

Final Project Evaluation Report

| Your Details | |
|---------------------|---|
| Full Name | Shivish Bhandari |
| Project Title | Community stewardship to mitigate human-hyena (<i>hyaena hyaena</i>) conflict in Parsa National Park and its adjoining areas, Nepal |
| Application ID | 25382-B |
| Grant Amount | £ 10,000 |
| Email Address | Shivish.bhandari@yahoo.com |
| Date of this Report | October 30, 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 |
|---|--------------|--------------------|----------------|---|
| To know the baseline information of hyena in PNP and its surrounding areas. | | | | Sign survey and field observation was done. GPS locations and indirect evidence of hyenas were recorded. |
| To conduct conflict mitigation programs | | | | Developed people’s attitudes towards hyena conservation |
| To develop conservation knowledge | | | | Interact with the park staff, local people and community forest user groups. Highlighted hyenas’ ecological role in the nature. |

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

A forest fire occurred in part of the study site, therefore the project took a bit longer.

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

1. Involvement of local people toward hyena conservation: This project also linked with the previous project regarding the conservation outreach programmes in the study site. We strengthened the people groups/clubs that formed during our previous project. In this way, establishment of the Village Youth Club (VYC) and closely collaborating with community forests committee were the major successes for nature conservation. These groups are working to control poaching and monitoring hyenas and their prey species. Furthermore, posters, brochure and t-shirts delivering hyena conservation messages were distributed in communities, and that was very helpful to increase participation of local people in terms of hyena conservation in lowland, Nepal. Moreover, conservation importance of striped hyena will be highlighted among VYC, locals and community forests users. Approximately 1000 people were directly oriented by those conservation outreach programmes.

2. Programmes regarding alternative income generation sources: We have done training and outreach programmes regarding alternative income generation in the study site and hope that would be helpful to mitigate human-hyena conflict in the lowland of Nepal. Our programmes developed the local people attitudes towards raising the alternative income generation sources, and that works for hyena’s conservation in the study site.

3. We also did human –hyena conflict mitigation actions, that helped reduce threats to the hyena. We collect data from the non-invasive sampling technique, camera

trap records, GPS records, questionnaires, etc. and those data will be published in national and international journals such as *Journal of Threatened Taxa*, *Journal of Institute of Science and Technology*, etc. Those are highly appreciated and popular journals in Nepal. This project was also helpful to collect the threat assessment of the hyenas from Nepal and global. This project also provided some scientific data to the IUCN/SSC Hyena Conservation Specialist Group for further conservation works.

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

In my project, interaction with local people, community forest users, and district forest authorities was imperative. To continue the monitor and conservation awareness for striped hyena as well as other wildlife conservation, the Village Youth Club (VYC) was established under the supervision of Community Forest Committee and District Forest Office Staff– Bara, Rautahat and Sarlahi. The capacity building of local people and community forest users has been a great achievement of this project. This project was also strengthening the previous VYC members and conservation team. Furthermore, we conducted a different kind of programmes regarding promoting alternative income generation sources, which would be helpful for long term conservation of striped hyena and other wild species.

5. Are there any plans to continue this work?

Yes, continuing hyena conservation biology, I have the plan to work in the molecular aspect of the hyenas in Nepal. Which is essential to figure out the genetic variation in the hyena family.

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

I am sharing results regarding wildlife conservation through social media pages, technical reports, national/local newspapers and radios programmes, national/international journals, Facebook page, ResearchGate page, and Twitter.

The results of this work were published in some local newspapers and media. Moreover, the result of this work will be disseminated to the concerned authority such Department of National Park and Wildlife Conservation (DNPWC) and Department of Forest; Ministry of Forest and Soil Conservation with recommendation for future conservation actions. My previous works was published by some national and international journals such as *Journal of Natural History Museum* (Bhandari et al. 2015), *Journal of Institute of Science and Technology* (Bhandari and Bhusal 2017). Both are open to assessing journals and widely used by university students in Nepal and South Asia. Moreover, our result was also published by the *Journal of Threatened Taxa* (Bhandari and Chalise 2016). We also shared our data and results to the IUCN/SSC Hyena Conservation Specialist Group. Furthermore, this project also shares some videos clip through the YouTube channels soon.

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

I spent RSG throughout the project period for the field and data analysis. This project is more or less similar to the actual length of the project.

