

## Final Project Evaluation Report

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Your Details	
<b>Full Name</b>	Kaushal Yadav
<b>Project Title</b>	Seasonal habitat use pattern of Himalayan Black Bear and focusing conservation outreach program for forest dependent community of Madi Rural Municipality.
<b>Application ID</b>	23775-2
<b>Grant Amount</b>	£5000
<b>Email Address</b>	yadavkaushal13@gmail.com
<b>Date of this Report</b>	12 December 2018

**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
Seasonal Habitat use map of Black bear				Loss of data from six camera stations made it difficult to map the seasonal habitat use by Asiatic black bear, therefore final map shows high probability of habitat use by black bear in almost every sites.
Identifying sites used by Black Bear				Key sites used frequently by the black bear were identified using both results of sign survey and camera trap data.
Conservation Outreach Program				Permanent corrals from both settlements (Sikles & Tangting region) were included in the outreach programme. Altogether, 26 households were involved in the programme where the ecological significance of Asiatic black bear were discussed. Similarly the flex board containing safety instructions on encounters with black bear was installed on major trails to forest from both settlements.
Radio program				Radio Kaski in Kaski district and Radio Bhoteodar from Lamjung district have aired our radio programme that has coverage on our project site. Programme was aired after short news at 6:00 pm in the evening. Beside these two stations, five FM stations that cover the region where Asiatic black bears are known to be found have aired the programme. Radio Thaha Sanchar- coverage all over the country. Afnai FM- coverage around Rukum district. Radio Madi Awaj- coverage around Rolpa district. Radio Rara- coverage around Mugu district. Radio Argakhanchi- coverage around Argakhanchi district.

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

Loss of six cameras and three memory cards was an unexpected scenario and thus the loss of data from the camera traps was significant during this survey. Due to this we were unable to map the true habitat use pattern by Asiatic black bear during

the monsoon. The map we have presented does not truly represent the habitat use pattern as the values of habitat use probability are higher in all the camera stations.

We could not retrieve the camera trap earlier from the station due to heavy rains and floods which made our path to the project site inaccessible. This could also have led to increased losses.

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

a) *Map depicting detection of Asiatic Black Bear:*

We were able to detect Asiatic black Bear from seven out of sixteen retrieved camera traps (fig.1). Some of the images contained adult females as well as the cubs of black bear (Station 11). Most of the detection of black bear occurred in the station near to the permanent corrals. In case we had retrieved the entire camera from the station, we could have developed a habitat use map comparing the site use considering the distance near to the permanent corrals.

b) *Key sites used by black bear:*

During the both visits, indirect signs of black bear were abundantly recorded from the sites within 100 m of almost all the stations where the black bear were photographed. We have recorded evidence of black bear signs like scratch marks on tree trunks, nesting sites, feeding sites of *Quercus* nuts and pugmarks. These stations were recorded as sites frequently used by Asiatic black bear.

c) *Conservation Outreach and Radio Programme:*

26 households dependent on forest resources and involved in livestock herding directly benefitted from the conservation outreach activities. Around 900 individuals from the Sikles and Tangting area as well as from surrounding settlement of Kaski and Lamjung district heard our radio programme on Asiatic black bear. This anticipated number is based on the coverage of local FM station in Kaski and Lamjung district.

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

Local communities were an integral part of this project. They were directly involved during the conservation outreach programme where they learnt about the importance of conservation of Asiatic black bear. A two-way discussion about safety measures during encounters with Asiatic black bear was conducted with communities dependent on forest resources. Short video clips on black bear safety measures were shown to the participants along with the conservation posters.

A radio programme aired at peak hours just after a short news bulletin at 6:00 PM relayed our conservation message to those households who were not directly involved with our project.

Supporting staff of our project from the community also directly benefitted as they received employment during the project. Beside the monetary benefit, they realised the necessity of wildlife research and importance of wildlife conservation.

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

We have planned to work further on the spatial ecology of Asiatic black bear possibly using GPS collars. Also we have initial planning of research on population ecology of Asiatic black bear using genetics in the same area.

