

# The Burning Issues of Conflict: A Case Study of Chitwan National Park, Nepal

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**Abstract:** Chitwan National Park (CNP) is one of the major destinations of tourists because it comprises various wild animals that are of great concern like one horned rhinoceros and tiger. However, the Human Wildlife Conflict (HWC) has become the burning issues since long time which has made a gap between local people and wildlife conservation. This has severely affected the conservation efforts because without support/ positive opinion and attitude of local people, the conservation of wildlife fails. The tug of war between the local people and wildlife has been a huge concern. Besides poaching wildlife for benefits, habitat degradation by human encroachment, crop raiding and livestock depredation by wild animals has heightened the conflict. The growth of perennial plant, *Mikania micrantha* (banmara) has replaced the food of wild animals these days which seems to be the upcoming issues in future. Therefore, it is very necessary to list out the ongoing issues of conflict and other problems associated and should be considered seriously to make the conservation goals effective.

**Keywords:** Human-Wildlife Conflict (HWC), *Mikania micrantha*, WDPA, DNPWC, Human-Wildlife Interactions (HWI), Protected Areas (PAs), Chitwan National Park (CNP)

## 1. Introduction

Population in the world is growing at a rate of around 1.13% per year according to latest study done in 2016. The world population according to the latest study, July 1, 2015 is 7.349 billion estimated by United Nations Departments of Economic and Social affairs, Population Division. In case of Nepal, the population has been estimated to be 29,271933 as recorded in January 1, 2016. Human population explosion has created a significant effects on land, forest and wild resources in the developing countries. This factor seems to be an indirect driver that leads to loss of biodiversity (Kideghesho, 2009) therefore the concern has been raised for protecting the wild animals and their habitat. Before 25 years, the Protected Areas (PAs) has been the concerned field of ecologists, environmentalists and land use planners but today it is used as an indicators for success in achieving

the Millennium development goal by ensuring the sustainability of environment and maintaining the biological diversity in their natural state.

According to the world database on protected areas (WDPA) records, there are more than 100,000 protected areas worldwide covering more than 11.5% of the earth's land surface (17.1 million sq km). The National Parks and Wildlife Conservation (NPWC) act of 1973 has provided the legislation for the management and protection of protected areas of Nepal. The country comprises ten national parks, three wildlife reserves, one hunting reserve, six conservation areas and eleven buffer zones. More than 19.7% of the total area of the country (147,181 sq km) is declared as protected areas.

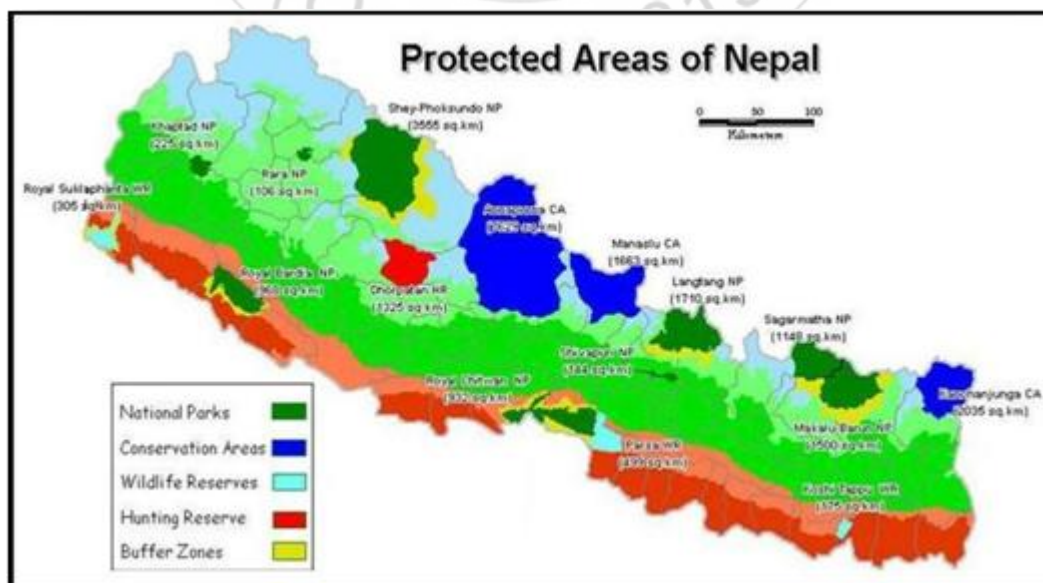


Figure 1: Protected Areas of Nepal (Source: DNPWC, 2012)

