

## Final Evaluation Report

---

Your Details	
<b>Full Name</b>	Vidyaman Thapa
<b>Project Title</b>	Empowering Local People for Biodiversity & Wildlife Conservation in Lower Humla District, Nepal
<b>Application ID</b>	38422-1
<b>Date of this Report</b>	September 25, 2023

**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
Project inception meeting with wildlife experts, researchers, ward representatives, and forest officials				This was necessary to gather the baseline information on mammal species present in Humla district.
Focus Group Discussion to collect information on human-wildlife conflict and livestock depredation				Eight workshops were conducted at key settlements in Sarkegad RM, with 87 participants.
Wildlife conservation outreach activities and celebration of conservation days				
Wildlife conservation Training to school children and locals				Due to limited time and resources, we could only involve locals in the training.

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

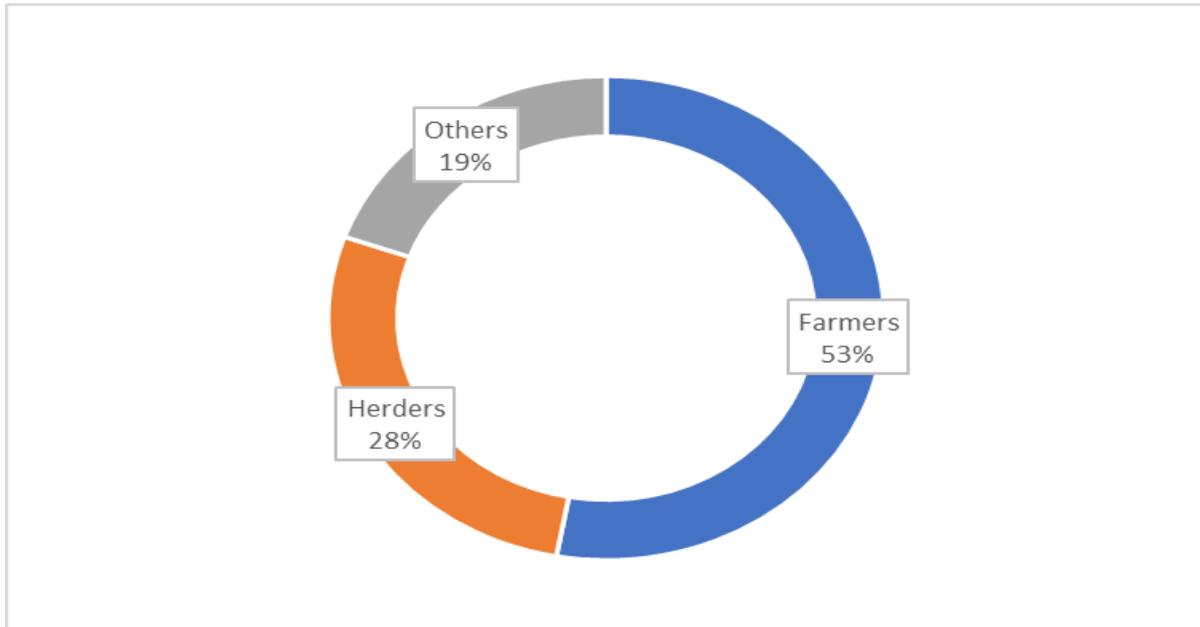
The major outcomes of the project are as follows:

**a) Key Informant Consultation**

Before organising the workshops, we consulted with wildlife experts, researchers, wildlife biologists, and forest officers who have worked in Humla district and in Nepal, particularly in highland mammals, to list possible mammalian species present in the district. Altogether 35 species were compiled from the district and colour photo plates was prepared for identification during the workshops.