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

As already mentioned we were not able to develop the habitat use map as we had initially planned during the designing phase of this project, we will be developing simple maps and try to publish our results. Some analysis will be done on by-catches of camera traps which will be published in scientific journals.

Beside this, the final report will be submitted Unit conservation office of Annapurna Conservation Area in Sikles as well as to Department of National Park and Wildlife Conservation Office.

We have also shared about our project through different mediums:

- *Conservation materials:* Our posters and information board were a medium to share about our work on conservation of Asiatic black bear with locals and visitors to the area. Information board produced in both Nepali and English language which were installed in entry and exit point of the settlement as well as on the major trekking route targeting both local communities as well as to the visitors.
- *Conservation Camps:* Sharing and discussing views on black bear conservation with the herders during conservation camps was another efficient approach to share our results with the community.
- *Online Website and Internet:* The project update and results were also shared through our organisational website (<http://fonnepal.org/habitat-use-and-conservation-himalyan-black-bear>). An article was written by Mr Raju Acharya in online news portal, Pahilopost, on effect of camera traps loss for wildlife researcher (<http://pahilopost.com/content/20190106091858.html>) mentioning about the loss of our camera traps during our survey. Similarly, Setopati, a popular online news portal also had featured about the work on Asiatic black bear in Sikles and Tangting area in one of their story (<https://setopati.com/social/171673>).
- *Radio Programme:* Radio Thaha Sanchar Network, 99.6 MHz had recorded our episode on Asiatic black bear, in which the general information about the species, their status and distribution, and result of black bear research work in Sikles-Tangting area was discussed. Respected Professor Mr Karan Bahadur Shah had joined for the recording where he mentioned about the status, conservation and threats of Asiatic black bear in case of Nepal. The recorded episode was aired by Radio Kaski 96.5 Mhz and Radio Bhotewodar, 90.8 MHz

in our project site. Beside these two, Radio Thaha sanchar itself aired it in whole Nepal. Other FM stations like, Afnai FM (97.6 MHz), Radio Madi Awaj (98.6 MHz), Radio Rara (107 MHz) and Radio Argakhanchi (105.8 MHz) aired the episodes without any cost.

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

Amount received from the grant was used during the preparation of conservation material and field work. Major proportion of the grant was used during the field visit for installing cameras in May 2018 as well as retrieving them in November 2018. Similarly the expenses from the provided amount incurred while developing conservation materials like posters and information boards along with the radio programme as well.

Expenses incurred during the actual length of the project went as previously planned. However, the loss of camera traps was an unfortunate loss.

**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
Production and broadcast of radio program	750	238	512	Production and broadcast of radio program incurred less expense than we had anticipated. Local FMs were generous to air the conservation program at minimal cost.
Designing and printing of flex board	60	64	-4	Designing of flex print cost us 4 GBP more than our initial estimation.
Designing and printing posters	300	292	8	Printing of the posters matched with initial estimation whereas the designing incurred more than our estimated budget
Logistic expense of field staff	3150	3645	-495	Logistic expense of field staff cost us extra 495 GBP as we had to pay for the monitoring of the camera traps as well. Also we added the number of porters in both the visits to decrease our working days.

Logistic expense of team member	350	400		Logistic cost for team member and team leader were expended 100 GBP more than our estimation in initial budget.
Logistic expense of team leader	350	400		
<b>Total</b>	<b>5000</b>	<b>5039</b>	<b>39</b>	During the overall project period 39 GBP was expended more than the requested amount. This expense was covered from internal account of Friends of Nature.

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

Considering the output from this survey, it is important to understand the spatial ecology of Asiatic black bear in the area. This will provide overall insight on habitat uses, activity and movement pattern of Asiatic black bear.

Similar surveys needs to done in the region adjoining to our current project site. Incidents of attack on human by black bear were recorded from the adjoining settlement of Lwang region. Since the forest of both regions are continuous and connected and thus it would be necessary to accompany such area to understand the movement ecology of Asiatic black bear.