The humans and wildlife interaction are well known since several years, though these relations come into view together both pleasure and fear. The human-animal interaction seems to play a significant role in modifying the attitudes and perceptions of the local communities residing nearby protected areas and reserves. As the human population rises, the demand of the people also grow and the needs of the resources escalates which lead to competition between wild animals and people sharing the same space and resources. It leads to the origin of conflict. IUCN World Parks Congress (WPC, 2004) has stated that the Human-Wildlife Conflict (HWC) occurs "When the requirements and behavior of wild animals negatively influences on the goal of human and vice versa". Today, Human-Wildlife Interactions (HWIs) have been a worldwide concern because it seems to be the greatest threats in wildlife conservation. Sometimes the results seem to be detrimental, disastrous and unexpected. The impacts may be direct and indirect. The direct impact caused by wildlife includes crop raiding, livestock depredation, loss to human lives and other various destructions and disease transfer comes under indirect impacts. Even the fear of attack from the animals like rhinoceros, elephants, tigers, bears and other animals has affected people psychologically. Similarly, the human activities like hunting, poaching, habitat degradation, use of chemicals in the field and other developmental activities have threatened the wild animals. According to Straede and Treves (2006), "There is a gap between the needs and necessities of local people and their rights to make them satisfy on legal basis".

The latest study states that the mostly reoccurring problems in CNP are the ongoing human –wildlife conflict and the over spread of invasive weed species (*Mikania micrantha*). *Mikania micrantha* (Ban-Mara) is taken as one of the worst invaders of the world and is very threatening to the entire ecosystem because it spreads very fast destroying other plant species. This invader species has degraded the habitat of the wild in CNP and has been the major threat.

## 2. Study Area

Chitwan National Park (CNP) was formerly recognized as Royal Chitwan National Park. It lies in the inner terai region of Chitwan, Makwanpur, Nawalparasi and Parsa districts of Nepal. It is located between 83° 87' to 84° 74' East longitudes and 27°34' to 27°68' North latitude in the southern part of Chitwan district. Chitwan National Park is in a tropical and subtropical bioclimatic zone and is mainly characterized by three climatic seasons, namely hot, monsoon and winter.

Initially, the area of CNP covered 544 sq km and in 1996, 750 sq km areas was separated as a buffer zone (DNPWC, 1997) and the main reason for the establishment of the buffer zone is to execute the needs of the local community along with the increment of the habitat area of wildlife (HMG, 2001). This approach is known as a appeasing approach and the main purpose of the approach is to motivate the local community and convince them to participate in the proper management of the natural resources so as to reduce the Park-people conflict (MoPE, 2004) and conserve wildlife (DNPWC, 2006). The Park now covers a total area of 932 sq km and is surrounded by Parsa wildlife reserve in the east and India in the southeast. Balmiki tiger sanctuary and Udaipur sanctuary lies across the border of India. The faunal diversity comprises 68 species of mammals, 544 species of birds, 56 species of herpeto-fauna, and 126 species of fishes, 150 species of butterfly as well as several invertebrate species (Thapa and Hubacek, 2011) and the floral diversity comprises 600 plant species that includes 3 gymnosperm, 13 pteridophytes, 415 dicotyledons, 137 monocots, 16 species of orchids (UNESCO, 2003). More than 526 species of birds have been recorded in the Park, many of which have been recorded in the buffer zone community forests (BES, 1998). The CNP also has some of the highest population densities of large mammals including tigers and rhinos in South Asia and large numbers of mammals are reported from here. Moreover, it's listing as a world heritage site by United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1984 has been more advantageous.