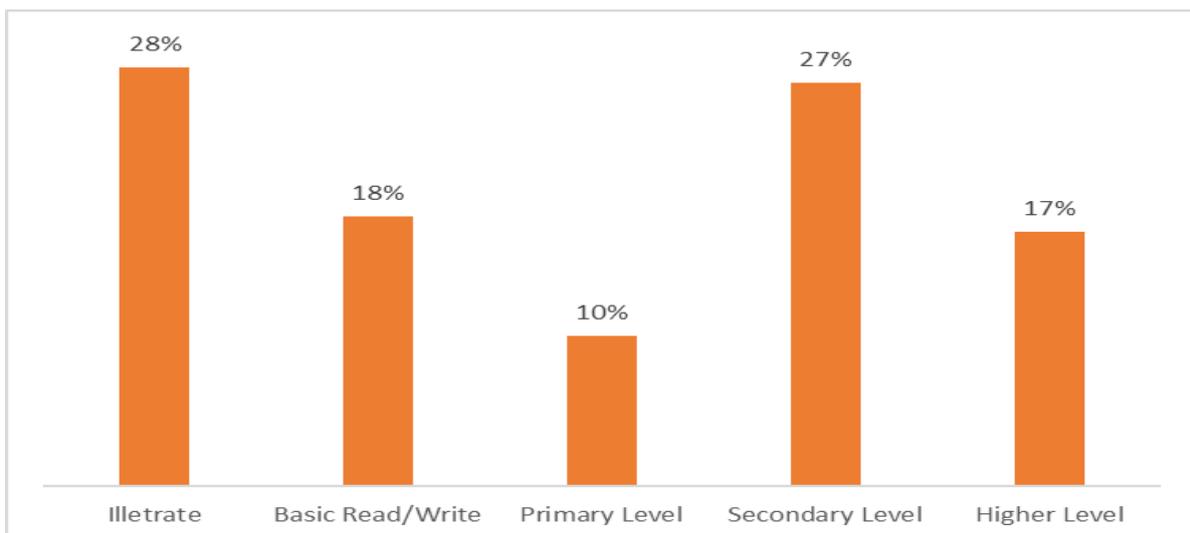
**b) Workshops**

Eight workshops were organised in key areas of Sarkegad Rural Municipality. Altogether 87 participants, farmers (53%), herders (28%), and others (CFUGs and ward members) (19%) took part enthusiastically. Average age of the participants was 43 years (range 23-82 years).



**Figure 1:** Key participants during the workshops

Among them, 93% were male, and 7% were female. Although, we requested villagers to represent equal participation, female/women's participation was less because of busy household activities and working season. The high participation of men in our workshops could be due to our nature of programme. We called for those people who have certain knowledge on wildlife, forest resources and biodiversity. A majority of the participants were literate (72%) who can read and write whereas 28% were illiterate (mostly herders) who cannot read and write even their names. However, their knowledge on wildlife species identification was noteworthy.



**Figure 2:** Education Status of the participants during the workshops

The workshops focused on several key aspects, such as the prominent wildlife species in the area, the types and nature of conflicts between humans and wildlife, causes of mortality in livestock and poultry. These workshops played a crucial role in

gathering essential information about the biodiversity and wildlife in Lower Humla. Some of the major outcomes from the workshops are as follows:

**i. Local Knowledge on Wildlife Identification**

Out of 35 mammals only 17 species were identified by participants/locals in Sarkegad. As per their understanding, we found the following results.

Table 1: List of wild mammal species identified by locals/participants from the workshops in Sarkegad.

Seen in Recent years (<10 yrs.)	Seen in the Past (>10 yrs.)
Himalayan black bear	Dhole
Porcupine	
Common leopard	
Mountain weasel	
Golden jackal	
Leopard cat	
Blue sheep	
Himalayan tahr	
Musk deer	
Himalayan goral	
Rhesus monkey	
Yellow throated marten	
Beech marten	
Himalayan langur	
Eurasian otter	
Pikas	
Wild boar	

The dhole observation was reported by shepherds of Ripa village in their forest some 10 years ago. The absence of dhole in recent times may be due to human disturbance, prey-base decline and high persecution from shepherds over livestock loss. Additionally, forest fire, and habitat degradation might be responsible for their loss. There is a need for more in-depth field research and exploration to assess the status of such globally endangered species in the region.

**ii. Human-Wildlife Conflict Status**

The nature of conflicts of species varies from one to another. Major problematic species and their nature of conflicts with human in Sarkegad is presented in the Table 2.

