

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

Bardiya National Park is the largest protected area in the Terai zone, located in mid-western lowland of Nepal (28°30'N, 81°15'E) covering an area of 968 Square Kilometers. It was established in 1988 as Royal Bardiya National Park to protect and conserve the tiger, its prey species and habitat. It is situated in the eastern bank of the Karnali River in Bardiya district. It is about 400 air kilometer west of Kathmandu. The northern limits of the protected area are demarcated by the crest of the Siwalik Hills. The Nepalgunj-Surkhet highway partly forms the Eastern boundary but seriously disrupts the protected area. Natural boundaries to human settlement are formed in the west by the Geruwa, a branch of the Karnali River and in the Southern by human settlement (DNPWC-2009).

In 1815 A.D. Nepal lost this region to the East India Company through the Sugauli Treaty. For 45 years, it was a part of British India and returned to Nepal in 1860 as the recognition for supporting the suppression of the India Independence movement in 1857. Today, this annexed area is still called Naya Muluk meaning new country. Naya Muluk includes four districts of Terai region- Banke, Bardiya, Kailai and Kanchanpur (Bhattarai, 2009).

An area of 368 sq.km was set aside as Royal Hunting Reserve in 1969 and gazetted as Royal Karnali Wildlife reserve in 1976. In 1982, it was proclaimed as Royal Bardiya Wildlife Reserve and in 1984 it was extended to its current size. The reserve was given the status of a National Park in 1988 (BNP office record, 2068).

A total of six different habitat types make up the park: Sal forest, Khair Sisoo forest, wooded grasslands, floodplain grasslands, riverine forest and small pockets of grasslands locally known as Phantas. These intertwining habitats combined with the

abundant water supply from the Karnali and Babai rivers provide nearly perfect conditions for a rich and diverse fauna, with grasslands capable of supporting a greater biomass of mammals, birds and insects than any other terrestrial habitat type, (BNP office record, 2068).

The park is rich in wide varieties of flora and fauna. The flora recorded in the park comprises 839 species of flora; including 173 vascular plant species comprising 140 dicots, 26 monocots, six ferns and only one gymnosperm species. A total of 53 mammal species (ten of which are protected in National Parks and Wildlife Conservation Act 1973), 400 species of avifauna, 25 species of reptiles and amphibians and 121 fish species have been recorded in Bardiya National Park. The park is home to a number of endangered animals including the Royal Bengal tiger, wild elephant, greater one-horned rhinoceros, swamp deer, gangetic river dolphin, gharial, Bengal floricon, lesser floricon and sarus crane (BNP office record, 2068).

After the eradication of malaria, many people from the hills arrived in Bardiya. These people cleared most of the land of Bardiya for settlement and farming. The forest was cut indiscriminately and in addition, over grazing by livestock caused major habitat modification (Kunwar, 1998).

In 1961, the late King Mahendra dissolved the democratically elected 18 months government and imposed the so called "party less Panchyat System" of government. These changes led to centralization of power into the hand of the king and royal families, which lasted for about 30 years until 1990. This system was particularly favorable for wildlife conservation.

Landmark-legislation, the National Parks and Wildlife Conservation Act- 1973, were enacted during the regime of the recent day ruler, the king Birendra. Under the provision of the Act, 9 National parks and 7 reserves have been created covering more than 24,000 Sq. Km. (Bhattarai, 2009).

Gyanendra B.B. Shah, the brother of the recent king Birendra, took an active interest in wildlife conservation. Under his guidance the government made several important policy decisions. The unofficial 'wildlife committee' chaired by Gyanendra consisted of forest minister, the secretary of forest and soil conservation, the Director General of the Department of National Parks and wildlife conservation, palace officials dealing with wildlife matters was formed. The committee made several important

policies about wild life conservation and this committee also made policy to involve Nepalese Army in the protection of National Parks and reserves (Kunwar, 1998).

In 1997, an area of 327 sq. km., surrounding the park was declared a buffer zone, which consist of forest and agricultural fields. Later, buffer zone area of BNP was extended to its current size, i.e. 507 sq. km. Buffer zone includes 20 village development committee of three districts- Bardiya, Banke and Surkhet adjoining with the park. Out of these 20 VDCs, 15 VDCs lie in Bardiya district. The estimated total number of households in buffer area is about 16,619 with a population of 1, 17,633 (BNP official records, 2011). The majority of the indigenous people include Tharu, Dhagar, Yadav and Muslims, while Badi, Musar, Hazra and Malaha are in minority. Another group of the population is Pahadiya that has migrated from the hills after the eradication of malaria. Main occupation of the people living in buffer area is subsistence agriculture. So, the pressure of the people living in buffer area on the park is very high. On the other hand, due to degradation of the habitat there is also high pressure of wildlife on the settlement area adjoining the park. We can observe the relationship between the local people and the park like tug of war, (BNP Annual report 2067/2068).

1.2 Statement of the Problem

Economy of the local people is based on the agricultural products. Most of the people do not have sufficient land and they also do not have sufficient community forest. So, the local people require even more access to the resources from the park than currently allowed. Resources required for them includes grass/fodder, fuel wood, edible fruits and vegetables, medicinal plants or their parts, fishing, hunting, collection of young animals and eggs, grazing of livestock in the park, etc. The problems of the local people created by the park are crop raids, livestock damage and human casualty. On the other hand the problems perceived by the park management are-illegal fuel wood/timber cutting, forest-fire, over grazing due to livestock, collection of grass/fodder and poaching. Due to lack of community forest or local forest, conflicting relationship with the local people over park authority is unavoidable. Allowing people to harvest only thatch grass, binding materials and reeds to fulfill their subsistence need provides only a partial answer. The whole issue

of subsistence requirements must be examined in a more holistic way and policies that are finely attenuated between local people's subsistence need and the long-term conservation goals of the park should be developed and implemented. Such approach was implemented to understand conflicting relationship between local people and Bardiya National Park.

This study was focused on exploring the answer of the following research questions.

-) How is the status of subsistence need of the local people?
-) What are the main problems faced by both the local people and the park?
-) What is the present situation of the local people participation in planning and implementation of the park management activities?
-) How are the attitudes and behaviors of the park staff and local people to each others?
-) How are they (local people and park authority) coping with the existing situation?

1.3 Objectives of the Study

The broad objective of this study is to study the relationship between the National Park and Local People in the study area. But, the specific objectives of this study are as follows:

-) To find out the livestock keeping practices and their dependency on the park resources.
-) To assess the demand and supply situation of fuel wood in the village near Bardiya National Park.
-) To explore the different perspectives of park authority and local people regarding relationship.

