Final Project Evaluation Report

Your Details	
Full Name	Amar Kunwar
Project Title	Seeking Human-Blackbuck Coexistence: Ensuring Long-Term Viability Of The Blackbuck Population In Nepal
Application ID	23892-2
Grant Amount	£ 4996
Email Address	amar.kwr@gmail.com
Date of this Report	May, 2019

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
Cumulative impacts of anthropogenic disturbances on Blackbuck				We assessed cumulative effects of natural and anthropogenic disturbances that are shrinking the activities to one-third of the CA. We carried out line transects in east-west direction of the conservation area and recorded presence evidence of blackbuck (*Antelope cervicapra*) (visual encounter, foot marks and pellets) and laid a 10 X 10 m plot in each recorded presence point. Different habitat types and threat related variables and presence evidence of potential competitor and predators in the plots were recorded. The proximate variables of each surveyed plots with the household, road/footpath, farmland, water sources, forest, etc. and habitat variables like habitat types (forest, cultivated land, scrubs and bushes etc.), canopy cover, shrub cover, ground cover, shrub height, grass height, tree height etc., were noted 150 m distance. (more details in update report). Additionally, we conducted focal sampling and scan sampling to understand the response of the blackbuck with respect to anthropogenic disturbances (this was not proposed in the project). We will present the detailed results after analysis in a detailed report and publication in journals.
Participatory Rural Appraisal (PRA) and Questionnaire Survey				We conducted PRA to understand the present scenario of the CA and then conducted questionnaire survey accordingly. We collected information on the dependencies of the local people on the CA.
Citizen Scientists Training				Capacity building training on blackbuck habitat survey and Information collection

				techniques was conducted with local youth club members, lecturers and students of Babai multiple campus and game scouts of Krishnasaar Conservation Area.
Conservation Awareness Activities for Students and the Community				Conservation awareness activities was conducted by visiting schools and colleges of Gulariya Municipality to make them aware of the wildlife conservation issues and develop their affection for nature. Similarly, the activities were also conducted in the local communities in and around the CA.
Avoiding road kills/injuries of wild animals through awareness campaign to vehicle drivers and traffic signal installation				Major event of awareness campaign for vehicle drivers was conducted to minimise the road kills/injuries of wild animals. Stickers, posters, leaflets were distributed. Traffic signals were installed on the roads near the CA to make drivers cautious about the wildlife accidents.
Conservation Area Cleaning Program-Protecting Blackbuck And Other Wildlife From Plastics				We conducted a CA cleaning campaign with School students, teachers and CA officials to avoid blackbuck and other wildlife from consuming plastics.
Awareness materials: Leaflets and Posters				We prepared enough leaflets, posters and stickers containing information about the blackbuck and other wildlife, their importance and our (human) role in their conservation. They were distributed among students of schools, college and universities, police stations, Vehicle drivers and local people.
Open-floor discussion for finding sustainable alternatives to human-used resources from the CA.				We discussed with local community on five main issues: alternatives to crops, alternatives to firewood, alternatives to grass extraction, illegally harvested plants and animals and the community-based ecotourism. Finally, we conducted a project outcomes sharing workshop at the end.

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

There were no any noticeable difficulties while implementing the project. Conservation area, local people, local police station, traffic police, schools and college, vehicle owners and their staff heartily welcome us and helped in whatever way they could.

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

a). Cumulative impacts of anthropogenic disturbances on Blackbuck
We carried out field data collection on cumulative effects of natural and anthropogenic disturbances faced by blackbuck in Krishnasaar Conservation Area. Preliminary results show that the blackbuck are facing anthropogenic disturbances and the habitat is losing vegetation patches due to flood that enter into the KrCA. Additionally, we conducted focal sampling and scan sampling to understand the response of the blackbuck with respect to anthropogenic disturbances. Due to small study area, modelling is taking more time and we will present the detailed results after analysis in a detailed report and publication in journals. From questionnaire survey and field data, the major conservation threats are human encroachment, livestock grazing, dogs and vehicles (bicycles, motorcycles and 4-wheelers). There is noticeable conflict between blackbuck and local people due to the crop raiding behaviour of blackbuck and the human chasing them.