Table 2: Major wild mammal species and nature of conflicts

Species	Crop/fruits/ Honey Raiding	Livestock/ Poultry Depredation	Human Casualties/ Death	Justification
Himalayan black bear	✓	✓	✓	Most problematic (threats to all)
Common leopard		✓		Livestock depredation
Golden jackal		✓		Poultry depredation/juvenile goat/sheep predation
Feral dog		✓		Juvenile livestock, and poultry depredation
Leopard cat		✓		Sometime attack poultry in settlement areas close to the forest
Wild boar	✓			Crop raiding
Himalayan goral	✓			Crop raiding
Himalayan langur	✓			Fruits and crop raiding
Porcupine	✓			Crops raiding
Rhesus monkey	✓			Fruits and crop raiding
Yellow throated marten	✓			Damage to beehives

The most problematic species was the Himalayan black bear. More than 90% participants agreed that Himalayan black bear is involved in livestock depredation, crops raiding and even cause human casualties. One of the villagers from Unapani (Gusa) was attacked by bear while searching for wild mushrooms in the jungle. Such threats prevail for herders more. As per locals, bear usually raids honey and crops.

Other mammals that often cause crop damage are wild boar, Himalayan goral (only in higher farmland), and porcupine. Whereas animals like Rhesus monkeys, Himalayan langurs raid on fruits and crops. Poultry are attacked often by golden jackals, and feral dogs. Besides these, other animals such as blue sheep, Himalayan musk deer, and Himalayan tahr that do not cause any conflicts to humans are also being killed for meat.

When we asked locals about conflict mitigation strategies, majority of them (60%) responded that they try to chase them away. Several cases of retaliatory killing, trapping, and poisoning was also reported.

### iii. Causes of Mortality in Livestock and Poultry

During the workshop we conducted participatory livestock mortality listing and ranking to identify other potential mortality causes other than predation, which are:

- **Disease:** During the field visit, we found lumpy skin disease (LSD) as a serious viral threat that primarily affects cattle and buffalo. Foot and mouth disease (FMD), scabies are also common in the area.
- **Depredation:** Himalayan black bear, common leopard, golden jackal, leopard cat, eagle, and feral dogs were listed as a threat to livestock and poultry depredation in the area.
- **Poisonous plants:** The region also harbours poisonous plants in the main summer pastures, as a result, every year many cattle die because of consuming such plants.
- **Snakes bite/accidental attack:** Snakes rarely cause livestock mortality. However, they sometimes attack animals that come in contact. Snakes are also reported in the chicken houses and thus people try to kill them.
- **Weather/climate and natural disaster:** Every year a number of livestock were reported lost to extreme weather events such as rainstorm, and snow fall.
- **Accidental death:** Pastures land in Sarkegad areas are steep and rugged. Livestock, primarily cattle, often fall from steep slopes, mostly during the autumn and winter months. During this period grass is scarce and livestock travel to more remote and stepper corners to feed on the remaining grass and fall victim to an accident.

### iv. Conservation Issues

We concluded the following conservation issues in the area from the discussions during the workshops and informal talks with the locals.

- **Deforestation and habitat degradation:** The CBS report 2021 showed that, Sarkegad is the most densely populated rural municipality in Humla district with population density 34.85 km<sup>-2</sup>. The high dependency on forest resources for subsistence living is becoming a challenge in the region. Deforestation and forest degradation, haphazard collection of NTFPs is some of the major issues in the region. We found more than 90% villagers of Unapani and Ripa going in search of wild mushrooms (e.g., morel mushroom) during March and April. Due to population growth in Sarkegad region, the forest is being cleared for wood and timber. Irregular fishing by local river side communities has also threatened the aquatic ecosystem in the region.
- **Forest fire:** It's another serious challenge mostly in March, April and May. Locals intentionally start fires thinking that it would kill unwanted plants and weeds and rejuvenate new grasses for livestock. During our field visit, we observed forest fire at six locations (Dulli, Mundi, Saya, Gusa, Chyangi & Guisi). The fire set at Dulli, Mundi and Saya area destroyed almost 60 ha of forestland.
- **Retaliatory killing:** This was more in the past but has been reduced in the present time. However, subsistence hunting and poisoning, poaching and illegal trading, trapping of wild species remains still a challenge in some parts of the region.