1.4 Definition of the Terms

Biodiversity: Biodiversity refers to the flora and fauna diversity of the major species of trees, non-timber forest product and small plants, shrubs and herbs and animal species. But in this study biodiversity refers to the floral and faunal diversity of the

major species of trees, non- timber forest products, fauna and avifauna of specific study area of BNP.

Biological resources: Biological resources include genetic resources or any biotic component of ecosystem with actual or potential use or value of humanity.

Buffer zone: It is the area surrounding park or reserve encompassing forests, agricultural lands, settlements, villages, open space and many other land use forms (Sharma, 1998).

Habitat: Habitat means the place or a type of site where an organism or population naturally occurs.

Park-People Relationship: The mutual dealings, connection or feelings that exists between Park and Local People.

Phanta: Grass land inside the park

Atuwa: Shelter made by the local people in their own farm land to look after their crop.

1.5 Needs and Significance of the Study

Though the park and local people are jointly trying to manage natural resources in the buffer zone, the attempts are not working effectively. There is always clash/conflict between the local people and the park. In order to resolve the conflicts it is essential to identify the different conflicting issues along with causes for these issues to exist. Various researchers had carried out several studies regarding park and people relationships in different national park areas. The most important issues to keep in mind here are that the issues, extent and causes of conflicting relationship differ from one national park to another. The social, economic and cultural conditions of the people regarding park boundary determine the issues to great extent. Though there had been several studies, Bardiya National Park was neglected from this point of view. Apart from this, most of the studies had focused on biological aspect of the conflicting relationships. There had been hardly any effort to explain the issues from anthropological perspective.

This study has tried to explain the conflicting relationship between the local people and national park from anthropological perspective so as to provide the concerned people and authority with in depth idea how the core and non-core cultural factors have determined the extent of conflicts existing in BNP. However, the following are some of the important points to justify the research of the study area:

-) Socio-economic condition is an important parameter in order to find out their overall life-standard and relation with BNP.
-) Firewood problem is increasing all over the world due to actual shortage of forest. If firewood is only used for cooking and continue the practice, in near future it will create problem for environment as well as resources.
-) Agriculture is the main source of income of the local people. The main problem for the people from BNP is damage of their crops by the wild animals but they have not got any assistance from BNP according to the local people.
-) Due to the lack of sufficient education, the local people have no idea about environment, bio-diversity and protection of BNP.
-) There is no clear understanding and communication between BNP and local people.
-) Livestock is the integral part of their economy, for this, they are depending on the resources of BNP. So alternate source for the livestock should be explored.
-) This research may be useful for policy makers and other resources.

1.6 Limitation of the Study

Each and every study has its own limitation. Basically, this is an academic study undertaken within the boundaries of the limited time, budget and resources. It has studied the relationship between the park authority and local people at Shivapur VDC in Bardiya. The study had a limited boundary and reflected the various aspects of the local people of Shivapur VDC and Bardiya National Park. The findings and the conclusion drawn from this study may not be widely generalized exactly in the same manner for other National Parks of the country. However, some generalization can be made while considering the case of other national parks of the country since most of

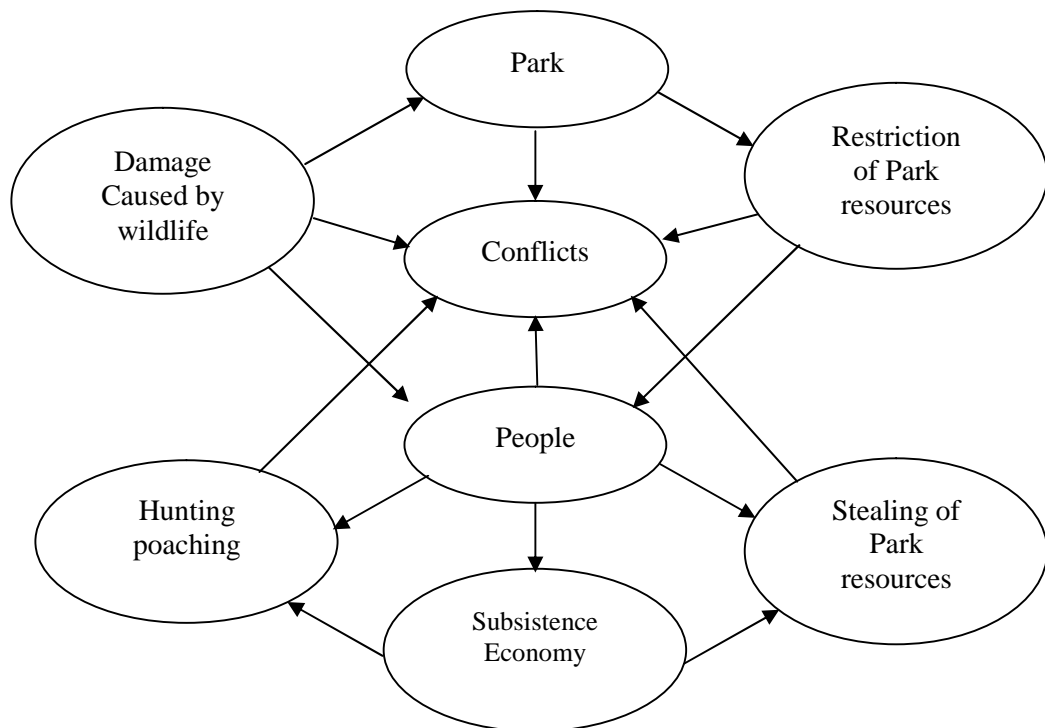
the problems of the people created by the park are almost similar in case of other national parks.

1.7 Conceptual Framework of the Study

The conceptual framework that guided this study has been presented below.

Figure 1.1

Conceptual Framework of the Study



One of the principle reasons for creating National Parks and other types of protected area is to conserve the special biodiversity values within them. Protected areas cannot remain in isolation from the communities and the economic activities in and around protected areas.

The economy of the local people living around the park is based on subsistence level which needs more access to the park resources but they have no legal access to the park resources. Moreover wildlife heavily damage agricultural products near the park

boundary each year. Due to this, a kind of feeling of revenge develops in their mind. Such kind of feeling and subsistence economy drive them into the park for stealing of park resources, hunting and poaching but these activities are illegal in the eyes of the park authority. On the other hand, the park always tries to protect its resources and stop such illegal activities of the local people inside the park. Consequently a conflicting relationship exists between the Park Authority and Local People which has been illustrated in the above figure.

