

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	Yadav Ghimirey
Project title	Clouded leopard in Hugu-Kori forests, Annapurna Conservation Area, Nepal
RSG reference	17696-1
Reporting period	March 2017
Amount of grant	£4940
Your email address	mustela.altaica@yahoo.com
Date of this report	26/04/2017

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
Ecological information on clouded leopard and its interaction with other species				<p>We were able to camera trap clouded leopard in only three camera traps out of 53. This made analysis on occupancy of clouded leopard and its interaction with other carnivore species not possible but we were able to pinpoint some locations in the landscape where it is certainly present. This would be extremely helpful in further assessments of the species in the same area giving better results. The time stamp on the photographs, though only six independent photographs, show that the species is nocturnal in the study area.</p> <p>Clouded leopard was recorded from temperate forest dominated by trees of <i>Quercus</i> spp between altitudes of 2000 to 2500 m.</p> <p>Furthermore, other sympatric felid species like common leopard and leopard cat were camera trapped abundantly. In total 20 species of mammals were camera trapped.</p>
Assessment of prey base of clouded leopard				<p>In the absence of proper dietary analysis of the species we followed previous literature regarding its diet. Barking deer seems to be very common with presence in every camera traps. Other mammalian prey species recorded were Assamese macaque, Nepal grey langur. Galliformes (Kalij pheasant, satyr tragopan, and hill partridge) were frequently recorded in camera traps providing good alternative prey for clouded leopard.</p>

<p>Assessments of threats to clouded leopard</p>				<p>The important threats to the species include human disturbance and hunting. During 4-5 months people take away their livestock to the forests. We counted a total of 53 livestock sheds (hereafter <i>Goth</i>) in the area covered by our camera traps. This accounts to around one <i>goth</i> per 4 sq. km.</p> <p>The evidence of hunting were also present including snares for birds and gunshots. Forest fire is also a big problem as people still tend to burn forest during dry months. Though the forest is intact at present roads have been constructed to the edge of forests. This together with other developmental activities like hydropower exploration might present new threats to the species in the coming years with more human disturbance.</p>
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

The first unforeseen difficulty we faced was when we were unable to get 20 camera traps that were committed for us. Hence we had to spend some money from our own internal fund to buy those. Secondly, we are working in the area for more than 5-6 years, we knew local people well. During this work also we had conducted series of discussions with local people and local conservation area management committees (CAMC) regarding our work and the importance of these camera traps. Hence we had not expected that our camera traps to be stolen. However a total of four camera traps and one memory stick were stolen and we lost possible important data. We have now mobilised local CAMC members to look for these cameras in order to get them back though it is not certain whether we will get back or not.

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

Outcome one: Our present work was important in many regards. Prior to this project, we were only certain about the presence of clouded leopard in only one location. Based on this information we planned to estimate the occupancy of this elusive species which was the first such attempt in Nepal. We camera trapped clouded leopard in only three cameras (out of 53) which is insufficient for occupancy modelling however the data we have got is still encouraging as the presence of clouded leopard in three previously unknown locations within the overall study area was confirmed. However there are other areas in the landscape which we had to exclude due to lack of resources and time.

Outcome two: We have taken account of the number of goths in the area which provides an important picture on the disturbance to the habitat which can be taken as a proxy for the threat to the species. A total of 39 goth clusters were documented with a total of 53 goths (either one or more than one goths in one cluster) inferring high disturbance during the rainy season during which all the goths will move to the area. Livestock photos captured by our camera traps also infer important information on the niche competition for clouded leopard prey in the forest during goth season which lasts around 4-5 months.

Outcome three: The project provided important distribution update of some species which include spotted linsang and large Indian civet. They are important small carnivores in the hill ecosystem with a declining population trend. The photo of spotted linsang is the first photographic evidence of the species in Nepal. Also large Indian civet was camera trapped at an altitude of 2750 m which is an important information on its high elevation distribution as it was never been recorded above 2400 m.

