A Glance on Human-Wildlife Conflict: Basanta Community Forest of Kailali District.

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Abstract: This study focuses on various aspects of Human-wildlife conflict in Basanta community forest of Kailali district. The human wildlife conflict is at increasing trend and has become one of the challenging problem for the ruralcommunities. The main objective of this study was to explore over all the human-wildlife conflict events in the study area. Focus group discussion, Key informant survey and questionnaire survey were carried out during data collection. Data were analyzed using descriptive analysis such as percentage, mean, frequency etc. and were presented in figures, bar diagrams and charts. This study showed that the crop damage, property damage, livestock damage were common and the wild animals like elephant, wild boar, blue bull, tiger, deer were more responsible for the conflict in the recent years.

Socio-economic indicators such as gender status, educational level, religion, land tenureship, income source, and ethnicity were calculated. The major crops grown in the area were rice, wheat, maize, masuro, sugarcane etc. According the respondents, rice, wheat, maize had been damaged mostly during the previous year. Except elephant, blue bull and wild boar was the most problematic animal during the season.Managed compensation schemes, Environmental awareness programs and public participation are the major aspects that should be considered to mitigate the human wildlife conflict in the area.

Key Words : *Crop damage, compensation, Human-wildlife conflict, livestock depredation, perception, property damage.*

INTRODUCTION

The only life supporting planet, Earth whose life supporting capacity is being reduced by the increasing number and demands of human. Our country Nepal contains rich biodiversity and consequently animal diversit . Nepal have 35 types of forests, 75 vegetation units and 118 ecosystems . The wildlife conservation history in Nepal starts since the reign of late king Birendra (1847-1881). Wildlife protection activities have been practiced in Nepal since 1960 to conserve the vast resources. 12 National Parks, 2 Wildlife Reserves, 1 Hunting Reserve, 6 Conservation Areas and 13 Buffer Zones were made as insitu conservation where 23.39 % of total area is covered by the protected areas (DNPWC, 2015).

The term Conflict is derived from the Latin word "conflictus" meaning striking together with force. HWC can be defined as any interaction between humans and wildlife resulting in negative impacts social, economic or cultural life, on the conservation of wildlife population, or on the environment (WWF 2005). It affects both wild animal and human beings and also in economy. People lose their crops, livestock, property and sometimes their lives. Animals, which are already endangered or threatened, are often killed by the people (Bhatta 2003). When wildlife lose their

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natural habitats and have reduced access to natural food sources, they depend on agricultural crops, livestock and may destroy property or may injure/kill people.

Human wildlife conflict is a universal problem and it varies according to the geography, land use patterns, human behaviour, habitat and behaviour of wildlife species or individual animals within the species (WWF 2006).

Research Questions

- What are the overall human wildlife conflict events in the Kailali district?
- What are the main damages caused by the wildlife in the study area?
- What are the effects of human activities on livestock ?

Objectives

The general objective of the study is:
1. To find over all the Human Wildlife Conflict events in Kailali District.
Specific objectives of the study are:

- To study the crop damages caused by wildlife in the study area.
- To study property damage in the area
- To study livestock damage in the area
- To study human loss in the area by wildlife.

Significance of study (Rationale)

The studies around the world shows that the HWC is more intense in the developing countries where the livestock holding and agriculture are an important part of rural livelihoods. In these regions, competition between the local communities and the wild animals, for the use of natural resources is particularly intense and direct resident human populations are very vulnerable. (Distefano, 2010).

It is very important to find out the reasons of human-wildlife conflict occurring in Kailali district. This research will provide the information about the human-wildlife conflict existing in the Kailali district and measures to control the conflict in the area. This research will also help my dauter Gauri joshi who passed B.sc forestery, district forest office staffs to framework the better strategic plans for the reduction of the human-wildlife conflict. This research will help to find out the problems related to the HWC in the district and provide some efforts to minimize it.

Most of the people residing in the wildlife affected areas are illiterate and poor and dependent on the agriculture and the forest resources for their subsistence daily life. The wild animals harm the local people by damaging their crops, livestock and property damage, so the people living there consider the animals as their enemies. The study will access the Human Wildlife conflict, especially in the areas where the HWC is seen more by finding out the major causes of conflict, the extent of HWC, evaluating the property damage, crop damage, livestock depredation, human casualty and people's attitude towards wildlife conservation and the measures applied on the area for reducing the HWC.

The research study is significant such that it mayfill the knowledge gap that exists regarding the existence of the human wildlife conflict in the Kailali district.