1.8 Organization of the Study

This dissertation has been organized in eight chapters. The first introductory chapter presents the background, statement of the problem, objective of the study, definition of the key term, limitation of the study, significance of the study, conceptual framework and organization of the study. The second chapter presents the theoretical overview and review of the related literature in which some related theories and related literatures have been reviewed. The third chapter includes the research methods adopted in the study. The fourth chapter presents introduction to the study area. General demographic information of the respondents is also provided in the fourth chapter. Likewise, chapter five is about livestock keeping and practice. The sixth chapter is about firewood collection and problem. Chapter seven presents impacts of Bardiya National Park on livelihood of the local people. Similarly, chapter eight is the last chapter which includes summary, conclusion and recommendations of the study. After eighth chapter the references used in the study are enlisted. At last, Appendices are presented.

CHAPTER - II

LITERATURE REVIEW

2.1 Conceptual Overview

2.1.1 Dimension of Park-People Relationship

Ghimire and Pimbert (1997) assert that protected areas usually reflect the priorities of regional, national and international interests over local subsistence needs. The demarcation, management and infrastructure of protected areas all often reinforce the interests of global conservation and those of the international leisure industry and other commercial groups. Local people often express their sense of deep frustration with these externally imposed priorities by saying that 'People should be considered more important than animals' and they often view wildlife conservation as alien, hypothetical, and as favoring foreigners.

The relationship between Park and People is observed conflicting rather than cooperative. So, conflict approach has been used to analyze the relationship between BNP and local people.

2.1.2 Concept of Buffer Zone

A buffer zone is defined as an area surrounding a national park or a reserve which has been set aside for perpetual use of the natural resources benefiting local people who are deprived of using the natural resources contained in parks and reserves because of their protected status. The National Parks and Wildlife Conservation ACT (NPWC) of 1973 (Fourth amendment 1993) defines a buffer zone as that 'Surrounding area of parks or reserves which have been declared by government of Nepal to provide local people use of forest resources on a regular basis, (qtd. In Bhattarai, 2009).' The primary aim of creating buffer zone was to establish social and natural buffering between settlements and the park by reducing pressure on parks from settlements and vice-versa so that park people relation may be improved. The act provisioned the pull back of up to 50% of the revenue generated by parks and reserves for use in support of community development. According to Buffer Zone Management Regulation 1996,

the conservation warden shall make a detailed management plan for the buffer zone in order to implement the buffer zone management program (Bhattarai, 2009). While making detailed management plan he/she shall incorporate the plans of the Buffer Zone User Committee (BZUC) and the Buffer Zone User Group (BZUG). The Buffer Zone User Group is formed at very bottom level primarily in small settlements or hamlets. BZUG is comprised of representatives of all households in the settlement. BZUC is formed from among these BZUGs. The BZUC coordinates with all BZUGs and acts as bridge to connect BZUGs and BZMC (Buffer Zone Management Committee). In general BZUC is formed at the VDC level. There can only be a maximum of 15 BZUCs in a park/reserve. The BZMC is at the top of the hierarchy and acts as a decision making body. It is comprised of BZUCs, local government representatives and the conservation warden. Its task is to allocate the budget among different BZUCs and it monitors the overall program. The national park/reserve warden acts as a member secretary in this BZMC. The tenure for members of the BZMC is five years.

2.1.3 Concept of Conflict

The struggle is common to all people overcoming the limits of nature and existing technology, for example, hunting and gathering society, the availability of animals and fruits in the surrounding area sets a 'natural' limit on that society's population and standard of living. Conflict between two groups is observed for power and authority in our society. All interpersonal conflicts whether they occur in a family, between student and teacher, employee and supervisor or between groups, have certain elements in common.

One of the popular definitions offered by Coser asserts that conflict is "a struggle over values and claims to scarce status, power and resources in which the aims of the opponents are to neutralize, injure or eliminate the rivals," (Kunwar, 1998).

Burton's (1969) approach to dealing with conflicts follows from his alternative view of human nature. If basic human needs can be fulfilled in variety of ways giving the high cost of destructing conflicts, it would be in the best joint interest of an actor-person, groups, organization, societies to pursue cooperative resolution of their conflicts.

According to Upreti (2002), conflict is a state of clashing or opposing interest and it occurs with positional differences over values and belief system, self-determination and access to and distribution of power. In the Webster's dictionary (qtd. in Upreti 2002) conflict is described as a 'battle, contest of opposing forces, discord, antagonism existing between primitive desires and instincts and moral, religious or ethical ideals.' Conflict occurs when two or more people oppose one another because of differences in their needs, wants, goals or values. Conflict is almost always accompanied by feelings of anger, frustration, hurt, anxiety or fear. Ability of people to manage conflict can influence that outcome of a conflict when the latitude of tolerance crosses the bottom line then conflict occurs. Feelings of unfairness, suspicion, injustice, mistrust, etc. ultimately lead to conflict.

Newton's third law of motion states that "for every action there is an equal and opposite reaction". In conflict the same holds true. If you are fighting hard for your position, the person you are fighting with must push back equally hard in order to protect his/her position and avoid losing ground. In other word, arguing produces more arguing and listening produces more listening.

Regmi (2010) said that conflict in society is also influenced by the social context (organization and structure of society), pattern of interaction, mood (e.g. violence, disagreement), time, belief of conflicting parties and the degree of incompatibility of their goals and power structures. According to him conflict has many dimensions. It occurs at different levels (e.g. from interpersonal, family and community to international). He also added that conflict varies in nature (from use of resources to personal identity). Perception of reality by different people rather than the reality itself greatly influences conflict because people behave according to their perception and interpretation. According to Regmi (2010), conflicts are by nature changing their form and extent. Wherever we try to resolve the conflicting situation, for the time being it seems to be settled down but in reality it changes the situation and ultimately there would come another issue where two or more than two parties by virtue of their different interest experience conflicts.

According to Gandgil, and Ruha, (1994) conflicts over forest, water and other natural resources have been widespread across human history. In pre-modern time there arose typically as a consequence of competing property claims and economic interest. In the modern world, however, these conflicts have increasingly acquired a sharp ecological

edge, being played out against the background of increasing resource scarcities and shortages.

According to oxford advanced learner's dictionary, the meaning of conflict is struggle, fight, serious disagreement, argument, controversy, opposite, difference, or clash.

Blackwell Encyclopedia of Sociology (2007) explains conflict as: conflict is a basic process in social life and can be destructive and cohesive. In some situation, it can be destructive for some groups and acts as a cohesive force for others. Racial and ethnic groups may be the source and the result of the two faces of social conflict, acting as a boundary marker between groups that see themselves as distinctive in their interest and values from other such groups. Over the past 50 years, sociologists have grappled with a variety of perspectives on conflict that have emphasized various aspects of the destructive and the integrative nature of the process. Functional theorists have tended to downplay the purely negative forces while conflict theorists have tried to establish the central role of conflict as a means to challenge the status quo and bring about fundamental social change.