Black bear conservation or black bear watch group should be initiated in schools of the area in which the students from secondary level can periodically conduct black bear conservation in the community with the help from Unit conservation office of ACAP and teachers. This kind of school-oriented conservation programme can introduce children with the wildlife, increase their curiosity and make them messenger of wildlife conservation in their own community.

**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?**

The Rufford Foundation logo was used in every conservation material. Poster and Information board contained logo of The Rufford Foundation.

Also the support of Rufford Foundation was mentioned during the radio programme. In case of any future publication of any sort of materials regarding the project, The Rufford Foundation will be certainly acknowledged.

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

Altogether 14 members were involved including supporting staff during the project.

S.N.	Members	Designation	Role
1	Kaushal Yadav	Lead Investigator	Leading project from the beginning till the end.
2	Bidhan Adhikary	Co-investigator	Assisting the project from the beginning till the end
3	Jeevan Rai	Data analyst	Analysing the data obtained from camera traps
4	Pas Bahadur Gurung	Supporting Staff (First visit)	Head cook and porter
5	Aas Bahadur Pariyar	Supporting Staff (First & second visit)	Assistant cook /porter. Monitoring Camera traps
6	Sanam Gurung	Supporting Staff (First & second visit)	Porter
7	Tou Bahadur Bishwakarma	Supporting Staff (First visit)	Porter
8	Tanka Bishwakarma	Supporting Staff (First visit)	Porter. Monitoring Camera traps
9	Rukh Bahadur Bishwakarma	Supporting Staff (First visit)	Porter
10	Hasta Bahadur Gurung	Supporting Staff (First visit)	Porter
11	Balaram Gurung	Supporting Staff (Second visit)	Head cook & Porter
12	Gopi Raj Gurung	Supporting Staff (Second visit)	Porter
13	Dipak Gurung	(Second visit)	Porter
14	Bir Gurung	Supporting Staff	Monitoring Camera traps

## 12. Any other comments?

Although the results did not meet up with the expectation we had, we tried our best during our analysis to extract useful information from the available data. The conservation activities and radio programs went according to our project plan. We would like to thank The Rufford Foundation for their generous support for the project.