This research is also hoped to provide the hidden causes which are still unknown while the major causes of HWC can be known. It may contribute information that might help the governments, wildlife managers, scientists and local communities, to ensure the positive co- existence between the people animals in the interest of human and environmental well being. Not much research have been carried in Kailali districts before, therefore the HWC in Kailali district isn't known much. Therefore, this research may help to provide the feedback to the conservation authorities to review the existing compensative measures and change the policy.

The most important problem is the loss of human life and damages due to the conflict which won't be compensated in terms of the money scheme and compensation scheme is not a sustainable and convenient method of solution of the conflict because the life of neither human nor wildlife can be valued in terms of money.

LITERATURE REVIEW

This chapter deals with the conclusive summaries of the review of the previous literature written on different subjects in different areas regarding the Human Wildlife Conflict. A study on "Park and People Conflict" by Shrestha (1994) showed that Habitat destruction, population pressure and food shortage were the major causes for the arising of the HWC. The major wildlife species were Rhino, Deer, Tiger and Leopard. The major problems were crop damage and livestock toll. The crop loss was found to be the acute one.A Study on "Human-Wildlife Conflict in Nepal" done by the WWF Nepal (2007) showed that Jhapa and Bardia were the most severely and about equally affected by human-elephant conflict in terms of crop damage, were every year a household losses nearly a quarter of their total annual income from crop production.

Astudy on "Human-Wild Elephant interaction in the Royal Suklaphanta Wildlife Reserve, Nepal" (Baral, 1999) showed that total crop damage by wild elephant was 33,307.42 kg for the year 1998-1999. Out of the total crop damage, paddy loss was 31,449.94 kg followed by maize 1857.49kg. Chital, Elephant, Wild boar few found to be three major wildlife pests in this study.A study on "Park people conflict- Acase study from Beldandi VDC adjacent to Suklaphanta Wildlife Reserve of western lowlands, Nepal" by Malla (2003) showed that the park people conflict was due to resource use problem, grazing problem, wildlife damage and resettlements problems. Average loss per household due to crop damage is NRs. 962/yr and that of property damage was NRs. 751/yr.

RESEARCH METHOD

SELECTION OF STUDYAREA

The study will be carried out in the Kailali district. Kailali one of the five districts of Seti zone of Nepal - is located in South Western Part of Terai between Geographic Location from 28^0 22' North and 29^0 05' North Longitude from 80^0 30' East longitude to 810 18' East longitude in the Far Western Development Region of Nepal. It covers an area of 3,235 Sq. Km area and among which 40 per cent is covered by plain terai land 60 percent is covered by hills of Chure range. This district extends from 109 m to 1950m.

Among total area of the district that is 323500 hectares, 64.8 Percent of land is covered with forest and 27.8 percent land is fertile agricultural cultivated land, 1.93 % of the grazing land and 5.4 % of the others.

S.N.	Description	Area (Ha)	Percent
1	Cultivated land	89,935	27.8
2	Forest land	209,724	64.8
3	Pasture land	6268	1.9
4	River,Uncultivated,buildup area	17573	5.4
	Total	323500	100

Source : Field Study 2075

Relative Location

East : Karnali river, Bardiya and Surkhet District
West : Kanchanpur and Dadeldhura District
North : Doti, Dadeldhura and Surkhet District
South : Uttar Pradesh India, Lakhimpur Khiri District

Physiography

Total Area	3235 sq.km (323500 ha)
Altitude from sea level	M109 m to 1950 m
Average annual rainfall	1840 mm
Average annual temperature	Autumn : Max 43 degrees C to Min 24 C Winter : Max 19 degrees to Min 5C
Climate	Climate varies from Tropical to Sub-Tropical
Main rivers	Karnali, Mohana, Khutiya, Patharaiya, Rora, Donda, Shivganga Gaurishankar, Kandra, Manahara, Godawari, Likma, Gulara
Main lakes	Ghodaghodi, Jokhar, Tilko, Behadababa, Koilahi, Liki, Laukabhauka

Social characteristics

Total population of the district is 775,709 with 378,417 (48.78 %) males and 397,292 (51.22 %) females. The population density is 240 p/sq.km. In this district, 97.60 % people are Hindu, 1.45 % are Buddhists and others include such as Islam, Christian etc. Similarly, language spoken by them are 41.1 % Tharu, 27.8% Nepali 18.7% Doteli 6.2% Acchami, 1.4% Magar, 0.9% Maithali, 0.8% Hindi and others. (DDC, Kailali 2072/73).