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

The project was basically a research work aimed at collecting preliminary scientific information on clouded leopard in the project area. However we informed local conservation area management committees and mother groups about our camera trapping work prior to initiating the study. Discussion with Annapurna Conservation Area Project was also done for the logistic arrangement and legal difficulty for the area. We had only minimum collaboration with local communities except for including them in our team as porters and guides. Out of ten local guides and porter whom we hired for our study, two stood out as promising citizen scientists. We have provided them a book on wildlife of Nepal. This would be especially important in the coming years as we plan to visit the area in the future too for more in depth scientific explorations.

5. Are there any plans to continue this work?

We started working in the area since 2010 and are visiting every year for carrying out various research works. We are extremely positive to further our present research in the area including population and ecological studies on clouded leopard and other rare species. The two guides whom we trained as citizen scientists would prove extremely important in this regard. We also plan to strengthen them further by providing them survey equipment (binoculars, gps, and cameras) and training them on more survey techniques. We are also positive in initiating conservation initiatives targeted to this rare and elusive species in the schools and communities for ensuring long term conservation of clouded leopard and other species.

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

There are three ways in which we plan to share our results with others. The first way is the present report which we will submit to Rufford Foundation which can be accessed by conservationists and people from other walks of life. The second way is to prepare a comprehensive report and put it in our webpage and other social media sites including Facebook page. This will take a little more time as the data is huge and data analysis will take around 4-5 months. Another way to share, as we always do, is to publish scientific articles on the species recorded and the area. We are already started preparing articles for this. Prospective outlets included Cat News, Small Carnivore Conservation Journal, Canid Biology and Conservation, Oryx and Journal of Mammalogy. Lastly we will also collect good portraits of wildlife captured by our camera traps for local communities and students to see the wildlife residing in the forests they are helping to conserve. This, I believe, would give a positive impact on the minds of people.

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

RSG was used for a total of 15 months which is three months longer than the actual length of the project we had proposed.

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
Local guide and porters	1000	4500	-2400	
Camera traps	2000	7721	-690	We had to put more money on camera traps as one of our supporters could not deliver camera traps on time. Though we raised an extra GBP 2031 through crowdfunding from www.experiment.com it was still insufficient.
Food	640	700	-60	
Dissemination workshops	600	0	+600	Haven't yet completed
Customs for camera traps	400	695	-295	
Reporting	350	300	50	

TOTAL	4990	13721	-8731	We had a matching fund from Bernd Thies Foundation, Switzerland of amount GBP 5003. We also raised GBP 2031 through online crowd funding from https://experiment.com/projects/working-out-the-first-occupancy-and-population-estimate-of-clouded-leopards-in-annapurna-conservation-area-nepal however the total project amount was also insufficient and we had to use our internal fund (GBP 1697.13).
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9. Looking ahead, what do you feel are the important next steps?

The first step that would be important after the present study would be to focus the research effort in the areas that accounted for the clouded leopard in the area and also include areas that had to be excluded during this stage. This include camera trapping in areas of known clouded leopard occurrence as well as excluded areas with potential. Considering research, dietary analysis will be one aspect we can look at which was difficult prior to this point as we were not sure of clouded leopard's individual locations prior to this study. Since we have four known clouded leopard locations this will be a step we could look into (Three locations identified this year and another location in 2012). Also it is important to introduce the species to the local people as they are not aware of its presence and initiate novel conservation initiatives in schools and communities. Hence we also plan to talk to local people and students regarding the species and introduce innovative conservation efforts in the area. After all people only conserve species they love and they only love species which they know.

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?

No any materials related to this project were produced.

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

12. Any other comments?

We have finished our camera trapping now. Our dissemination workshops are basically targeted to school students however the schools were closed at the time we completed retrieving camera traps. Also local people are extremely busy in farming. Hence we decided to conduct the dissemination workshops on a later

date i.e. probably in the end of May or start of June however we will use our internal fund for this purpose.



Photo 1: Setting up of camera traps for clouded leopard



Photo 2: Clouded leopard, our target species in one of our camera traps



Photo 3: barking deer, the most common ungulate species and prey of clouded leopard



Photo 4: Livestock disturbance



Photo 5: Our camp and clouded leopard habitat in the background



Photo 6: Clouded leopard habitat