Final Evaluation Report

Your Details	
Full Name	Anita Dandekhya
Project Title	Studying the Status, Feeding Ecology, and Habitat of the Musk Deer and Community-Driven Conservation Initiative in Kanchanjungha Conservation Area (KCA)
Application ID	37859-1
Date of this Report	31 January 2024

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
Status and Distribution				Due to the snowfall during the winter field survey, the sign survey could not be conducted in all the transect lines. Likewise, during the monsoon field survey, our schedules were delayed due to the heavy rainfall throughout the month followed by the floods and landslides. Because of the road blocked by landslides, we could not reach some of the transect lines. Also, we were unable to reach some parts of the conservation area like Olangchungola. Only 31 out of 44 transect lines were surveyed.
Diet analysis				During the winter season collecting the sample from the field was quite difficult as snow covered the entire area. In some cases, leafless plants were difficult to identify. 10 different plant species were identified in the musk deer diet which represents 76% of the pellets sample. However, 24 % of the pellet samples were not identified.
Assessment of habitat overlap and determining habitat ecology				93 plots were established for this purpose. The Jaccard's Index was calculated as 0.45, indicating a noteworthy habitat overlap between musk deer and livestock. This suggests that 45% of the habitat characteristics are shared between both musk deer and livestock.
Habitat preference: Ivelv's electivity index				Habitat preference was determined by Ivelv's selectivity index (IV). Musk deer preferred altitudinal range of 3800 m – 3900 m (IV=0.27), slope 50°-60° (IV = 0.28), Aspect Northwest (IV = 0.30). In the case of trees, shrubs, and herbs, *Rhododendron campanulatum* (IV = 0.4), *Rhododendron anthopogan* (IV = 0.4), and Buki grass (IV = 0.4) respectively, were preferred.
Threat identification				During the questionnaire survey, the unavailability of the local people in the

				daytime was the major challenge. Most of the surveys were conducted in the morning and evening time. Altogether 155 respondents belonging to the 101 households were interviewed. 52% of the respondents mentioned that presence of the livestock in the musk deer habitat is the major threat.
Awareness				All awareness programmes were very successful. In particular, radio awareness programme was the most effective in conveying the conservation message as every household in the region listens to the local radio and it helped disseminate conservation education to a large number of people at a time. However, herder's education programme was quite challenging because of their movement and difficulties in finding their whereabouts.
Formation of the Anti-Poaching unit				Only the Department of National Parks and Wildlife Conservation (DNPWC) has the authority to form the anti-poaching unit. This information was not known during the proposal's development. Fortunately, successful collaboration was achieved with the dormant local anti-poaching unit in Yamphudin, which operated under the Kanchenjunga Conservation Area Management Council (KCAMC).

2. Describe the three most important outcomes of your project.

a) Community Awareness and Education: Awareness about the musk deer conservation at different levels is the major outcome of this project. School teaching programmes were conducted in four different schools belonging to the different rural municipalities. 350 students and teachers actively participated. Apart from the formal and informal meetings with the local people, community sensitisation efforts were also done during household surveys reaching 155 individuals from 114 households. In total, over 250 people benefited from the programme in addition to this more than 5000 people who are living within the frequency range of the local radio called "Radio Taplejung" is expected to benefit from the radio message of the musk deer conservation.

b) Comprehensive Data: Our project gathered comprehensive data on the distribution and habitat of the musk deer in Kanchanjungha Conservation Area (KCA). With the help of these data, we were able to determine the distribution pattern of the musk deer and able to determine the habitat preference and habitat

ecology of musk deer. Also, we successfully conducted the laboratory analysis determining the major diet components. Overall, these data helped to enhance the understanding of musk deer ecology.

c) Cooperation with the local community: We have effectively collaborated with the dormant local anti-poaching committee. Through numerous meetings, we discussed past experiences, and monitoring methodologies, and reviewed the committee's constitution. Equipment that we used during our field survey is handed over to them to ease the activities during anti-poaching activities. Overall, their rejuvenated enthusiasm and commitment to work again is also the significant outcome of this project.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

Weather extremities were the major difficulties. As we planned to survey in winter and summer, both seasons posed different forms of challenges. During the winter data collection, our schedule was disturbed by the heavy snowfall in the study area. We could not go to the field as long as snow cover remained in the field. Likewise, in the monsoon, we had to delay our schedule because of the heavy rainfall followed by the flood and landslides, which obstructed the roads and trails. It created the hurdle to reach all parts of the KCA and conduct a survey on all transects as per our plan. During the social survey unavailability of the local people during the daytime was a major challenge. Because of that most of the surveys had to be conducted in the morning and evening time. Also, some people were hesitant to share their insights free of cost. The questionnaire had to be skipped with such participants and just made the informal talk about our project.

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

Local community people were involved during the questionnaire survey contributing their valuable insight on musk deer conservation. Also, they participated in various formal and informal meetings, workshops, and herder's education programme throughout the project. People benefited from knowledge and awareness regarding musk deer and its conservation. Most importantly they were made aware of the legal ignorance and its consequences regarding the illegal hunting and trading of the musk deer.