- **Climate Change and Diseases:** Sarkegad region is vulnerable to climate change. Due to forest fire and deforestation, this has escalated more and made challenging for the survival of people and wildlife. On the other hand, outbreaks of new diseases like lumpy skin disease (LSD) in cattle is an emerging issue for wildlife conservation as these may get transmitted to ungulates.
- **Lack of awareness:** Despite some outreach activities, many people living in the region are not aware of the laws and policies related to wildlife conservation and environmental protection. Human-wildlife conflicts, livestock/poultry depredation, retaliatory killings, hunting, and poaching, forest fire and deforestation, habitat degradation, and climate change are indeed some of the major concerns in the region. Furthermore, haphazard fishing, primarily by riverside communities in the Sarkegad region, is significantly disrupting the aquatic ecosystem and its associated wildlife. Additionally, students and children lack knowledge about species behaviour. For example, they don't know what to do when they encounter a Himalayan black bear or snakes. Some major issues that school children are responsible for include killing snakes wherever they encounter them, using catapults to hunt birds, and improperly collecting non-timber forest products (NTFPs). Therefore, it is essential to strengthen school children, local people and incorporate wildlife conservation education into future projects and school curricula.

### **c) Community Outreach Activities**

#### **First Karnali Corridor Road Race Celebration**

The first Karnali Corridor Road Race 2080, was held in Sarkegad Humla coinciding with National Republic Day, focused on biodiversity conservation and eco-tourism promotion. The event highlighted the importance of protecting nature and wildlife in Lower Humla while also focusing on improving the Karnali Corridor. Alongside the race, there were cultural performances and a lively volleyball competition. The event received strong local support and praise, showing how it positively affected and connected with the community. Approximately 1000 individuals expressed their enthusiasm and support for this event through cheerful participation.

#### **World Environment Day Celebration**

To celebrate World Environment Day 2023, a quiz competition was organised at Shree Laliguras Higher School in Lipne, Sarkegad Humla. This captivating competition witnessed the direct engagement of 35 students, with an additional indirect involvement of approximately 300 individuals.

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

Due to the fragile landscape, heavy rainfall in the region triggered several landslides, making it difficult for us to travel from one village to another. However, we opted for alternative routes to reach the villages.

#### **4. Describe the involvement of local communities and how they have benefited from the project.**

The project started with an initial meeting and discussions to gather early ideas and plan the methodology for conducting a field survey. Various stakeholders were consulted, including representatives from Sarkegad Rural Municipality, members of the community forest users' group, researchers, and local individuals from Humla who were present in Simikot, Kathmandu and Surkhet.

Subsequently, workshops were organised in eight main settlements or wards (the smallest administrative unit in Nepal) within Sarkegad Rural Municipality. These workshops had active participation from herders, local residents, and community forest user groups. The workshops focused on several key aspects, such as the prominent wildlife species in the area, the types and nature of conflicts between humans and wildlife, the livestock depredation pattern, and the major conservation issues in the region. These workshops played a crucial role in gathering essential information about the biodiversity and wildlife in Lower Humla. Total of 87 people took part on workshops. Participants were sensitised about the wildlife conservation and environment protection.

Another significant event was the inaugural Karnali Corridor Road Race 2080, held in Sarkegad Humla on the National Republic Day. This event, organised by the Royal Gairisaya Youth Club (RGYC) and financially supported by Third Pole Conservancy (TPC), The Rufford Foundation, and other partners, aimed to promote biodiversity conservation and eco-tourism. Approximately 1000 individuals expressed their enthusiasm and support for this event through cheerful participation. Furthermore, to celebrate World Environment Day 2023, a quiz competition was held at Shree Laliguras Higher School Lipne, Sarkegad Humla. This captivating competition witnessed the direct engagement of 35 students, with an additional indirect involvement of around 300 students, teachers and parents.

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

For the upcoming project phase, we're planning to provide in-depth training in wildlife research techniques. We're targeting enthusiastic school children, youths and community forest users' groups from the villages who want to learn more about nature and who can make a difference. These individuals could play a significant role in the future by assisting with wildlife surveys and monitoring activities. Additionally, we'll be addressing the growing threats of human-wildlife conflicts, forest fires and climate change. We understand that these issues are endangering the habitats of many animals. Therefore, along with raising awareness and capacity building, we'll also assess the distribution of wildlife at the ward level using non-invasive techniques. This information will help us identify areas that need urgent actions against the threats. Our ultimate aim is to create a strong foundation for long-term conservation planning at the regional level, safeguarding our precious wildlife and their habitat for generations to come.