Main study area

The main study was carried out in the Basanta community forest of the district.
It lies in Ratanpur V.D.C ward no 5 of Kailali district.
The area of the forest is 48.46 hectars. It is surrounded as
East : Suiti Vdc
West : Pabera C.F.
North : Basanti Cf
South : Basanta Forest area
The main species found here are sal, asna, jamun and mauwa. Total of 52 households live in this cf. Out of total, 175 are female and 190 are male with a total of 365 people.

Total no of trees in the cf is 3666 and seedlings is 92420.
The research was carried out taking 20 households out of 52.

Research Methods and Data Collection

Both primary and secondary data will be collected in this research. The major primary and secondary sources are as follows:

Primary Data collection

Primary data were collected from the study site by employing combination of social survey methods involving participatory techniques (focus group discussions, key informant interview and formal and informal interviews), semi-structured questionnaire survey of households and on-site observations.

Household survey

The household survey was conducted in basanta of the Kailali district. Altogether 20 household were selected for the survey. Asemi structured questionnaire was used to elicit information from the respondents.

Focus Group Discussion

Focus group discussion was organized with the local people in the study area to extract various opinions and also to check the reliability of the answers obtained from the methods. Facilitative discussion with initiation of open-ended questions provided the members of the groups to explain about the issues in detail.3 focus group discussions were carried out in the study area with the Womens and Dalits comprising 7-10 people together to engage in guided discussion.

Key Informant's Interview

The knowledgeable people including the local leader, chairperson of CF, social workers, teachers and staffs of District Forest Office who knew the local issues of HWC were interviewed. The key informant interview also provided information on various aspects of HWC present in the study area which helped to cross check the information obtained from other sources.

Observation

During the field research period, observation was done. Photographs and simple notes were taken during meetings, and during the walking tours. Observations became the primary source of information in some questions and used in the triangulation of information in others to make sure if information gathered from other sources are reliable.

Secondary Data Collection

The secondary data and information were collected and collated from reports, newsletter, research papers, published and unpublished articles, books, journals, annual report of different organizations, and websites. Literatures were reviewed in two phases, before and after field visits.

Data were also collected from District Forest Office, Kailali, CFUG, user committee and user groups, CFCC office Bhajani etc.

Population and Sample

Sample of 20 households were selected randomly in the study area. Sampling used for this study was random sampling.

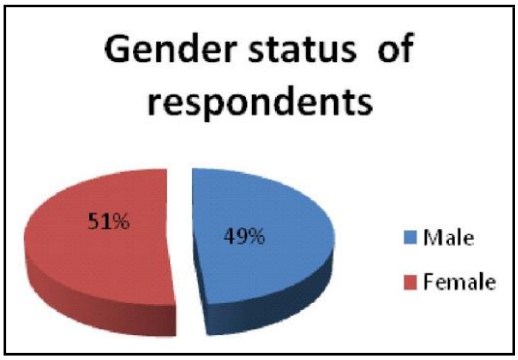
Data Analysis

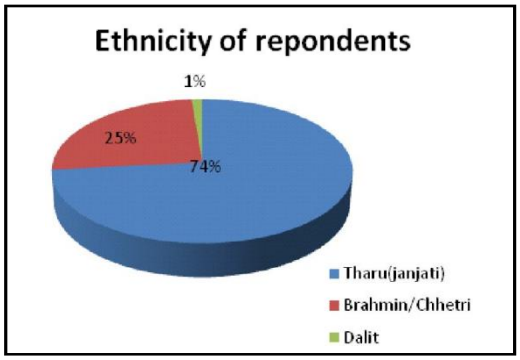
Quantitative and qualitative analysis methods were applied to analyze the data in this research all the data collected were checked, refined and critically evaluated as per the objectives. Finally data were coded, categorized and fed into computer for the further analysis by using MS Excel and later exported to SPSS.

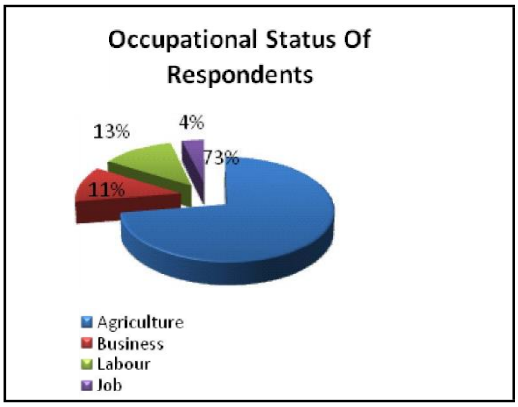
The results were organized and presented in the tables, figures and various chart types. Results were interpreted by descriptive frequencies and percentage.

