

1. Background Information

Human-wildlife conflict (HWC) is a phenomenon where wildlife negatively impacts on human wellbeing or when the actions of people are detrimental to the survival of wildlife. This is a burning issue for particularly those people who co-habit space with wildlife in and around protected areas. Nepal is no exception where network of protected areas exist and people have been living to close proximity to parks since long. Langtang National Park is one such example which is located in mountain districts of Nepal respectively i) Rasuwa ii) Nuwakot and iii) Sindupalchow. In order



Oak forest



Pine forest

to lessen the pressure to core areas of protected areas, Nepal government has made a legal provision to set aside the surrounding areas as a buffer zone where active management is allowed. Patch of forest in these areas is handed over to local community as a buffer zone community forest. Syaubari Buffer Zone Community Forest User Group located in Laharepauwa VDC is one among many which has been managing 142 hectares of forest since 2064 B.S. The forest exists at the altitude of 1,600-2,200 msl. The major forest species found in the community forest are Oak, Pine, Alder, Castanopsis, Schima,

thin bamboos (nigalo), Rhododendron etc. It also harbors faunal diversity such as wild boars, barking deers, himalayan black bears, common leopards, monkeys, porcupines and number of avian species.

1.1 Study area and socio-economic information

Syaubari community of Rasuwa, Nepal comprises of four villages respectively i) Gumbu danda ii) Lama tole iii) Kavre tole and iv) Bastal. The Syaubari is predominantly populated by Tamang ethnic caste, highly marginalized community of Mountainous Nepal. The total household number is around 170. The major traditional occupations are agriculture and livestock but in recent years, overseas employment has become the major contributor to household incomes.

2. Assessment of Human Wildlife Conflict



Gumbu danda, Syaubari BZCF, Rasuwa

2.1 Crop raid

Around 75 % households are being affected by crop damage due to the close proximity to park core areas.



It is found that Wild boars, Asiatic black bears, Barking deers and rats are the most damaging wild animals. Maize, Potatoes and Wheat are the most affected agricultural crops. The group of wild boars (9-11) is a common sight during agriculture seasons and loss of crop by wild boars is being increased every year. Wild boars also damage vegetable (Karkalo ko gano) close to the village households.

Barking deer also damages millet, wheat, cabbage and radish. There are farmers who have abandoned crop lands due to increased damage. Mr. Minjur Tamang is one such farmer who left his 24.5 ropani (524.3 sq. ft) land fallow since 11 years. Accordingly to field survey, it is estimated approximately 2,000 ropani (42,800 sq. feet) of crop lands are abandoned. Such lands are concentrated in Amfe and Kamargadi. Local people perceived that the number of Himalayan black bear is increasing. In 2010, six bears (3 adults and 3 babies) were seen in Guranse ban of Syaubari which is located around 1.5 hours away from Bastala village. Bear not only damages crops but also comes near to settlement to eat wild berries (chutro). There is a need of constructing game proof fencing from Amfe to Chauki Bhanjyang to protect



Open cow shed at village woman

against problem animals.

2.2 Livestock Depredation

Livestock depredation is the second most common problem after crop damage. Common leopards are the most problematic animal with major loss of goat, sheep and calves of buffaloes/cows. Due to the restriction on pasture land inside core areas, the number of livestock herders for sheep has been decreasing. On contrary, the number of famers rearing goat has been increasing. Three goats were killed by leopards in Bastala in the recent past. Similarly, one goat was snatched from the shed in Gumbu danda. Due to widespread poverty and low level of awareness, many livestock sheds are not adequately strong—often partitioned by thin bamboo (nigala). The study also recorded a case of retaliatory killing. Two common leopards were suspected to be killed by farmers in 2012 at Dhaibungkot.

2.3 Human Casualty and Injury

Human casualty and injury is very low. In 2008, one woman was killed by black bear while collecting firewood in buffer zone community forest.

2.4 Current Mitigation Measures

Scare crows, bamboo/wooden fence and barbed wire fencing were used to protect crops and livestock against wild animals. Scare crow is not effective as it doesn't deter wild animals. Stone wall is effective against wild boar if it is constructed 5 meter high. Similarly, mess wire is effective against wild boars. Mess wires and barbed wires are used to fence the vegetable garden and

reported to be effective against wild boars (Bastala village). If stone wall base is not strong, porcupine digs hole and slips to crop field.