According to the Encyclopedia Britannica, the meaning of conflict is: fight; battle; war-an armed; competitive or opposing action of incompatibles: antagonistic state or action (as of divergent ideas, interests, or persons); mental struggle resulting from incompatible or opposing needs, drives, wishes or external or internal demands; the opposition of person or forces that gives rise to the dramatic action in a drama or fiction.

Joe Kelly (1971) defines conflict as opposition or dispute between persons, groups or ideas. Steers, (1975) defines conflict as the process by which a person or group feels frustrated in the pursuit of certain goals, plans or objectives. According Rue and Byars (1978), conflict is an overt behavior that results when an individual or group of individuals think a perceived need or needs of the individual or group of individuals has been frustrated or is about to be frustrated (Cited in Rizal, 2002).

Generally, conflict already exists, if one of the parties involved got frustrated. Thus, there is a conflict, when two individual or group or two group have differences, (Rizal, 2002).

Conflicts are an inevitable part of the social process in society. Conflict is a fluid and ambiguous. Different people in different contexts interpret it differently. Conflict can refer to a debate or contest, disagreement, argument, dispute, quarrel, struggle, battle or confrontation, or turmoil, chaos violence or state of unrest. Community member use these words to characterize situations in different social groups. Conflict is an active stage of disagreement between people with opposing opinions, principles and practices manifested in different forms, (Warner, 2001).

According to Upreti (2006), resource conflicts are an inevitable part of Nepalese society. Their causes include hierarchical and patron - client social relations, the incompatibility of formal laws, conflict of interest, perception and belief, competition over scarce resources, ambiguity over roles and responsibilities, the unwillingness of the state to respond to social, economic, political and technological changes, corruption, and bad governance.

Generally the term 'conflict' has been interpreted as the opposite of peace. Many people interpret conflict as undesirable and destructive to society and that has to be avoided, controlled or eliminated. Conflicts occur in all society. Conflict is an indicator of a changing society, conflict wantedly or unwantedly is a part of social process and function of social development and change.

2.2 Impact of Conflicts

) Today a question which many people of highly developed Europe, North America and Japan ask is "can we and our children survive another decade" due to preoccupation with the issue of nuclear war and acid rain (Mishra, 1985). The conservation issue of these developed countries concerns future and quality of life. In contrast, for the poor developing countries like Nepal need animal fodder, firewood and water from the area as set aside as protected areas. The people are poor and what they are worried about is their next meal, not whether their grandchildren will enjoy nature and its resources.

) Most economies of sub-Saharan Africa depend heavily on their natural capital. About two-third of the population lives in rural area and derives its main income from agriculture. African countries consistently identify land degradation, deforestation, lack of access to safe drinking water and loss of

biodiversity compounded by climatic variability as their major environmental concerns. Poverty is both a cause and result of environmental degradation of the thirty poorest countries of the world, twenty one are in Africa (A world Ban Agenda, 2000).

-) Nature provides resources and services for the individual. Since ecological connectedness in a real property of nature, unlimited demand eventually results in the breakdown of natural process (Golley, 1988).
-) Biodiversity threat is the rate of loss or likelihood of loss of biological diversity. Biodiversity's decline derives primarily from human interaction with biological resources (Belbase, 1999).
-) Twenty-five years ago (Black, 1979) satellite pictures would have shown tropical rain forest as non-stop green belts across South America, Africa and Southern Asia. Today, similar picture shows huge patches where trees have been hacked away and cleared. This destruction goes on at an alarming rate of 20 hectares every minute. For example, forest land about the size of England was lost building the Trans-Amazonas highway in Brazil.
-) In developing countries, conflicts with protected area management can be attributed to three basic problems. Poverty, increasing need for land and process of development (Malik, 1982 cited in Kunwar, 1998). The migration of the people from the mid-hills to Terai (low land) in search of cultivable land reflects similar problems in Nepal.

Lack of land and natural resources such as pasture, wood and medicinal herbs are already a problem for the existing population in Chitwan (Sharma, 1991) a problem that is prominent everywhere in Nepal.

-) In developed countries it is corporate (Kunwar, 1998) interest groups seeking profits at the expense of conservation values, while in developing countries it is often individuals seeking to survive or pushing for traditional rights.
-) The loss of forest resources, largely limited to Terai region, was mostly the result of extensive clearing for agriculture and commercial timber operation aided by increased fuel-wood demand by the much larger population, (Mahat, 1985 cited in Kunwar, 1998).

2.3 Review of Previous Studies

Crop raiding by wild elephant is one of the most significant sources of park-people conflict in Sumatra, Indonesia. According to analysis of researcher, elephants raided crops year-round at a mean rate of 0.53 elephants per day for the entire study area. The frequency of crop raiding was related to vegetable type along the park border, the size and presence of rivers, and the distance to the park's Elephant training centre, which houses about 150 captive elephants. Elephant human conflict decreases the probability of support from local people for conservation efforts, (Nyhus, Tilson and Sumianto, 2000).

Wang, Lassoie and Curtis (2006) had analyzed that the attitudes and feelings of people concerning conservation policies and wildlife conflicts affect their behavior and understanding, this is important in involving local people in conservation planning and decision-making process. According to them, negative attitudes were linked to loss of resources use rights, livestock depredation and crop damage, lack of compensation strategies and exclusion of farmers from the park's planning process.

Economic and social problems facing many developing countries jeopardize the effectiveness and very existence of their national parks and protected areas. Rural poverty exacerbates the need for access to natural resources in protected-area and increases public conflict with protected-area management. A prerequisite for the long-term sustainability of parks and protected areas is public involvement and support for the conservation of natural resources, (Fiallo and Jacobson, 1995).

The involvement of local people in illegal activities, their lack of access to natural resources and damage by wildlife were identified as principle causes of conflicts by Weladju and Tchamba, (2003). They have added that local people, park staff and professional hunting guides have diverse and differing perceptions about the causes of the conflicts. According to them knowledge of conflicts between people and protected area is required for the design of sustainable conservation strategies for the management of most protected areas.

Conflicts between local people and protected area managers are a common problem in developing countries but in many cases there has been little attempt to comprehensively characterize the underlying problems, (Maikhuri, Nautiyal, Rao, Chandrasekhar, Gavali and Saxena, 2002).

Protected areas have long struggle to successful enforce compliance with their regulations. Even some of the best-funded protected areas in the world face shortcomings in using enforcement as an effective deterrent to protected area opposition. This suggests that traditional enforcement on its own may be insufficient for effective resource protection (Stern, 2008).

A study carried out by Mugisha and Jacobson (2004) in Uganda analyzed that loss of wildlife, encroachment on wild lands and conflicts between protected areas and neighboring communities continue to threaten the integrity of protected areas (PAs).