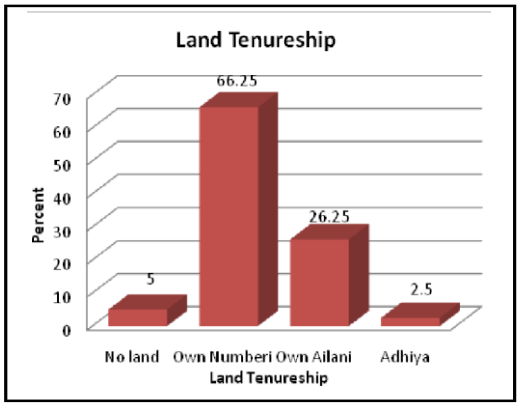
RESULT AND DISCUSSION

Socio-economic status of household involved in the study



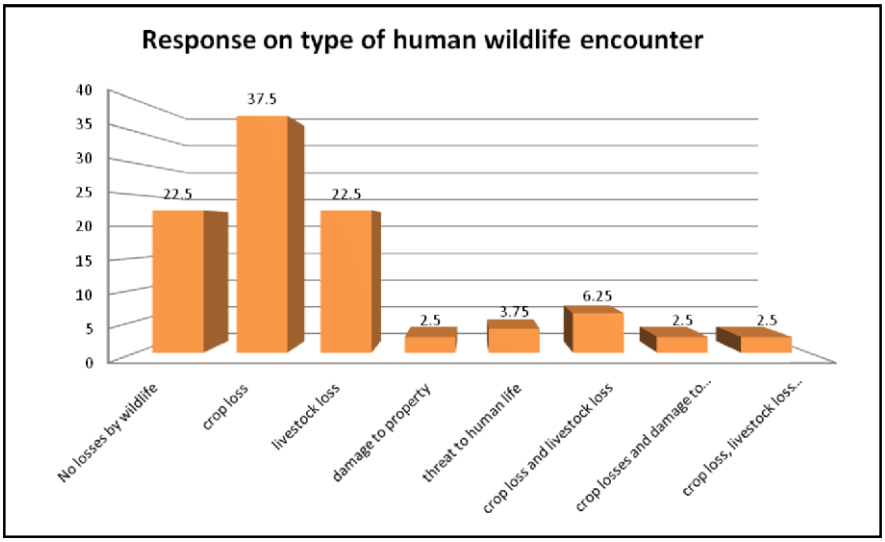






Impacts of Human Wildlife Conflict

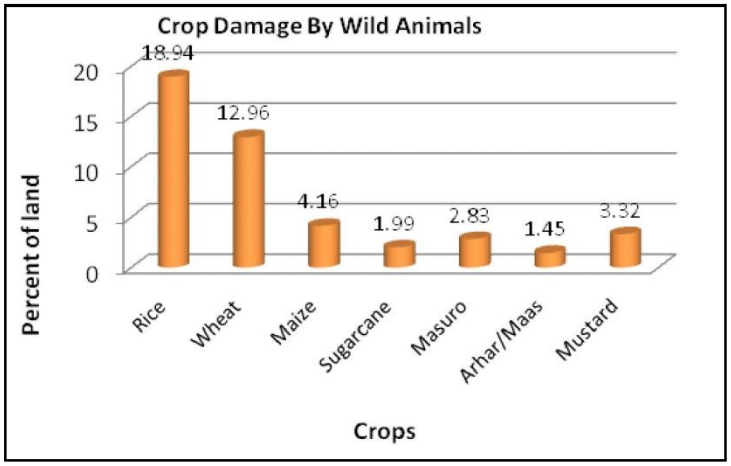
Response on human wildlife encounter



Different types of wildlife encounter events were happening in the study area. Crop loss was the severe problem. Most of the respondents (about 37.5%) said that crop damage was the primary problem. The second was livestock loss (22.5%), likewise 2.5 % people have faced property loss, 6.25% people have faced crop and livestock loss both, 2.5% people with crop and property damage and 22.5 % people have no loss by wildlife.

