

The Rufford Small Grants Foundation

Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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	Sonam Tashi
Project title	Galliformes of Central region of Wangchuck Centennial Park, Bhutan
RSG reference	16589-1
Reporting period	
Amount of grant	£4793
Your email address	sonamtaashi@gmail.com
Date of this report	17/12/2015

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 assess the distribution and abundance of galliformes in Wangchuck Centennial National Park.			x	In the initial plan of the project, camera traps were one of the essential methods to survey, however due to lack of cameras in park and also, the survey coincided with national tiger survey which limited the availability of camera. Thus, the data collected was analysed to calculate abundance based on encounter rate i.e., number of birds seen per km distance using the formula given by Rodgers (1991) (Eq. 1). Density was also computed using the formula by Rodgers (1991) (Eq.2). Call count was exercised during data collection but due to low call heard, thus has to be excluded from analysis.
To investigate habitat, use by galliformes in WCNP.			x	The area was divided into four altitude range within three forest types described by Grierson and Long (1983) and vegetation survey was carried out along transects.
Galliformes conservation awareness to local communities			x	Conservation education was carried out in local level to raise the awareness about importance, conservation and management issues of this endangered species. The makeshift yak herders were far from one another, which pose difficulty in reaching them, however it was found that people are aware of conservation and their religious regard for every species.
Improve environmental knowledge and get stakeholders involved to species conservation and habitat protection			x	<ol style="list-style-type: none"> 1. Foresters of the park were fully involved in the field work as well during awareness to locals, the WCNP was fully supportive. 2. Presentations were carried out to school students of local vicinity of WCNP. 3. The project was presented to students and conservationist in Forest Research Institute, Dehradun. 4. The project was also presented in

				RSG Bhutan conference (Oct 29-31, 2015).
Galliformes pictorial preparation and distribution		x		It was challenge in getting good photographs of species due to illusive and shy nature of galliform species, as well as high mountainous terrain. And having lesser range camera (55mm-250mm) lens during survey has limited good photography. However, we were able to get some good photographs despite the limitation, which were used in presentations, awareness talks and preparation of pictorial handbook is also in pipeline.

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

The steep and rugged terrain compounded with harsh climatic condition is one of the major limiting factors in sampling. Selection of desired number of replicates and sampling at random and evenly throughout the study area was not feasible and had to depend on possible means. The study was carried out in periphery of core zone in consideration of vegetation, however, the human intervention although in lesser degree comparatively, may affect in establishing better estimation of abundance. During the spring survey (April 2015), snow made it very difficult to the point of running out of food and remaining cut off for a week. The makeshift yak herders were main inhabitants of the park, which due to their continuous movement with yaks, reaching to them for conservation education and survey were difficult, translating to high financial cost.

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

1. Species abundance and distribution

This study was first of its kind in WCNP and Bhutan on galliformes, which makes this study vital in providing baseline data for galliformes. With the data sampled we are able to estimate population size and density which is valuable information for species and habitat management. The area occupied was also defined and the extent of occurrence now reflects a better approximation of the reality. Although data were limited for some species like snow partridge, Tibetan snowcock, Tibetan partridge and Satyr tragopan, we hope that future data will improve.

2. Species monitoring

Galliform conservation seems to be taken for granted in the study area which can be related to poor awareness and less species-specific study on galliformes. Thus, these studies have provided an avenue of conservation strategy and monitoring programs for galliformes in the park. Furthermore, the study serving as baseline data and encouragement for further studies in gaining conservational attention it deserves not only in WCNP but the entire Himalayan range.

3. Conservation awareness

The conservation education programs conducted for the locals were helpful to discern the importance of galliformes and they were motivated to conserve and management of galliformes and

some of the endangered species in the group like Satyr tragopan and Himalayan monal in the park. It is also expected that the awareness programmes conducted will furnish the local attitude and encourage the local people in collective management of wildlife.

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

Several stakeholders were involved during the development of this project, especially park's team (manager and rangers). The park manager generously provided two foresters to be accompanied during the field survey. The foresters were very much relevant and helpful throughout the survey with depth knowledge of field situation, specifically when we faced snow blockage during the survey. The main inhabitants of the study area were yak herders, who move from place to place for pasture. They were interviewed during reconnaissance survey to understand their encounters of the species and also educated on conservation. The yak herder's makeshift camps is where we stationed mostly during the survey. We were very thankful to herders for allowing us to stay in their makeshift camps, more so in times when our tents were too cold to sleep in. School kids were also closely involved, and they participate with enthusiasm of all activities. Tourist guides, residents close to the park, and also local people who were visiting Dhur hot spring inside the park where also been interacted and educated on conservation and importance of galliformes in particular.