Participation of local communities in management was widely considered a means of sustaining protected areas by Boer and Baquete (1998). In parts of the world with a history of armed conflict, the chances of such an approach being successfully adopted might seem remote. According to them, one such area was the Maputo Elephant Reserve in Southern Mozambique. The aim was to improve understanding of local people's use of natural resources and perceptions of the reserve's impact. The attitude towards the reserve was correlated with crop damage experiences, people with crop damage caused by elephants hippos or bushpings, were more negative.

Conflict between elephants and local people was a major concern for wildlife management and rural development initiatives across Africa. This conflict typically involved crop damage by elephant, and the solutions were generally set within a policy and legislative framework that attempted to address both wildlife management issues and rural development objectives. Many initiatives had been designed to address crop loss because that could undermine the success of other programmes related to agriculture or wild land conservation. That issue could also threaten the viability of wild animal population by creating a confrontational atmosphere between farmers and wildlife manages (Osborn and Parker, 2003).

According to Wapalila (2008), in many developing countries there are disputes related to the small contribution of national parks and other categories of wild-life protected areas is sustaining livelihoods of the local communities living adjacent to these areas compared to other land use practices. This difference in contribution may cause local communities to have a negative attitude towards wildlife conservation. The study was carried out in five villages allocated adjacent to Mikumi National Park in order to examine impacts of Mikumi National Parks (Tanzania) on people's livelihoods,

particularly regarding benefits and cost. Additionally, the study identified source, triggers and impacts of conflicts on the people's livelihoods and wildlife conservation. Crop damage by wild animals was observed as the main conflict in the study area affecting 44% of the surveyed households. According to him, an average 11.6% of the total household income was lost due to crop damage. The majority who got crop damage were low income households.

Human- wildlife conflict is not a new issue in the field of wildlife management. According to Lodhi, the methods of handling carnivore-related problems remain unique and distinct for each species depending on area, time and resources. He said that leopard-human conflict might not be completely eliminated in any leopard strategy, however, the level of risk and threat to human lives and their property might be reduced substantially following an adaptative management strategy (Lodhi, 2007).

Conflicts between wildlife and people (Shemwetha and Kideghesho, 2000), particularly those who share the immediate boundaries with protected areas, were common phenomenons all over the world. Dwindling of wildlife resources had been linked to human action through overexploitation, habitat destruction, pollution and introduction of non-native species. On the other hand, local people look at wildlife as a liability to them. This view is provoked by a bitter experience they had had due to costs inflicted by wildlife conservations. Such costs include; loss of access to legitimate and traditional rights; damage to crops and other properties, livestock depredation, and risk posed to people's lives through disease transmission and attack by wild animals.

The national park model originating in the unique circumstances of mid 19th century North America has been widely applied in developing countries of late 20th century, provoking numerous land-use conflicts between parks and resident people. Key factors in understanding these conflicts were examined by Peters J. (1999) using the field experience of the Ranomafana National Park in Madagascar. He had suggested a conflict management strategy for alleviating such antagonism and facilitating the investigation of mutually acceptable conservation and development pathways.

Conflicts between humans and animals are serious problems in many parts of the world. The damage and destruction caused by the variety of animals to human property and sometimes to human life is a real and significant danger to many human

communities. And with the animals often killed, captured, or otherwise harmed in relation, these conflicts are one of the main threats to the continued survival of many species. WWF views human- animal conflict as a priority issue for its work on species protection (WWF Report).

The study, based in the Idodi-Pawaga area adjacent to Tanzania's Ruaha National Park by Dickman (2008), explored the main drivers of conflict between people and wildlife, particularly five focal large carnivore species, in order to identify possible mitigation strategies. Considerable antagonism towards wildlife was reported with particular hostility engendered by large carnivores. The study showed that the main reasons given for conflict were the risks of wildlife damage, particularly livestock depredation, and attacks upon humans. According to the finding of the study, the people of study area were losing 0.26% of their livestock to predators every month.

According to White (1987), there were three sources of land use conflict in pastoral area (Kenya): the encroaching farmer, the cultivating herder, and the absentee herd owner. In other area of Kenya, conflicts arising from the expansion of wildlife parks assume more importance than in Barigo. Each of his example can be associated with a different level and form of social and political differentiation.

Nepal and Weber (1995) carried a study on "Struggle for existence: park-people conflict in Chitwan National Park" According to them, "the core elements creating the current problems are the increasing pressure on the park by the people living the surrounding area, their poverty and needs for fuel-wood, timber, fodder and grazing and to a lesser extent for a range of gathered products. Other problems, particular to Chitwan are the danger posed by the small tiger population and the damage to the agricultural land surrounding the park by the wandering of Rhinos and other grazing animals. Authors studied the complaints of the villagers about the restrictions imposed by the park in detail; but there was illegal wood collection not only of firewood but also illegal grazing of livestock within the park. To relate the villagers own concepts, some had the notion that their life had been miserable owing to the existence of the park.

Nepal and Weber (1994) have analyzed that 'A buffer zone' for a national park can be considered an effective means to mitigate and contain the park-local people conflict. According to them creation of buffer zone adjacent to the national park will enable

local people to engage in multiple use activities that will provide benefits not only to themselves but also protect the park's integrity as well.

According to the analysis of Budathoki (2004), sustained and effective biodiversity conservation in a developing country such as Nepal is faced with the increasing pressure that the growing population exerts on the country's natural resources. Nepal has adopted a community based approach to conservation management including sharing of revenues from protected areas with local people living in the buffer zones around protected areas. The aim is to mitigate conflicts. For better integration of conservation and development objects, empowerment and equality in benefit sharing and gender, issues need to be adequately incorporated in buffer zone policy and programme implementation.

Saud (2007) had published an article in "The Greenery" (A Journal of Environment and Biodiversity, self-help Environment Awareness Camp-SHEAC) on "Poaching and trade on wildlife in Langtang National Park- LNP". In this article he has mentioned that conservation and management of wildlife in LNP is in the state of threat, if immediately measures are not undertaken to control poaching, retaliatory killing and trade. Establishing anti-poaching unit and sustaining local people's life, living within the park area and buffer zone area could help in the wildlife conservation. In some places poor people and herders are under the anxiety of wildlife and in some places wildlife are under the anxiety of local people's activities and herders' dog. A comprehensive, integrative and coordinated effort is needed for controlling poaching and illegal trade on wildlife to this; other non-conventional partners should be identified and involved to help directly or indirectly in controlling poaching and illegal trade of wildlife parts. Beside this, subsidizing life stock loss and agricultural loss may help in eliminating negative public attitude towards wildlife.

Limbu and Karki (2003) had researched on park-people conflict in Koshi Tappu Wildlife Reserve. In their study, they had concluded that negative interface exist between reserve authorities and local people which causes great harm on both sides. It had been observed that illegal activities of villagers inside the reserve were the problems for reserve whereas crop destruction and human harassment were the problems for the local people.