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 |
|--|-----------------|---------------|-------------|--|
| Food and accommodation | 2760 | 3000 | +240 | Number of people has been increased |
| Conservation awareness programs such as posters, Brochure, t-shirts, etc | 1400 | 1400 | | |
| Conflict mitigations programs, training and village group discussion | 2400 | 2400 | | |
| Daily allowance to the local guide and field assistants | 510 | 800 | +290 | |
| Workshop and stationery | 500 | 490 | -10 | Printed at local level |
| Chemicals | 324 | 510 | +186 | Price was increased |
| Battery, notebooks, field books and Maps | 608 | 700 | +92 | |
| Booklets, printing and communication | 600 | 600 | | |
| Travel | 498 | 544 | +46 | |
| Miscellaneous | 400 | 450 | +50 | |
| Total | 10000 | 10894 | +894 | Difference amount funded from the HBN Nepal. |

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

Habitat management for the hyena and their prey species, involvement of local people for the wildlife conservation are important. Besides, genetic and molecular biology is also important for the long-term hyena conservation in Nepal.

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, I have used RSG logo in the posters, publications, t-shirts, etc. Below: a screenshot

Keywords: Carnivore, conflict, habitat degradation, questionnaire survey.

Nepali abstract: यस अध्ययनको उद्देश्य नेपालको तराई भूभागमा बाटे स्ट्रीपीनाथ बाटे स्वाभाविक जनताको मनमुन्ना पत्तो नलाउनु हो । सबै जातका मान्छेको तथा स्ट्रीपीनाथबाटेका खतरा, पानबीच क्षती, आब जनताको धारणाबाहेँ हावीने कारणका हकार बाटेका इरनाबनीक बाहेँ संकलन तथा संकलन गर्नु । स्याम्तका यस प्राचीपति तथा संरक्षणबाटेका स्वाभाविक सकार लयक बाहेँ । नुचना जम्मा गर्न करिव ४०० पानिसतकनीक घेटघाट गरियो र कारण बाँचियो । घेट बाँका पछि ६९ प्रतिशतको स्ट्रीपीनाथ प्रति सकारात्मक धारणा बाहेँको धने १० प्रतिशतका धने प्रयोगी संरक्षणबाटे कुठ्या नकारात्मक सोचाबाँ पाहेँको । स्वाभाविकका स्ट्रीपीनाथबाटे विभिन्न जातको लेको बेकियो । नुचना लिने बाहेँ ६९ प्रतिशतने जगव्या जातको जगव्या तथा बासस्थान कासने स्ट्रीपीनाथ पानब बलीया आउने बिचार राखे धने ९९ प्रतिशतने पानबनीको इष्टका बाँसनी पातिने लेको धने ।
मुख्य कुँच: मान्छेको, इष्ट, बासस्थान कास, इरनाबनी

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Conflict of Interest: The authors declare no competing interests.

Author Details: Mr. SHIVISH BHANDARI has completed an MSc in Zoology from Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal and is currently working as a principal investigator in the field of wildlife research and conservation. MUKESH KUMAR CHAUSA, PhD works at Central Department of Zoology, Tribhuvan University in the position of Associate Professor and has more than 23 years of experience in research and teaching in the field of wildlife ecology and behavior.

Author Contribution: Both authors equally contributed for the preparation of research, field study and writing of paper. First author lead field data collection.

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

Camera trapping, sign transect sampling, and conservation awareness programmes were conducted by PI with the help of two researchers, VYC members and Himalayan Biodiversity Network Nepal (HBN Nepal). The team members of this project are below:

Mr. Bishnu Thapa - from Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal, major role: scientific data collection and lab analysis.

Mr. Ram Chandra Dhakal - from Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal, major role: scientific data collection, Field survey, The conservation outreach program, and Village Group discussion.

Mr. Tilak Magar - Central Department of Zoology, Tribhuvan University also helped directly or indirectly during the project period. Including our team, VYC members (**Nabin Khanal** in Bara district; **Naresh Shrestha** in Parsa; **Pasang Tamang & Suraj Gautam** in Sarlahi forest; **Sikindra Shada, Netra Thapa Magar & Deep Shrestha** in Mahottarai Forests; **Subarna Bhattarai & Madhav Baral** in Rautahat Forest) were helped for GPS tracking, a questionnaire with local people, conservation outreach programs and assistant for camera trapping. The President of the community forest user at Sarhali, named as **Mr. Bharat Gautam & Ban Heralo Shambhu Bishwakarma** helped us for site selection, site visiting, contacting other local community and government persons, and technical support.

12. Any other comments?

The support provided by The Rufford Foundation was very helpful in the field of striped hyena and nature conservation in Nepal. I would like to thank The Rufford Foundation. I am hoping for similar support from The Rufford Foundation in the future. I am sincerely grateful to district forest office Bara, Parsa, Rautahat, and Sarlahi, community forest users, VYC and locals' people for their support in the field. I would also like to thank Himalayan Biodiversity Network-Nepal and Central Department of Zoology, Tribhuvan University for providing laboratory, some camera traps, and technical support.