Figure 2: CNP and the Buffer Zones  
Source: (DNPWC)

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Five Village Development Committees (VDCs) surrounding Chitwan National Park (CNP) has been taken for study. This constitutes Megghauli, Patihani, Gardi, Kumroj and Madi

chosen from a set of 40VDCs. The study was done from September 2015 to January 2016.

**Table 1: VDCs Selected for Study**

S.N	VDCs Selected	Households(HH)	Total Population	Male	Female
1.	Gardi	2,168	9,241	4,061	5,180
2.	Kumroj	1750	8,082	3,758	4,324
3.	Madi	1705	6,836	3,045	3,791
4.	Megghauli	3,086	14,149	6,341	7,808
5.	Patihani	2,845	11,500	5,282	6,218

### 3. Objectives

The main objectives of the study was to Assess the ongoing issues of conflict between local people and wildlife (Selected mammals, Rhino and tiger) in Chitwan National Park(CNP)

### 4. Methodology

#### Research Design

The researcher used mixed methods approaches to inquiry for the study. The methods were selected by analyzing the elements of inquiry. The mixed methods design is used in capturing best of both qualitative and quantitative approaches. Quantitative approaches, that the researcher has used is the Survey type which is performed by using questionnaires or interviews for data collection with the intent of generalizing the whole population by taking a certain sample. The questions include both open ended type questions and closed ended type questions so as to understand the ongoing issues and problems properly. The stratified random sampling method has been adopted by the researcher in the study. The total sample was 300, 60 households from each of the five VDCs were selected for the questionnaire survey; however, later one sample was excluded for not completing the criteria of the study so the total sample taken was 299.

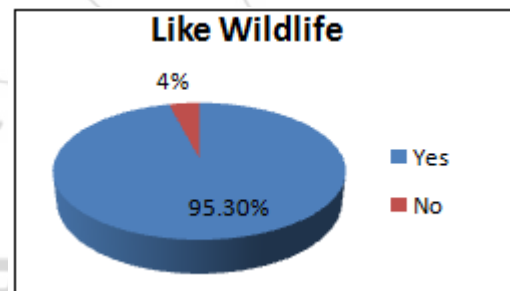
The population was divided into a certain number of groups called strata, and then samples were drawn randomly from each group or stratum. This method was used as it is possible to reduce or increase the sample size as per requirement of the study.

#### Tools Used for Collecting Data

- 1) Questionnaire survey
- 2) In –Depth Interview
- 3) Focus group discussions/Group Interviews
- 4) Participatory Rapid Appraisal (PRA)
- 5) Community Discussion Forums (CDF)
- 6) Direct observation during field survey
- 7) Photography and Videography

### 5. Results

According to Rodger (1989) the relationship of people living around the protected areas has often led to conflicts with the wildlife. Conflicts involving wild animals have been a central concern within conservation efforts both locally and internationally (Knight, 2000). Human-wildlife conflict becomes intense when the species of the area highly create a threat to the survival of human. The attitude is defined as the individual's temperament to react with a certain level of support or disapproval. But it is very difficult to determine the attitude of people on certain things/objects as it varies depending on the perception and experiences they hold.



**Figure 3: Responses of local community on liking of wildlife**

When the queries were asked to the respondents regarding their liking towards wildlife about 95.3% respondents were found having positive attitude towards wildlife and there were only 4% disliking wild animals. The reasons were then asked to each of the respondents of different selected VDCs regarding disliking wild animals. About 49.8% respondents stated the major reasons as crop raiding, 23.1% stated both fear and livestock depredation to be the main reason, 10% explained the fear as a reason, 5.4% answered because of killing and causing injury to their domesticated livestock while remaining stated all of the above reasons for not liking the wild animals. Despite the data showed that most of the respondents found positive towards wildlife however, still they have some reasons for being against wild animals.