Sharma (1990) had analyzed current conflicts and issues between local people and Chitwan National Park (CNP). He had highlighted the role of cattle in local subsistence economy, and he had discussed the problems of agricultural/livestock depredation by wildlife. He had also discussed the potential solutions and emphasized the need for CNP to accept the responsibility of meeting subsistence need of firewood and fodder of people living in an "impact zone" by initiating community forestry programs and by promoting ways and devices to increase the efficient use of available resources.

Studsrod and Wegge (1995) had carried out a study on "Park-people relationships, the case of damage caused by Park Animals around Bardiya National Park." According to them crop damage and livestock predation were a serious problem in three Village Development Committees (VDCs) adjacent to the South- Western part of BNP. The seriousness of crop and livestock losses varied considerably with the distance from the park's border and the specific location of farms. This was explained by the variations in the distribution of animal wildlife inside the park, the presence of natural and man-made barriers, the availability of forested areas outside the park, and the agricultural cropping pattern adjacent to the section of the park with the highest animal densities, crop losses varied from 47% for lentil to 24% for wheat. According to their findings, farther away, the extent of crop losses was reduced. In the far zone situated 2-8 km from the park only 3% of the paddy was reported lost.

Regmi (2010) had carried out a study on "Conflict in Wildlife Reserve between Local People and National Park" in Bardiya. In his study he had highlighted growing concern for preserving ecological representativeness through the establishment of national parks and protected areas. In many countries, national parks and protected area system are established and supported by governments to meet national and international obligation in terms of biodiversity. According to him, conflicts arise due to economic costs and benefits of the park and protected areas for different interest groups. The resultant conflicts in different countries are fuelled by the varied approaches taken by the managers and administrations in addressing the concern of the different interest group. In this study, researcher had explored the sources of conflict between the park administration and its resources dependent local population and possible measures for the resolution of this conflict. He had indicated to opposite interest exists for an area, i.e. park administration who want to preserve the natural

resources and desperate local people who need these resources for their survival, there will always remain the potential for conflict. He had suggested that solution to these conflicts rely on the development of alternative resources for the local people.

Bhattarai (2009) had carried a study on human-tiger (*Panthera tigris tigris*) conflict in Bardiya National Park. He has said that human-wildlife conflicts are common phenomenon and have become significant problems throughout the world. According to him, the high rate of human population growth and the successfully restored habitat in the community forests of Nepal have accelerated the conflicts due to dispersal of tigers into these forests where they share these resources. The main aim of his study was to explore the human-tiger conflict in terms of livestock depredation, human casualties, retaliation killing and poaching of tiger and their prey base. The study was conducted in six buffer zone user committees of the Bardiya National Park, Nepal. According to the findings of the study, the average livestock holding among the respondent households was 6.70 heads of animal per household and the depredation rate due to tiger was 0.25 head per household per year. The consequential result was a 6% loss of livestock over the past three years. According to him, the less-prey density area was associated with a high livestock depredation rate for cows/oxen and goats/sheep. According to the report, twelve people were killed and four injured in tiger attacks between 1994 and 2007. His research showed that, the livestock grazing and human intrusion into tiger habitat and poor husbandry are causes of conflict.

Dhoubhade (2009) had carried out a study on park-people conflict in Bardiya National Park. According to her, crop damage and livestock predation were serious problems in BNP. The seriousness of crop and livestock losses varied considerably with the distance from the park's border and the specific location of farms. This was explained by the variations in the distribution of animal wildlife inside the park, the presence of natural and man-made barriers, the availability of forested areas outside the park, and the agricultural cropping pattern. According to her analysis, adjacent to the section of the park with the highest animal densities, crop losses varied from 47% for lentil to 24% for wheat. Further away, the extent of crop losses was reduced. In the 'far' zone situated 2-8 km from the park only 3% of the paddy was reported lost. Two wildlife species, chital and wild boar, were responsible for roughly half of the total damage to crops by animals. According to her observation, the economic value of livestock loss to wild predators was estimated to be two percent of the value of total crop losses. On

the other hand, the estimated value of grasses harvested by local villagers inside the park, seen as compensation' for crop losses and denial of access to traditional resources, constituted only 10% of the total economic loss from crop losses and livestock predation.

Various researchers have carried out several studies regarding Park-People relationship in different national park area. From the overview of related review of the study, it is learnt that 'Human-wildlife conflicts' are common phenomena from the past and have become significant problem throughout the world. Though there have been several studies, Bardiya National Park is neglected from this point of view. Apart from this, most of the studies have focused on biological aspect of the relationship between the park and people. There has been hardly any effort to explain the issues from anthropological perspective. This study will try to explore the various aspects of relationship between BNP and local people from anthropological perspective.

CHAPTER–III

RESEARCH METHODS

3.1 Research Design

This research is an exploratory and descriptive type. The study is aimed various aspects of local people Vs Bardiya National Park. This research has focused on how the local people are interacting with the park. In this study, descriptive research design has been applied to describe the findings of the study. Therefore, the most basic guiding factors in selecting research methods are the practices of everyday social life of the actors and their strategies, maneuvers, discourses, and struggles. In order to explore the dynamics of conflicts in society, methods and techniques of qualitative research have been used to collect the required information.

3.2 Rationale of Selection of Study Area

Shivapur Village Development Committee in Bardiya district is chosen as an area for this study since the researcher is the inhabitant of the VDC and it would be easier for the researcher to get reliable data for the study. The VDC borders extend to BNP to the north and west. In the eastern boundary, Orahi River joins Neulapur VDC and small community forest joins Thakurdwara VDC in the south. The study area is about 2km south from the East-west Highway. Bardiya National Park falls within the jurisdiction of Bardiya administrative districts of Nepal. The people living in adjoining village are dependent on park resources for wood and pasture. This study has included these populations.

BNP encompasses several villages in the park boundary with about 117,633 (BNP official record, 2011) people living in or adjoining to the park that rely on its resources mainly for grass/fodder and wood. Unless the needs of these people are identified that appropriate alternatives for the consequences brought about by the establishment of the park are addressed, there will be aggravation of conflicts between the park administration and the local people. If these needs are not identified, much of

the effort applied by the park administration for the conservation of the park and its resources will be futile. This research has been planned to examine the consequences of the establishment of the BNP on the local people in the mid western Terai region of Nepal and to examine the areas of conflicting relationship between the park administration and local people regarding the park resources.