5. Are there any plans to continue this work?

Yes. This project successfully assessed the habitat, musk deer's habitat preferences, habitat overlap, people's perception towards musk deer, and its conservation. Against the backdrop of these activities and outcomes, we want to continue this work in three ways.

1) By collaborating with the local anti-poaching unit and helping them to build their capacity: This group already exists under Kanchanjungha Conservation Management Council (KCMC), but they are not active for so many reasons. They

require not only financial and technical assistance to conduct successful monitoring in the region but also regular encouragement. During the fieldwork, illegal work like snaring and haphazard livestock grazing in the musk deer habitat were frequently observed which can be attributed to the inactivity of the existing anti-poaching unit. Due to the lack of a whistleblower even concerned authorities are not able to act timely and accordingly.

2) By conducting a herder support programme: Through this programme, herders will be enabled to limit their livestock within a certain periphery of the forest by constructing the wooden block at the main entry and exit point of the forest.

3) To continue the radio awareness programme which proved to be effective during our project period.

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

The final report of this project will be made available to the concerned authorities like the Department of National Parks and Wildlife Conservation (DNPWC), Kanchanjungha Conservation Area Management Council (KCAMC), District Forest Office (DFO), Taplejung, Rural Municipalities. We hope to participate and present our results in the upcoming conferences on conservation science in the form of poster presentation. Also, we are planning to write a manuscript based on the findings of this project, which will be submitted to peer-reviewed journals for publication.

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

Regular monitoring of the musk deer habitat and an effective awareness campaign are very important next steps. During our fieldwork, we found many snares which we have dismantled in the presence of the local police and local leaders at different places. It shows the urgency of activating and mobilising the local anti-poaching unit regularly. Effective awareness campaign is also necessary. Especially, radio awareness programme was the most effective means as all inhabitants of the region have access to the radio, and it disseminates the uniform message to all areas of the region.

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

Yes. Rufford Foundation logo was used in all extension materials i.e. poster, brochures, booklets, and banners. During the radio awareness programme, the contribution of The Rufford Foundation to the project was mentioned as many times as the radio messages were aired.

9. Provide a full list of all the members of your team and their role in the project.

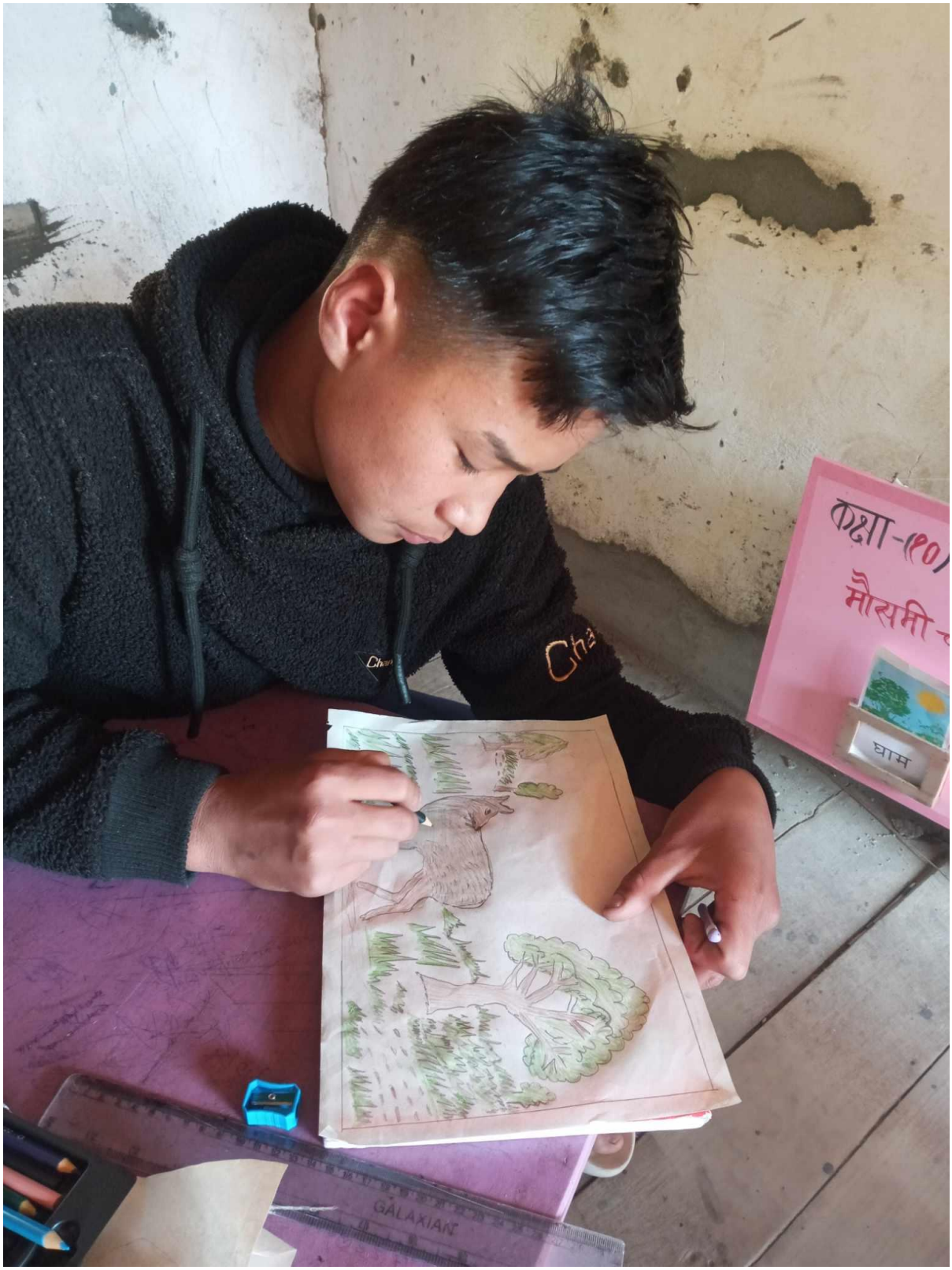
Anita Dandehya: Team Leader. Responsible for overall planning, coordination, Implementation, and monitoring of the project.