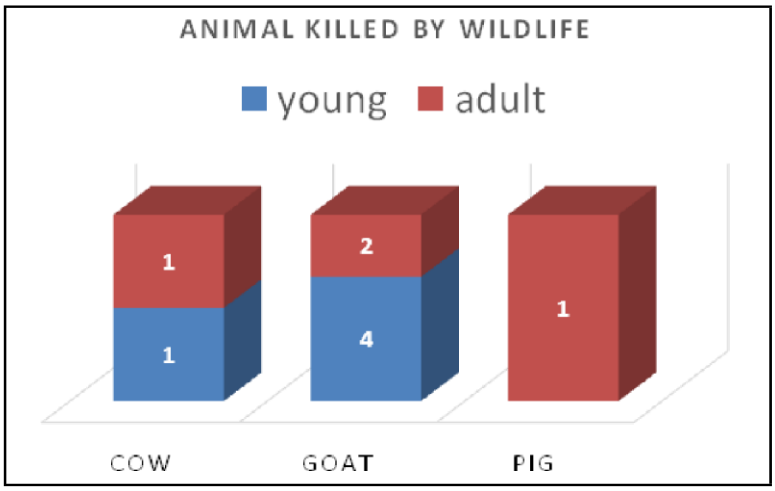
Crop Damage By Wild Animals

In my study area in the sampled HHs, it was found that rice was mostly damaged by the wildlife and then wheat, maize, sugarcane, masuro, arhar/maas continuously. According to the respondents, about 214 kattha (18.94%) of rice was damaged in last year, 146.5 kattha (12.96%) wheat, 47 Kattha (4.16 %)maize, 22.5 kattha (1.99%) sugarcane , 32 kattha (2.83 %)masuro, 16.5kattha (1.46%) arhar/maas , 37.5 kattha (3.32%) mustard was damaged previous year according to them.



livestock damage

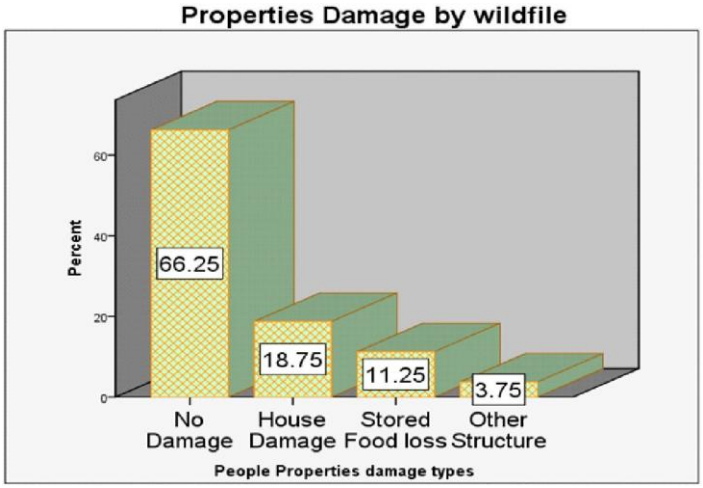
In my study area, my research found that there were not so much incidents related to livestock damage as compared to crop damage.1 young and 1 adult cow were killed by tiger, likewise 4 young and 2 adult goats and 1 adult pig was killed by the tiger(Panthera tigris tigris).



Property Damage

The mega species elephant was blamed to cause the major threats to the households. Property damage was also found as the human wildlife conflict in the study area. According to the respondents, 18.75 % of the respondents were facing the problem like house damage, 11.25 % of the respondents have faced damage to stored food, 3 % faced damage to other structures and 66.25 % people have faced no loss.

Elephant have became the major problematic animal during the cropping season. The respondents have faced so much difficulties and have faced crop as well as property damage along with damage to stored food and other infrastructures



Human loss

No any human loss have been found in gthe study area.

CONCLUSION AND RECOMMENDATION

Conclusion

- Crop damage, property damage, livestock depredation and human harassment Human wildlife conflicts have been seen in the study area. Due to the people's land near to the wildlife areashows that it is easier for the wild animals to come to the cultivated land and damage the crops.
- People are facing the problem of crop damage more.
- Rice and wheat damage is higher than the than the other crops.
- Elephant is found more responsible for crop damage during cropping season while wild boar,deer and blue bull are also found responsible.
- Property damage is found in areas having human elephant conflict.
- Livestock loss is also seen in the study area. Cow, pigs, goat have been killed by the tiger.
- Human losses have not been seen. Most of the problematic animal in the study area is wild boar, blue bull, deer of all times

Recommendation and suggestions

- Electric fencing is effective to protect the crop damage from animals.
- Awareness and capacity building programmes on environmentalprotection, wildlife conservationand management should be launched.
- Literacy rate of villagers is found to be low so formal and informal education should be promoted.
- Compensation scheme isn't seen so, managed compensation scheme should be made for damage by wildlife.
- While formulating mitigating measures local people should also be involved.
- Diversification of unpalatable crops and NTFPs should be promoted.
- Poacharing should be totally controlled by concerned authority.

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