unknown about the hunting technique.

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

The members of DFO, CFUGs, some local youth, teachers and students were given practical knowledge on the habitat of pangolin and also the way of using GPS and its importance in ecology. They were also educated about the threatened status of pangolins in the country along with the prime habitat features required for the survival of the pangolin in the wild with the knowledge on monitoring of pangolin.

Local involvement is crucial for the success of the projects. They were involved in pangolin conservation and awareness programmes, social gathering and

consultation meetings. Locals gave the response nicely and politely. Besides, students during different competition were rewarded with stationaries and cost prizes.

Teachers and school students were also very co-operative and highly responsible for the completion of projects. Awareness, field research training, hiking, different competition (quiz, essay and drawing) all were conducted through the politeness of the participants. Awareness campaign with power point presentation demonstrating the importance, status, habitat preference were conducted in 12 local school with the students of grade 7, 8, 9 and 10.

5. Are there any plans to continue this work?

Yes, although this projects involved the spatial distribution of burrows through the burrow count. As a continuation of the research I will study the detail on the burrow structure and behaviour of pangolin inside the burrow through the use of snake camera.

Besides, I am only able to calculate the burrow density during this period but as the project continues I will focus on the density of pangolin through the use of camera trap survey. I will also study the species through the altitudinal gradient during the next project. I will also encourage more young people to be involved in the conservation of pangolins and its prey base (ant and termites) in the site through further training, workshops, seminar and educational advocacy. Beside these, we are unable to conduct the awareness programme throughout the study site, we still need mass awareness programmes and alternative livelihood sources for the people residing in the pangolin source area for combating illegal trade.

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

The results and information of the projects will be disseminated through different methods such as poster presentations, pamphlet/brochure distribution, class presentation and presentation of project findings. I presented some of the finding of the project in Resources Himalayas Foundation "Pralad Yonzon Conservation Forum". I plan to participate in oral and verbal presentation in sharing the finding. In order to outreach to the large number of people the finding of the projects will be put on peer reviewed publication.

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 Grant was used between April 2017 and February 2018. This coincided with the projected timescale of the project.

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
Travel 1. Travel Long Route 2. Local travel	225 500	300 550	75 50	1. The meeting was postponed as it was difficult to arrange the meeting in the peak monsoon season, as people get busy on farming 2. Need to hire the vehicle more time and the fare was high due to bad conditions of road.
Food and Accommodation	1800	1800	0	Minimize the extra cost and tried to work with according to budget
Field equipment's purchases for research team (compass, stationary, pen, files, field gears etc.)	225	225	0	
Capacity development training to selected people	400	300	100	We tried to seek the discounts, and supported by the DFO
Printing awareness materials (Posters and Leaflets 1000@£0.7 (including all design costs)	700	700	0	We worked according to budget
Awareness, stationary, prizes and hiking activities (tea and snacks) for school children	300	300	0	We worked according to budget
Awareness program for communities (hall charge, tea and snacks) at each VDC	300	300	0	We worked according to budget
Health insurance and First-aid Kit for the research team	150	150	0	We worked according to budget
Expert Fee for GIS and data analysis work	200	250	50	The consultation fee was higher
Report preparation,	200	200	0	The budgeted amount was £5000

publication and dissemination	and				and the actual amount was £5075, the difference was £75 supported by me.
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9. Looking ahead, what do you feel are the important next steps?

In Nepal, pangolins are studied only on the basis of burrow presence, therefore pangolin research should focus on the density and abundance of pangolin. It is also essential to study the behaviour, diet analysis and even understanding the burrow structure of pangolin. The myths regarding the use of pangolin parts and its derivatives for traditional medicinal purposes should be well studied and aware whole people for its conservation. How trade flow is localised needs to be studied, how to motivate locals for its conservation at the grassroot level is necessary, mass awareness programme should be conducted to school students in the area and other marginalised people in the area, monitoring of pangolin burrows regularly is needed and conservation attitudes of people towards pangolin is most important. The most important, developing the alternative livelihood sources to the locals for mitigating its illegal trade is still required.

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?

Yes, I have used the Rufford Foundation (RF) logo in the presentation, awareness materials (poster, brochures, and pamphlets). Further, the logo was included in the presentation slides made during the course of the project. During awareness programme, hiking and competition (quiz, drawing, essay) the students and all the participants were made understood that the prizes and all the supports for the project successful completion were made by RF. The findings of the project in the peer-reviewed paper will be published using RF logo.

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

- Sandhya Sharma:** Conceptualized the project, performed the field visit, social survey and data analysis, report writing
- Chanda Sharma:** Assist in the field and social survey
- Hem Bahadur Katuwal:** Provide intellectual and conceptual input
- Madhav Sapkota:** Field worker, community worker and education expert
- Rasmi Kunwar:** Helps in final report preparation and data analysis

12. Any other comments?

I will like to thank The Rufford Foundation for the support of the project. Further, I will like to thank all the team members for conducting the educational activities, monitoring and other activities. Besides, special thanks goes to the members of DFO, CFUGs, youth, teachers, students and other locals for full support for the project successful completion. Resources Himalaya Foundation, non-governmental

organization for granting me the platform presenting with some of the finding of the project.