b). Capacity Building of local people and park staffs
This research strengthened the capacity of local community and prepared local citizen scientists to conserve and research through trainings. Local youth club members, lecturers and students of Babai Multiple campus and game scouts of Krishnasaar Conservation Area were trained. They were able to identify different wildlife (visual encounter/ pellets/scats/footprints, etc.) found in the conservation area, use GPS and fill-up data sheets. They learnt to collect information on blackbuck habitat as well as information collection of different wildlife of the conservation area. We used few of the citizen scientists in our project and they were quite good in information collection and were helpful in field.

c). iii. Conservation awareness to local community, school children and vehicle drivers
Various conservation awareness activities made the local people, schoolchildren, school teachers, and vehicle drivers aware and increased their knowledge about the importance of blackbuck and other wildlife and the biodiversity as a whole. Involvement of the local people and their knowledge sharing made us happy that they are now very conscious about the importance of biodiversity in their locality. The traffic police and the vehicle drivers and staffs involved keenly and were happy to learn how they could help in biodiversity conservation and minimise vehicle hit to wild animals. The installation of traffic signals is an important achievement. Also, the discussion forum to look for alternatives to resources available in KrCA and new alternatives for economic development was good achievement.

More details of the additional activities are in project update reports.

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

The local community people, CA staff, schools, colleges, vehicle owners and their staff, police station and local media (radio and newspaper) heartily welcomed us to conduct our work and facilitate in obtaining the objectives successfully. We always had more than expected number of participants during every event. Since we knew from the earlier project that people are very helpful, hence we allowed maximum involvement of the local community in sharing information and their experiences.

When we notified about our events, people suggested their best time to us for successful completion of the events. They allocated their busy time for us. The school and college administrations were always ready to send their students and considered our events as "exposure to nature" and happily sent adequate number of students. The traffic police, vehicle drivers all participated in the events actively.

Now, they understand how anthropogenic disturbances, resource extraction etc is making life critical to blackbuck. They now have knowledge about the alternatives crops and resources due to which they were facing maximum conflict with the CA. The awareness programmes gave them global knowledge on biodiversity and conservation. Now, they see many options of economic development by utilising the local resources and opportunities by conserving the CA.

5. Are there any plans to continue this work?

Our project outcomes show that blackbuck are facing several human mediated disturbances like grass extraction, cycling, people roaming around the CA, motorbikes, cattle, horn of vehicles and several others. This has shrunk their habitat use. We plan to develop effective solutions to our project outcomes, discuss with CA and implement. The vegetation structure is changing every year due to flood and invasion by invasive plants. It is observed that blackbuck give birth to new ones in one season only, while few years back, they gave birth to new ones in two seasons of the year. This might be due to food scarcity. It is necessary to evaluate the vegetation composition, carrying capacity and then increase the palatable vegetation patches to sustain the healthy blackbuck population. We will be working on these in near future. Furthermore, we plan to further explore its ecology and also study its population viability and population genetics of this inbred small population.

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

For the results dissemination, one workshop was organised in Krishnasaar Conservation Area in April, 2019. We shared the outcomes of the project with the CA, Krishnasaar Conservation and Management committee and the community, related NGOs and INGOs and journalists. Evert events and the outcomes were broadcasted through local radio and published in several local newspapers. A detailed report will be prepared soon and submitted to national level and local level

concerned authorities. The outcomes will be shared to through seminars, conferences as much as possible. Similarly, activities of the project will be mentioned in annual report of Small Mammals Conservation and Research Foundation (SMCRF) and will be distributed and uploaded in SMCRF's website (www.smcrf.org). We will publish the research outcomes through peer review journals.

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

We used the grant from March 2018 to April 2019. The fund was used for proposed timeline and the project was completed in time.

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.