3. Tackling Human Wildlife Conflict through Rufford Project

3.1 Game Proof Fencing

Approximately 250 meter of game proof fencing was erected in Syaubari BZCFUG. Reconnaissance survey was carried out in early 2014 followed by series of discussion with Syaubari BZCFUG and warden office. It is decided that the site below the Syaubari essential oil plant (N 28°00.909'; E 85°12.777') would be appropriate as this line runs with the boundary of community forest and highly affected crop field.

3.2 Roll out of Wildlife Damage Relief Support Guidelines, 2012



Iron angle

Consultation with warden



Villagers at work

Cementing iron pole



Location of fencing

Awareness on legal provision is a key to reduce the loss and claim relief of damage. 56 local people were made aware on Wildlife Damage Relief Support Guidelines, 2012 in 27 and 28 April, 2014. Assistant warden Mr. Ram Dev Chaudari presented the guidelines and facilitated the interaction with participants. The policy covers the damage by Bears, Snow leopards, Wild



Location of fencing



Participants of workshop

boars and Common leopards in mountain. The current coverage is NPR. 300,000; NPR 50,000; NPR. 10,000; and NPR. 10,000 respectively for human casualty, serious injury, livestock damage and crop damage. The wildlife victim needs to submit an application letter with recommendation of PA institution, VDC, Agriculture Office and land ownership certificate. In addition, Mr. Chaudari also highlighted the salient features of Buffer Zone Management Regulations and Directives.

Similarly, participatory HWC mapping was prepared. It is learned that wild boars, black bears, barking deers and rats are the most damaging wild animals. Maize, Potatoes and Wheat are the most affected crops. On the other hand, Common leopards are the most problematic animal for loss to goat, sheep and calves of buffaloes/cows.



Scats of common leopard

3.3 Livestock shed improvement support

40 farmers were supported in improving their livestock sheds as majority of sheds are poorly constructed- not able to protect sheep, goats, cattle adequately from common leopards and black bears. The support ranged from simple repair maintenance to changing new corrugated sheet to new construction. The beneficiaries were identified by Syaubari CFUG.

3.4 Forest Transect walk

Transect walk was done in all four blocks to familiarize with forest types, wildlife habitats and potential location for game proof fence.

Oak and pine forests are found in southern and western aspect respectively. Alder (*Alnus nepalensis*) forest dominates in the degraded land, interspersed by landslide and soil erosion. Wild boars were sighted with several indirect signs such as pellet, rooting signs, rubbing signs, scats of common leopards and their coordinates recorded in GPS.

S.N	Date observed	Description of indirect	Coordinates	Wild animals	Remarks
1	13 Feb, 2014	Direct sighting	N28°00'56.7" E85°12'54.4" Elevation:2093 m	2 Wild boars Wild boars	Near dried water hole
2	13 Feb, 2014	Rub signs against tree	N28°00'56.7" E85°12'54.4" Elevation:2093 m	Ghoral - suspected	Bigger pellets
3	13 Feb, 2014	Pellet	N 28.01852° E 85.210690 Elevation: 1877 m	Barking deers	
4	13 Feb, 2014	Pellet	N 28.01868° E 85.210550 Elevation: 1873	Barking deers	
5	13 Feb, 2014	Pellet	N 28.016630 E 85.211490 Elevation: 1930 m	Barking deers	
6	13 Feb, 2014	Pellet	N 28.010 E 85.210 Elevation: 2080	Barking deers	
7	13 Feb, 2014	Pellet	N 28.017110 E 85.218300 Elevation: 2106	Barking deers	
8	13 Feb, 2014	Rooting signs	N 28.016780 E 85.219310 Elevation: 2169	Wild boars	
9	15 Feb, 2014	Pellet	N 28.01310° E 85.211990 Elevation: 1863 m	Barking deers	
10	21 Feb, 2014	Pellet	N 28.020190 E 85.228510 Elevation: 2488 m	Barking deers	
11	21 Feb, 2014	Rooting sign	N 28.022650 E 85.226630 Elevation: 2295 m	Wild boars	
12	21 Feb, 2014	Scats	N 28.018830 E 85.217290 Elevation: 2000 m	Common leopards	

Assessing and Tackling Human Wildlife Conflict in Langtang National Park, Nepal

(particular reference to Syaubari BZCF, Rasuwa)



Crumbled livestock shed



New livestock shed



Small repair makes shed



Adequately strong