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

We've shared our preliminary results with various stakeholders, including Sarkkegad Rural Municipality, during meetings and workshops. We made sure to acknowledge the funding support provided by The Rufford Foundation during these information-sharing sessions. Currently, we're in the process of analysing the data and preparing a research manuscript for publication in a peer-reviewed scientific journal. Once the article is published, we'll share it not only with the wildlife department, local government, and other stakeholder representatives, but also with conservation scientists, scholars, practitioners, and organisations dedicated to biodiversity and wildlife conservation. Additionally, our final report will be submitted to Sarkegad Rural Municipality, the Divisional Forest Office in Humla, and the Ministry of Forest in Karnali Province.

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

The important next steps in the region are:

- **Capacity building of local people:** Providing training for species identification, threat assessment, and making citizen scientists is crucial. There is a need for species-wise conflict awareness training. For example, the nature of conflicts from Himalayan black bears varies with jackals and wolves. Locals mostly children couldn't understand what to do when they encountered such animals. We need to prioritise more on human-wildlife conflict mitigation measures. Out of 87 participants, 30% had direct encounters with animals. This suggests an immediate conflicts resolution strategies in the area. Thus, local people, herders, and school children need to be sensitised so that we can minimise the loss from wildlife conflicts. In addition, community outreach programmes focusing on biodiversity and wildlife conservation is important.
- **Awareness through educational video:** Human-wildlife interaction, climate change, forest fire, and habitat degradation are major issues in the region. Thus, making documentary on these issues focusing Sarkegad area with local experience and stories is important. This documentary can be an important source of information and local's experience which can be showed to school children, and locals for conservation awareness raising. Additionally, playing conservation jingles through radios will play a great role in knowledge transfer and outreach.
- **Research and exploration:** Research on climate change and its impact on wildlife and biodiversity of Sarkegad is missing. We recommend future researchers and projects focus on climate change impacts and their mitigation measures. In addition, the absence species like dhole in recent times (< 10 yrs.) despite its suitable habitat in the study area highlights the need for in depth surveys.
- **Conservation education:** Conservation education should be promoted through school eco-clubs, community forest users, herders to foster awareness and understanding of importance of conservation and promote future stewardship. Through these combined efforts, we can protect the diverse wildlife while promoting coexistence between humans and nature in Sarkegad 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 the course of your work?**

We used the Rufford Foundation logo in our all reports, and presentations to raise awareness about conservation. We'll always give them credit in our future publications. We've showcased their support in posters, banners, and certificates. We even met with local journalists and shared our progress on the online news portal, and local radio. We'll also send a report to the Divisional Forest Office Humla. We're writing a research article and will make sure to acknowledge The Rufford Foundation's important funding role. Overall, we're really thankful and will keep showing our gratitude.

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

**Vidyaman Thapa:** Principal Investigator, Leading the project in the field.

**Rinzin Phunjok Lama:** Field Supervisor.

**Ramji Bogati, Ph.D.:** Project advisor.

**Koustubh Sharma, Ph.D.:** Project advisor.

**Sirjana Sizzu & Anup Raj Shahi:** Field Assistants.

**10. Any other comments?**

I am personally grateful for The Rufford Foundation's support for our work within the Sarkegad region. This support not only amplifies our conservation efforts but also signifies the foundation's dedication to fostering wildlife preservation on a broader scale. With sincere optimism, we look forward to the continuation of this collaboration with The Rufford Foundation. Your pivotal support has enabled us to forge evidence-based conservation tools and practices that hold the potential to bring about lasting change in the region's ecological balance.

Photos from the workshops conducted at different locations of Sarkegad region:



Photo 1: Vidyaman Thapa (PI), interacting with the participants during the workshop held at ward no. 2 Ripa village.



Photo 2: One of the participants from Fucha village presenting his map during the workshop

Photos of the First Karnali Corridor Road Race Event 2080 B.S.:



Photo 3: Banner of the event with the main theme “Biodiversity Conservation and Eco-tourism Promotion”



Photo 4: Sher Bahadur Adhikari (10) and Prakash Kathayat (9) from Jumla district stood 1<sup>st</sup> and 2<sup>nd</sup> respectively.



Photo 5: Cultural dance performed by school students on the formal program.



Photo 6: Sarjan Rawal (2) from Dulli village of Humla district stood third .

**Photos of the quiz competition on the World Environment Day 2023:**



Photo 7: Students participating on the quiz competition.



Photo 8: Group photo taken at the end of the quiz competition held at Shree Laliguras HSS, Lipne, Humla on the occasion of World Environment Day 2023.