Overall, there were some small differences in actual and budgeted amounts. Most significant differences are clarified with comments.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Report preparation, publication and dissemination	90	30	-60	
Local Resource person fee (Game scout)	240	230	-10	
Awareness program for vehicle drivers (Tea-snacks)	100	130	+30	
Awareness program for School and college students	240	195	-45	
Speed breaker	100		-100	Since, road is going to be maintained soon, we did not build speed breaker for now.
Preparation and installation of Hoarding Boards	260	280	+20	
Workshop	65	90	+25	
Awareness message telecasted from local FM radios	365	360	-5	
Posters and leaflets designing and printing (500 and 1000 respectively)	180	210	+30	

Fire Briquette Training	60		-60	We did not conduct this as per local peoples' and KRCA staffs' suggestions
Community Awareness	660	610	-50	
PRA and Citizen scientist training	170	190	+20	
Communication	15	25	+10	
Stationary for research	120	90	-30	
Research equipment and field gear (purchase and hire)	75	110	+35	
Transportation (including local travel)	150	410	-46	
Travel (Kathmandu, Etc.)	306			
Food and Accommodation	1800	1740	-60	
Field assistant fee		230	+230	Additionally, we conducted a research on Blackbuck response to anthropogenic responses (focal sampling and scan sampling of herds) We allocated field assistant fee from Fire briquette training, speed breaker and savings under other headings.
Cleaning		60	+60	This was not proposed, still we did this as we had some amount savings under other headings.
TOTAL	**4996**	**4990**	**-6**	

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

Our project outcomes show that, important steps shall be taken urgently to diminish the human mediated disturbances and increase food plants of the animals in the CA. The most important next steps will be:

- to implement the Krishnasaar Conservation Area management Plan (prepared by Government of Nepal, Department of National Parks and Wildlife Conservation),
- to control floods into the KrCA,
- to control invasive plants,
- to evaluate the vegetation composition,
- to determine carrying capacity,
- to study population viability of blackbuck.

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?

Yes, we used the logo of The Rufford Foundation in every published materials including leaflets, posters, flex prints, traffic signals, etc. Also, every programme was started by giving short introduction of the Rufford Foundation and how it is helping to conserve and protect biodiversity of Nepal and abroad through its grants for biodiversity. Every news (radio and newspapers) included the name of the foundation. The Rufford Foundation sponsored two projects in KrCA, and most of our activities involved people. So, the foundation is well known in the KrCA area.

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

We changed the project members during project implementation, because they were busy with their job and/or abroad study. So, we chose members for the project who completed their Masters degree in Zoology while implementing the project. We were in email communication to discuss the project.

Full List of the project team members:

Mr. Amar Kunwar: Principal Investigator
Actively involved in each activity of the project. He conceptualised the project, field activities, timeline and budget implementation. He was involved in data collection, prepared awareness materials, conducted awareness activities, capacity building training and workshop and project update.

Hari Basnet: Research Assistant
He designed grids and transects for field data collection, prepared data collection sheets, and helped in preparing awareness materials and reports.

Prabeen Baral: Research Assistant
He was involved in field data collection, capacity building training and distributing awareness materials. He was also assisting in communicating with local radio and newspaper publishers.

Saroj Thapa: Research Assistant
We actively involved in awareness campaign to school students, local people and vehicle drivers. He communicated and update the project with the local radio and newspapers.

Tejab Pun: Research Assistant:
He was involved in project update and result sharing with the KrCA and local people. He also conducted KrCA cleaning campaign with school students and teachers. He was involved in preparing and installing traffic signals along the road around KrCA.

Hariram Yadav: Local Field Assistant
He was very active and enthusiastic local assistant for field work. He guided PI and research assistants to visit various places during field data collection and conservation awareness activities. Also, he helped by communicating with local people to gather them during awareness programs.

12. Any other comments?

We thank The Rufford Foundation for accepting our proposal and granting fund for blackbuck conservation in Nepal. We are grateful to our referees without their support, suggestions and counselling, this project would not be successful. We are grateful for kind and heartily welcome and support of the project and its implementation by the Krishnasaar Conservation Area staff. We are grateful to Krishnasaar Conservation Area Management Council, local people, citizen scientist trainee, local schools, campus, traffic police, vehicle drivers, Babai FM and local online newspapers. We are equally grateful to the Department of National Parks and Wildlife Conservation, Nepal.