Suman Rai: Field assistant. Responsible for field data collection (sign survey), conducting community awareness, and school teaching programs.

Alina Ale: She was responsible for the design of the extension material, data analysis, and social survey.

10. Any other comments?

Our entire team is very grateful to The Rufford Foundation for its generous financial support which has been instrumental in conducting the comprehensive conservation research on musk deer. This project not only gave us insight into musk deer habitat, conservation status, and people's perception towards it but also gave a clear view of possible next steps for the conservation of musk deer. We would like to continue this conservation work on Musk deer incorporating the lessons learned from this project. So, we look forward to receiving further support from The Rufford Foundation.


कक्षा-१०
मौसमी
घास
GALAXIAN


KCAMC
Red Fox
"Lets be a part of solution"
कस्तुरी मृग संरक्षण जनचागरण कार्यक्रम
Public Awareness Program for Musk Deer Conservation
Chaktanglung Rural Municipality, Lelep
JUNE 5
Rufford
Beat Plastic Pollution
WORLD ENVIRONMENT DA


"कस्तुरी मृगको संरक्षण, हाम्रो दायित्व"
कस्तुरी मृग ?
कस्तुरी मृग समशितोष्ण कोणधारी जङ्गल तथा हाडीहरूमा पाइने एक स्तनधारी प्राणी हो। विश्वभरमा जम्मा सात प्रकारका कस्तुरी मृगहरु पाईने गरेको छ। मध्ये नेपालमा मुनकपुरे, सेतोछाडे, काखो र काश्मीरी गरी चार प्रकारको कस्तुरी मृग पाईने गरेको छ। मुनकपुरे कस्तुरी मृग नेपाल, भारत, चिन र भुटानको हैमाने प्रजाती हो। पुर्वी नेपालको उच्च हिमाली क्षेत्रबाट यसको मुख्य बासस्थानको रुपमा चिनिने गरेको छ।
कस्तुरी मृग किन संकटापन्न अवस्थामा छ ?
सुगन्धित अतर बनाउनको लागि विश्व बजारमा यसको बिनाको उच्च मुल्यमा बिक्री हुने हुनाले, कस्तुरी मृगको चोरी शिकारी हुने गरेछ जस्ले गर्दा यसको संख्या दिनानुदिन घट्दो क्रममा छ। साथै हिमाली भेगमा हुने पशुपालन, वन विनाश, विकास निर्माणको कार्यहरु आदी कारणहरुले गर्दा यसको अस्तीत्व संकटमा पर्न गएको छ।
कानुनी अवस्था
नेपालको कानुनमा कस्तुरी मृगको अवैध रुपमा चोरी शिकारी गरेको पाईएमा रु ५० हजार देखी रु १० लाख सम्म जरिवाना वा ५ देखी १५ वर्ष सम्म कैद सजाय वा दुवै हुन सक्ने व्यवस्था गरेको छ।
संरक्षणको अवस्था
१. कस्तुरी मृग इन्टरनेशनल युनियन फर कन्जरभेशन अफ नेचर (International Union for Conservation of Nature - IUCN) ले संकटापन्न प्रजातीको रुपमा सुचिकरण गरेको छ।
२. दुर्लभ वन्यजन्तु तथा वनस्पती अवैध व्यापार सम्बन्धी अन्तर्राष्ट्रिय महासन्धी (Convention on International Trade in Endangered Species of Fauna and Flora -CITES) ले यसलाई अनुसूची १ मा समावेश गरेको छ।
कस्तुरी मृगको अवैध चोरी शिकारी गर्ने व्यक्तिलाई कानुन बमोजिम दोषीद गर्न हामी सबैको दायित्व हो। तसर्थ जो कोही पनि यस्तो अपराधमा संलग्न भएको पाइ आएमा नजिकैको प्रहरी कार्यालय, आरक्ष तथा निकुञ्जको कर्मचारी वा वन कार्यालयको कर्मचारी लाई खबर गरौ।
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