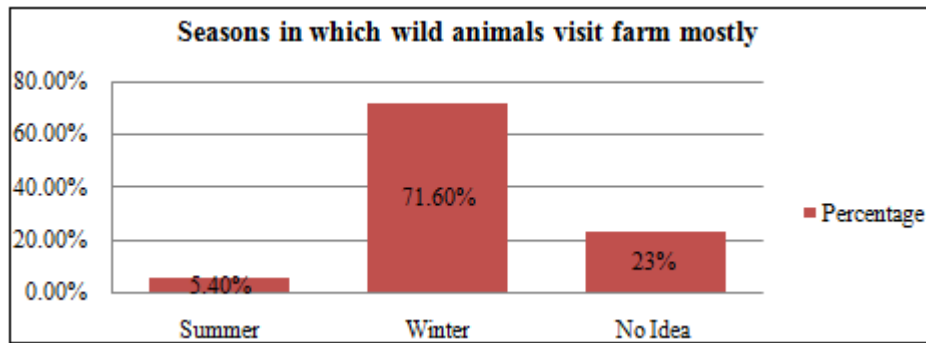


Figure 4: Seasons in which the wild animals visit the farm mostly

Wild animal is often found visiting the villages and field. They were found coming out of their habitat mostly during winter. About 71.60% of people stated that the wild animals prefer mostly the winter season.

According to the respondents, the damages caused by wildlife were livestock loss, crop loss, casualty loss, property loss and others like disease transfer, fear etc. Mostly the loss was caused due to crop raiding. About 88% of the local community explained that crop raiding is the major loss they have been facing. Agriculture being the main occupation of the people living nearby CNP, they are found harassed by the losses created due to wild animals.

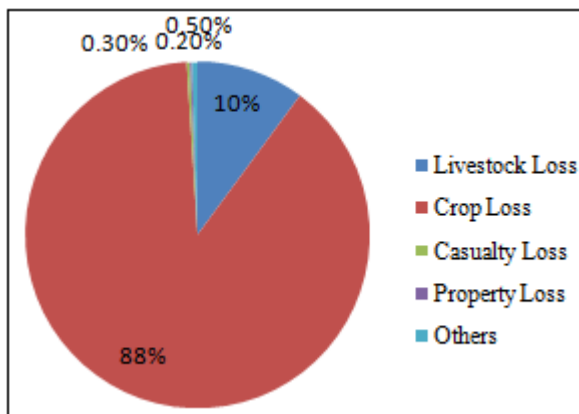


Figure 6: The damages and losses created by wild animals

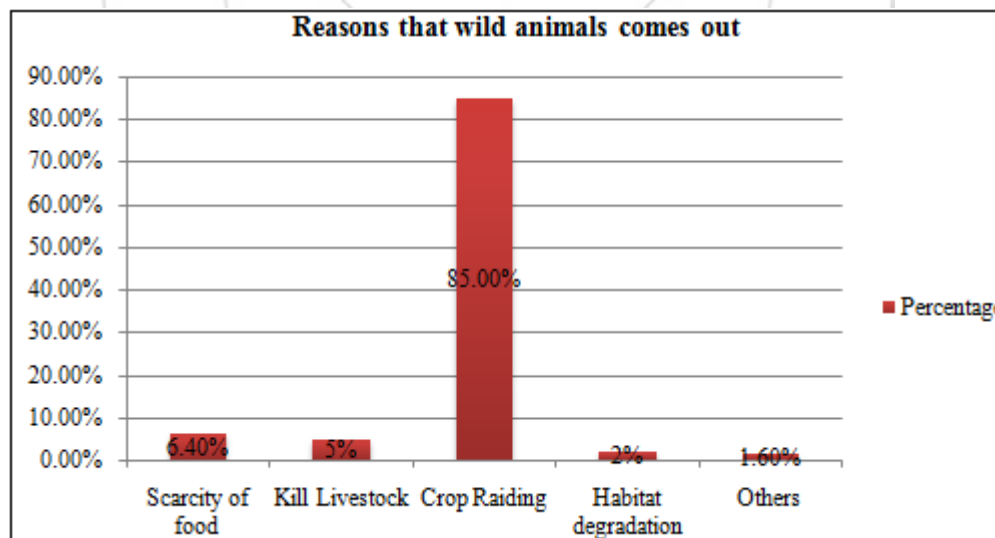
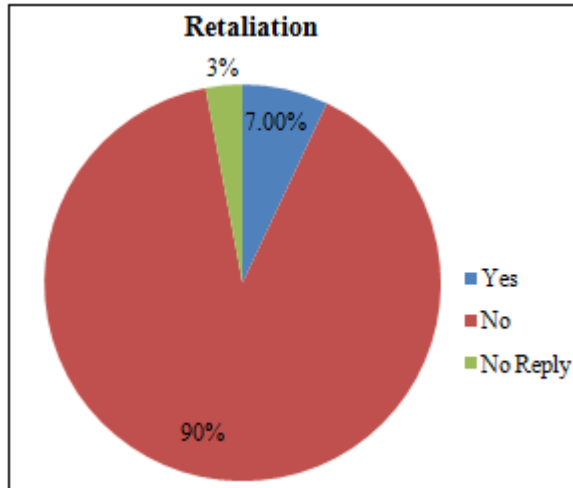