3.3 Universe and Sampling

Altogether 20 village development committees of three districts (Bardiya, Banke and Surkhet) lie in the buffer zone of BNP, out of which 15 VDCs of Bardiya are included. The resident of these VDCs are dependent on park resources for grass/fodder and wood. Only Shivapur VDC out of 15 VDCs is selected for the study. There are 9 wards and 1330 households in this VDC (Shivapur VDC Official Record). Among 1330 households of the universe, 150 households were selected on the basis of random sampling. It was believed that this sample represented to total population of the VDC fairly.

3.4 Nature and Source of Data

The study was based on primary as well as secondary data. In primary data collection, the heads of the households were interviewed. Secondary data were collected from VDC office, National Park Office and various government and non-governmental agencies. To collect primary data from the respondents, a structured questionnaire was applied. The questionnaire contained both close and open questions related to education, economic activities, family size, landholding, household income, occupation, livestock, keeping method, purpose of livestock keeping, fuel wood and grass/fodder collection, alternative source of fuel and relation with the park staff. To get other necessary primary data, park staffs were interviewed. The questionnaires were administered through personal interviews.

3.5 Data Collection Techniques and Tools

3.5.1 Primary Data Collection

On the basis of research objectives, questions and type of data required following techniques were adapted to collect primary data. During the process of whole research, both men and women were equally involved.

3.5.1.1 Interview Schedule

The in-depth interview was carried out with youth, women, older people, local people and local leaders using an interview schedule. During that process, the information about the relation between BNP and local population was drawn in such a way that it raised reliability and validity of information and findings.

3.5.1.2 Key-Informant Interview

This technique was the main tool for the collection of primary data for the study. It helped to collect required data on local people's perception. To collect more important qualitative data, key-informant interview was carried out with various people such as local leader, local intellectuals and representative of NGOs, and INGOs, working over there for the biodiversity conservation. To carry out interview with key-informants a check list was prepared and both quantitative as well as qualitative data were gathered.

The reliability of the questions in the questionnaire was measured after the pretest which was conducted in the non-sampled area, and the result of the pretest was incorporated in the interview schedule for the validity of the data.

3.5.1.3 Observation Technique

Observation technique was adopted to collect the data and information on the related matters. Various aspects of relation between the BNP and local people were observed.

3.5.1.4 Case Study

Seven cases about human casualty were found in the study area. For the case study victimized people were interviewed unstructurally to collect necessary data.

3.5.2 Secondary Sources of Data

Secondary data were collected from the concerned VDC office, Central Bureau of Statistics, various government and non-governmental agencies, National Park office, profiles and plan documents, government policy documents and other published materials.

3.6 Data Analysis and Presentation

The data obtained from this investigation were classified and analyzed using the Statistical Package for Social Science (SPSS). Descriptive statistical tools like frequency distribution, graphical presentation, pie chart, cross tabulation, mean and standard deviation were used for qualitative as well as quantitative analysis.

The range of responses and percentage of responses for each response category and the total number of respondents by their categories have been calculated for all closed questions.

For open-ended questions, all answers were manually assigned to categories based on the similarity of answers to the questions. The categories of responses were analyzed in aggregate form.

CHAPTER–IV

THE SETTING AND THE RESPONDENTS

4.1 The Physical and Cultural Setting of the Study Area

Shivapur Village Development Committee in Bardiya district is chosen as an area for this study. This VDC is situated in the subtropical lowland of Terai. The VDC borders extend to BNP to north and west, Neulapur VDC separated by Orahi River in the east and small community forest and Thaukurdwara VDC to the south. Shivapur VDC lies to the south of east-west highway, approximately 2 km away. There is only one river (Orahi) which flows through the eastern boundary of the VDC and a stream called Githe. Each year there is heavy flooding of river and streams during the monsoon due to heavy rainfall.

4.1.1 Demography

Population is the main factor for an anthropological research. Many people from hills migrate to this VDC each year. So, the population of Shivapur VDC is increasing remarkably. Following table shows ward wise population of Shivapur VDC.

Table 4.1: Population of Shivapur VDC

Ward No.	No. of Household	Female	Male	Total
1	74	228	215	443
2	79	255	255	510
3	105	316	345	661
4	86	297	297	594
5	174	519	515	1034
6	154	439	434	873
7	61	180	170	353
8	213	646	581	1227
9	384	1220	271	2491
Total	1330	4103	4073	8176

Source: VDC Office Record, 2068

According to the above table 4.1, total population of Shivapur VDC is 8176 (male- 4073 and female- 4103) with 1330 households. As shown by the above table, population of ward no. 7 is only 353 which is the least among all the wards and that of ward no. 9 is 2491 which is the highest among all the wards. The size of ward no. 9 is also the biggest. Most of the population of this VDC is occupied by indigenous Tharu. The no. of female is slightly greater than the no. of male.

4.1.2 Climate

The climate of the area is subtropical monsoon type with three distinct seasons: Cool-dry (November to February), hot-dry (March to June) and monsoon (July to October). Most of the rainfall occurs between June to September, somewhat later than the eastern part of the country. The annual rainfall varies from about 2000 mm at Chisapani to about 1400 mm at Gularia depending upon the proximity of hills. Heavy pre-monsoon rain in April and May is common in western Nepal. The minimum temperature may fall to 3⁰C. Frequent occurrences of cold waves keep the area covered with clouds for about four weeks during winter. Average temperature in the cool season drops to 10⁰C in January while in the hot-dry season temperature may rise upto 41⁰C in May, (Dinerstein, 1979 cited in Bhattarai, 2009).

4.1.3 Vegetation Cover

There are only a few patches of natural forests due to massive conservation of natural forest for agricultural production. There are only two small community forests, Shivapur Community forest covers an area of about 55 ha, located in Shivapur Phanta. This CF mainly consists of planted shisau trees and grassland. The resources obtained from this CF are used by various wards of Shivapur VDC. Another CF is located in Bathanpur Phanta covering the area of 88 ha. The people mainly from ward no. 8 and 9 of Shivapur VDC and ward no. 2 of Thakurdwara VDC are benefitted from the resources of the CF. *Trewia Mediflora* (Vellar), *Bombax Ceiba* (Simal) and *Mallotus Phillopnensis* (Sindure) are the main dominant tree species of Bathanpur Phanta. The forest products obtained from these both of the CFs are not sufficient to meet the demand of local population.

4.1.4 Land Use and Agriculture

The total population of this area/study area (Shivapur VDC) is 8176 according to VDC report. Initially this area was occupied by the indigenous Tharu inhabitants who

had immune to malaria. After the eradication of malaria many people from different ethnic groups migrated to this area for settlement. Most of the people in this VDC are engaged in agriculture, which is the main source of income. Some people go to India as seasonal labour. In recent years some people have started to go to Gulf countries for labor.

