

## Final Evaluation Report

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Your Details	
Full Name	Babar Zahoor
Project Title	Annual activity pattern and food preferences of Asiatic black bear ( <i>Ursus thibetanus</i> ) in Machiara National Park, Muzaffarabad, Azad Jammu and Kashmir, Pakistan.
Application ID	27847-1
Grant Amount	£3,785
Email Address	<a href="mailto:bbe17@mails.tsinghua.edu.cn">bbe17@mails.tsinghua.edu.cn</a>
Date of this Report	04-August-2020

1. 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 explore the daily and monthly activity patterns of black bear ( <i>Ursus thibetanus</i> ) in Machiara National Park				
To find out the seasonal food preferences of black bear				The bear scats were not found in spring season

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

We faced the issues related to security of installed camera traps in the study area. During the 9-month study period, six out of 20 cameras installed in study area were stolen during different months. Local people are supposed to be involved in such activities that led to the loss of important field data. To explore the reasons behind these activities and tackle this issue, we organised discussions with the local community. The locals expressed concerns about sharing their personal data (especially the pictures of the hunters and their women) with public and concerned wildlife department. They were assured that their personal information would be kept secured and not be share to anyone.

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

1. This is the first ever comprehensive study of black bear using infrared camera traps in Azad Jammu and Kashmir (Pakistan). The cameras recorded bear activities throughout the year. However, no activity between late November 2019 and late April 2020 revealed that in the moist temperate forests of Machiara National Park the hibernation in black bear occurs for 5 months.
2. This project recorded the presence of some endangered species such as common leopard (*Panthera pardus*), Himalayan gray langur (*Semnopithecus ajax*), gray goral (*Naemorhedus goral*), Monal pheasant (*Lophophorus impejanus*), Koklas pheasant (*Pucrasia macrolopha*) and western horned tragopan (*Tragopan melanocephalus*). The information is very worthwhile to explore the activity patterns of such animals.
3. The scat analyses indicated that autumn was the season when the dependency of bears on human grown food was maximum. Before this project, researchers had explored the maximum conflict between human and black bear in summer and autumn in Machiara National Park.

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

Local community members participated in conservation awareness programmes. They were involved in organising the programmes. Locals were also the part of research team (guides, technical assistant and local assistants etc.). In this way, the community directly benefited from the project through earning daily wages and capacity building.

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

We would like to replicate the project in the remaining areas of the Azad Jammu and Kashmir. For better understanding regarding Asiatic black bear, we decided to collect indigenous knowledge (through questionnaire surveys) along with scat sampling and camera traps.

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

Results are part of my PhD degree thesis, which will be defended at the end of 2021. We will share the results with local authorities i.e., department of wildlife and fisheries Azad Jammu and Kashmir (Pakistan) and the University of Azad Jammu and Kashmir by reports and videos from camera traps. We plan to publish two articles in peer reviewed journals with due acknowledgement for the Rufford Foundation. The scientific information and results will be helpful for the scientists and conservation biologists.

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

The grant has been used for 9 months between April 2019 to July 2020. We switched the field survey of April 2020 to May 2020 due to bad weather conditions and high risk of avalanches. In addition, we extended the length of the project (due to Corona virus outbreak) and the programme for poster presentation was organised in July 2020.

**8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Dell laptop for use in the	£315	£335	+20	Increase in the prices of

field				electric goods.
Rain Jackets (One for me and one for assistant)	£60	£60		
Shoes (One for me and one for assistant)	£60	£60		
Stationary	£5	£5		
Paper/ plastic bags	£10	£10		
Gloves to collect scat samples	£8	£8		
Transportation from Muzaffarabad to Machiara National park	£63	£75	+12	In 2020, Fare was increased due to corona virus outbreak
Food for the work team	£1350	£1350		
Payment of field assistant	£900	£900		
Rent of motorbike	£282	£282		
Fuel for motorbike	£70	£70		
Research accommodation	£562	£562		
Meeting with wildlife staff and local community	£100	£117	+17	The money was not used in meetings. we organised an event of poster presentation and also arranged the refreshment for participants. Thus, the actual amount exceeded than the budgeted amount.
<b>Total</b>	<b>£3785</b>	<b>£3834</b>	<b>+49</b>	

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

1. The information will be analysed, and results will be shared with the scientific community and stakeholders.
2. Human-black bear conflict is one of the most burning issue in the forest areas of AJ&K. We would like to suggest a comprehensive research and awareness programs for the conservation of this indicator species.

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

Logo of The Rufford Foundation was used on awareness materials such as posters and banners. Community members were aware of RF and its contribution towards the conservation. In this way RF got publicity through this project.

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

**Babar Zahoor.** Applicant and principal investigator. He conducted most of the fieldwork and data processing.

**Dr. Xuehua Liu.** She helped in study design and provided the equipment i.e., infrared camera traps, batteries and chargers.

**Dr. Basharat Ahmad.** He helped through meetings with high officials of the wildlife department (of Azad Jammu and Kashmir) and convinced them for carrying out the study in Machiara National Park. He further provided technical guidance in the field settings and helped in installing the cameras at proper locations in the field.

**Dr. Yuke Zhang.** He trained regarding how to use the cameras.

**Muhammad Waqas.** Field assistant helped us with field activities such as camera deployment and collecting the scats of bear.

**12. Any other comments?**

I am thankful to The Rufford foundation for its financial support to monitor the red-listed vulnerable Asiatic black bear in Machiara National Park, AJ&K, Pakistan. The collected information during peak activity period/seasons and seasonal food preferences will prove helpful in mitigating the conflict between human and black bear in the area. Moreover, this grant supported PI (Babar Zahoor) financially to gather field data for his PhD dissertation, which ultimately will help protect interest of threatened species in the region.