5. Are there any plans to continue this work?

Yes. In future I am hoping to intensify the study in the study area with advance technologies like camera traps and drones if possible, to evaluate trends in population and get better estimates of abundance and distribution in correlation with climate change. In 2016, I am hoping to conduct intensive study on Satyr trogon in correlation with anthropogenic pressure, which will also provide data for conservation status assessment.

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

- Presentations were carried out to school students of local vicinity of WCNP.
- The project was presented to students and conservationist in Forest Research Institute, Dehradun.
- The project was also presented in RSG Bhutan conference (October 29th-31st, 2015).
- We are also planning to develop pictorial guide for galliformes.
- Research results will be published in scientific international journals.

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

12 months after the release of fund from RSG. Elucidation of anticipated and actual timescale given below:

Activities	Proposed plan	Actual timescale
Literature review and consultation	October-November 2014	January –February 2015 March 2015
Reconnaissance survey:	October-November 2014	April-August 2015

Bird survey (3 weeks in each visit):	December 2014-August 2015	November 2015 October 2015
Outreach/Conservation education (2 weeks):	September 2015	Dec 2015
Data analysis and Final report preparation:	October 2015	
Final report submission:	October 2015	

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
Overnight transportation cost for six trips (two ways) four person	480	780	300	One more person was included due to heavy luggage and steep terrains. Due to snow, the wage demanded to be raised.
Salary for assistant support (126 days)	630	1008	378	The snow made it difficult for people to participate without increase in wage.
Pony (in field work) 42 days	210	210		Due to difficulty of terrain and snow, pony was expensive than usual
Accommodation for 126 days for 4 persons	882	920	38	Acquired from overhead budgets.
Field gears (Sleeping bags- 2, high altitude gears, field bags, field shoes, measuring tape, altimeter, flashlights, medicines, stationary, literatures	390	490	100	The difference was obtained from overheads.
GPS on hire	40	50	10	Difference was obtained from relocation of budgets.
Camera on hire	160	160		
Conservation group formation and awareness (5 groups)	910	950	40	Refreshments were more expensive than expected.
Communication	80	80		
Local travel (to visit organizations and professionals working in similar field)	90	90		
Galliformes pictorial handbook preparation and distribution	425	25	-400	Some pictures were printed for awareness; however, when inquired to printing house of publishing pictorial handbook the cost was much more. Thus, the plan for

				pictorial handbook was kept for future, while the budget became necessary to be reallocated to wages and transportation.
Report preparation and dissemination	60	30	-30	The remaining difference was relocated to awareness programs.
TOTAL (inclusive of overhead 10%)	4793	4793	0	The difference in budgeted and actual was acquired through overhead budget and from pictorial guidebook printing. The plan for pictorial guidebook printing couldn't get materialized in this budget; however, I hope to make it possible in future funding.
<i>All are in £ sterling and used exchange rate for local currency (Bhutanese Nultrum) to £ sterling (GBP) 1 GBP = 96.01 Nu. (in 30/12/2014 when received)</i>				

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

The important next steps I feel are:

1. Continue the monitoring protocol is essential to evaluate population trend and effects of anthropogenic pressure and climate change.
2. Gather more data and refine the distribution models with the help of camera traps and drones.
3. Replicate similar study in other region to provide data for conservation status assessment from the country.
4. Continue conservation education to bring people close to nature and make them understand the importance of the protected area.

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

RSGF logo was used in every PowerPoint presentation delivered during awareness, in my thesis presentation in Forest Research Institute, Dehradun, India. The logo was also used on the print copy of my thesis and other digital articles of the research. Wherever there is acknowledgment section either in print or in digital presentation, RSGF is mentioned in length.

11. Any other comments?

Gallifomes are a conspicuous group of birds that have not received due attention for conservation in Bhutan in spite of continuous effort by broad based conservation plans. Thus, I will passionately study and work for conservation of such species. And will look forward of such support from RSGF in future endeavour as well.