**Annex**

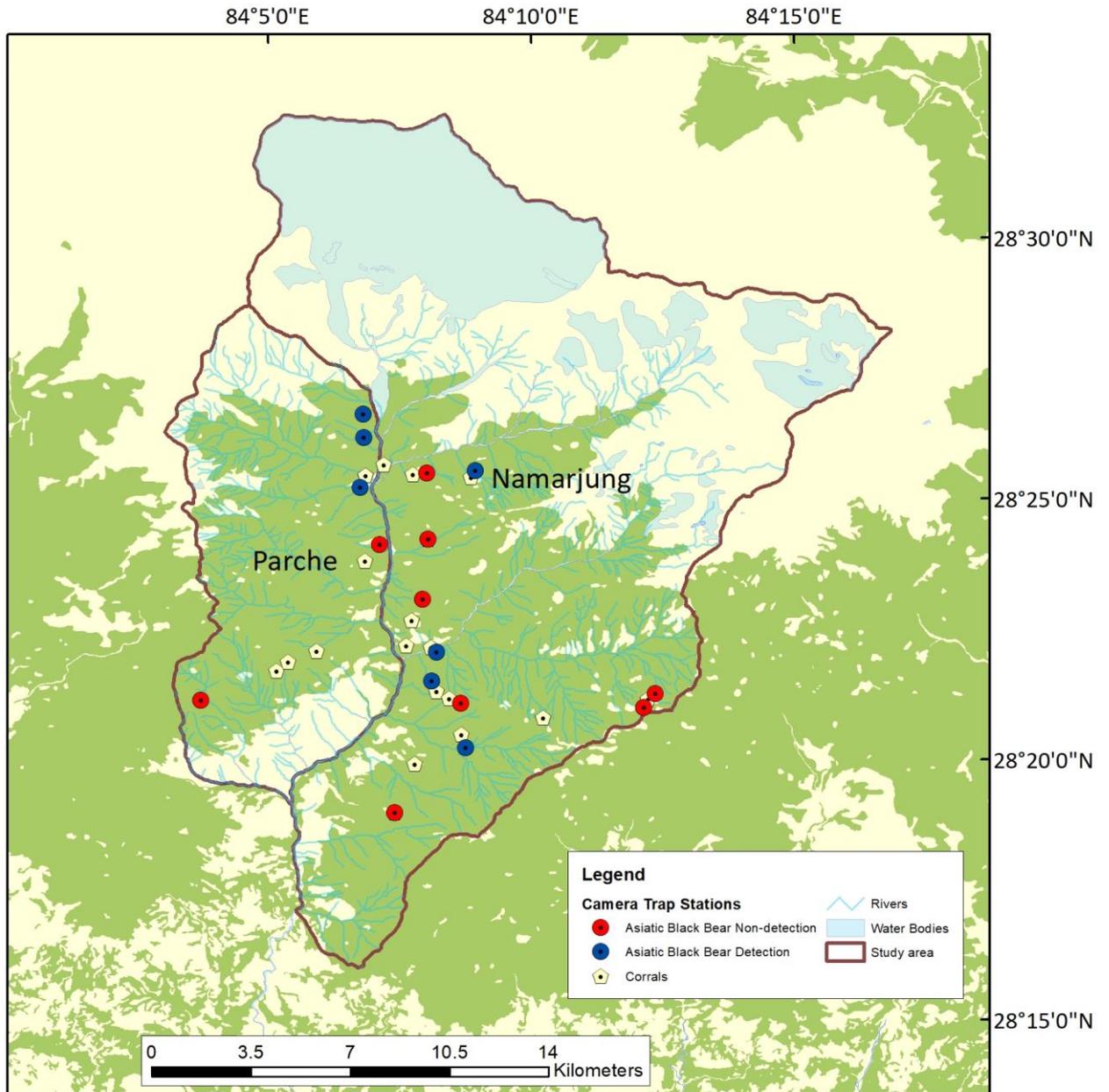


Fig. 1 Asiatic Black bear were detected from seven out of Sixteen retrieved camera stations



Images of Asiatic Black Bear captured by camera traps





Left: Musk Deer captured in Tapro Dharmasala. Right: Common Goral Captured in Idi.



Common leopard trapped in Pewachyo danda



Professor Karan Bahadur Shah joining us for producing radio program on Asiatic Black Bear Conservation



Spectacular view of project site from Tangting region

**List of Participants in Conservation Outreach program**

<b>S.No.</b>	<b>Name</b>	<b>No. of family Members</b>	<b>Occupation</b>	<b>Address</b>
1	Rukh Bahadur Pariyar	5	Farmer	Tangting
2	Dipak Gurung	4	Farmer	Tangting
3	Kajiman Gurung	4	Herder	Tangting
4	Aman Gurung	6	Herder	Tangting
5	Hira Gurung	7	Herder	Tangting
6	Lam Bahadur Gurung	4	Farmer	Lamjung
7	Hasta Bahadur Gurung	4	Herder	Tangting
8	Tirtha Pariyar	3	Farmer	Tangting
9	Harka Bahadur Pariyar	5	Herder	Tangting
10	Prem Singh Gurung	6	Herder	Lamjung
11	Laxmi Gurung	6	Farmer	Lamjung
12	Narayan Gurung	3	Herder	Lamjung
13	Akkal Gurung	3	Farmer	Tangting
14	Dhansingh Gurung	4	Herder	Tangting
15	Ram Bahadur Pariyar	4	Herder	Tangting
16	Balram Gurung	5	Farmer	Sikles
17	Bhograj Gurung	5	Farmer	Sikles
18	Maniram Gurung	5	Farmer	Sikles
19	Dhan Bahadur Gurung	6	Farmer	Sikles
20	Kulman Gurung	7	Herder	Gorkha
21	Man Bahadur Kami	4	Farmer	Sikles
22	Bhim Gurung	5	Herder	Sikles
23	Kaji Gurung	4	Herder	Sikles
24	Prakash Gurung	3	Farmer	Sikles
25	Maila Gurung	4	Farmer	Dhading
26	Amar Gurung	3	Herder	Sikles