Figure 7: Reason that the wild animals are found wandering out of CNP

The local people were asked about the main reasons that have let wild animals visit their farm and villages. About 85% stated that the wild animals are attracted with the crops that have been planted and being easily available and being palatable they wander to the farm to raid the crops. Besides the wild habitat is degrading which has led to the scarcity of food. Moreover, they also stated that the succession of *Mikania micrantha* (banmara) has removed the food of wild animals which has compelled the wild animals to visit the field regularly. Besides the lack of boundary/fences has been

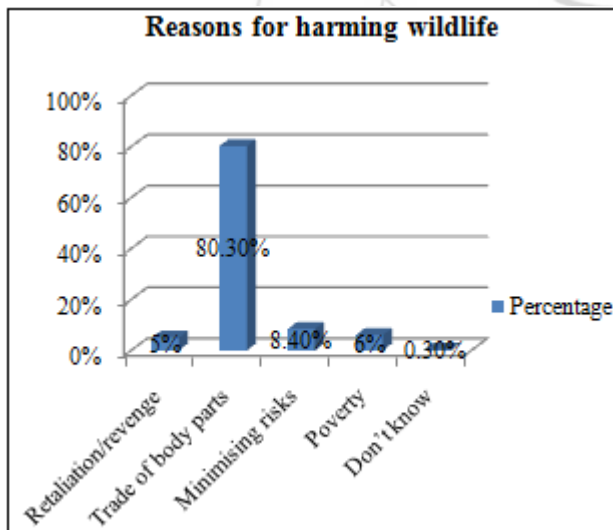
the reason which has made wild animals ease to access to the villages.





**Figure 8:** Responses of people against retaliating wild animals

The people were also questioned if they are against wild animals and their conservation because of the severe losses they have been facing. Indirectly they were asked about retaliation and revenge that they have been applying against wild animals to minimize the losses. But the 90% people stated that they don't go for retaliation however, still 7% answered that they often attack/hurt wild animals whenever they get a chance which show that wild animals are in risk and there are few people who are having negative attitudes towards the wildlife.



**Figure 9:** Reasons given by local people for harming wild animals

The respondents stated that the main reasons for harming the wildlife is because of the high demand of their body/parts in market and even stated that some local people are involved in such illicit activities. About 80.30% people stated that other reasons include retaliation, minimize risks, poverty. Though, most of the local people were found positive towards wildlife and conservation, there are still some with negative attitude which might be one of the causes affecting conservation.

## 6. Conclusion

The wild animals are the source of economy because the tourism has been flourished because of them. In case of developing countries like Nepal, the eco-tourism and nature based tourism can bring the economic prosperity. However, the ongoing Human wildlife conflict (HWC) has adversely affected the wild life conservation. The study reveals that local people residing to the proximity of National Park are suffering from the damages and losses by wild animals which have developed a negative attitude in people towards wildlife, especially those people seems to be affected who are relying on the crop production for their survival. In order to compensate the losses they are found harming wild animals. The interrelationship between the local people and wild animals seems to be the main issues that have heightened the conflict in the area. This has driven the conservation efforts towards failure because unless the local people participate themselves in conservation, the wild animals protection seems impossible for long way. So, considering the human dimension in wildlife conservation by realizing the human needs can be effective in terms of sustainable management of natural resources including the wildlife.

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