Paddy, corn, mustard, wheat and lentil are main crops in the VDC. Paddy is planted in the monsoon and harvested in November and December. Corn is grown in the same (monsoon) season but harvested in September. The different kinds of vegetables and fruits are also produced here. Still the farmers have not started commercial production of vegetables and fruits due to marketing problem.

Agriculture activities are still done in the area by traditional method. Most of the farmers use both oxen and buffaloes for ploughing. Very few farmers use tractor for ploughing. Although, chemical fertilizers and pesticides are used, majority of the farmers still use farm manure as fertilizer. Water channels originating from Orahi river and Githe stream irrigate most of the agricultural fields. Oxen cart is also one of the main sources of transportation of this area.

The majority of the people in this area are subsistence farmers. Livestock and land are their important assets. Most of the villagers have small piece of land. Due to this livestock is an important component of agricultural production. Farming is traditional and primitive. Livestock are the source of cash income for the farmer. Animals provide traction power and manure. Most of the households keep cattle like buffalo, goat, pig and sheep. A traditional animal husbandry system is practiced by these households. There is no sufficient grazing area in this VDC, so people are compelled to keep their livestock by stall-feeding. For this people collect most of the required grass/fodder from the National Park.

4.1.5 Culture

Almost all the people of the study area are Hindu. Dashain, Tihar, Maghi, and Chaite Dashain are the main festivals of the people of the study area. Some other festivals are also celebrated such as Fagu Purnima, Janai Purnima, Krishna Janmastami, Atwari and Teej. However, Dashain is the main festival of Hindus, Maghi is the main festival of indigenous people among all the other festivals. Atwari is celebrated by only indigenous Tharu. Except Janai Purnima, Krishna Janmastami, Atwari and Teej all the

other festivals are commonly celebrated by the people of the study area. Tharus do not observe Janai Purnima and Teej.

Talking about language Tharus have their own language. However they can speak Nepali. And all the other people of the study area speak Nepali language. Some Magars also inhabit in the study area but they don't know their own Magar language. Tharu people have their own tradition to make their houses. They make one storey hut always turning north-south direction. But other people living in the study area make similar houses, generally two storey Kachcha house turning to any direction according to their desire. But some people in these days who are capable, have started to build RCC house. Though the name of the study area is Shivapur which means place of Lord Shiva, there is no any Shiva Temple. However, Krishna Temple is under construction.

4.2 Background Characteristics

4.2.1 Distribution of the Respondents by Ward

Out of 1330 households of Shivapur VDC of Bardiya district only 150 households were selected for study which is given in the following table.

Table 4.2: Distribution of the Respondents by Ward

Ward No.	Frequency	Percent
1	16	10.7
2	14	9.3
3	16	10.7
4	16	10.7
5	15	10.0
6	15	10.0
7	16	10.7
8	21	14.0
9	21	14.0
Total	150	100.0

Source: Field Survey, 2068

According to the above table 4.2, distribution of the respondents in terms of ward is like this: ward number-1: 10.7%, ward number-2: 9.3%, ward number-3: 10.7%, ward number-4: 10.7%, ward number-5:10%, ward number-6: 10%, ward number-7: 10.7%, ward number-8: 14 and ward number-9: 14% respectively. The number of the respondents appears more in ward number 8 and9 as these two wards are large in the VDC. The respondents from each ward have been selected from each group to make the participation of the respondents more inclusive for the research. It is believed that the sample selected represented to the total population of the VDC.

4. 2.2 Distribution of the Respondents by Age

Age of the people is considered one of the factors that determines the relationship between the park and people. The respondents of various ages are shown in the following table.

Table 4.3: Distribution of the Respondents by Age

Age Group	Frequency	Percent
Below 25	12	8.0
25-35	19	12.7
35-45	42	28.0
45-55	39	26.0
above 55	38	25.3
Total	150	100.0

Source: Field Survey, 2068

As we see in the above table 4.3, most of the respondents are of 35 to 45 age groups which cover 28% of the total number of the respondents. The percentage of the respondents below 25 is only 8% which is the least percentage.

4. 2. 3 Distribution of the Respondents by Sex

Distribution of the respondents by Sex is shown in the following table.

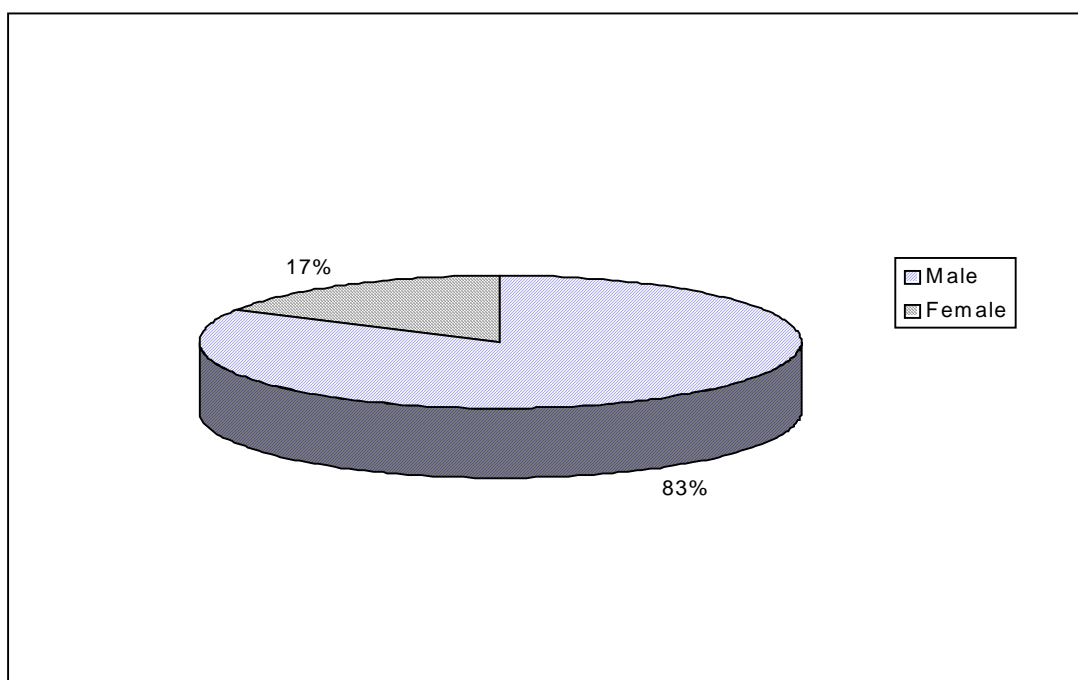
Table 4.4: Distribution of the Respondents by Sex

Sex	Frequency	Percent
Male	125	83.0
Female	25	17.0
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 4.4, most of the respondents (83%) are male while only 17% are female. Above table 4.4 can be presented in the following pie-chart.

Fig. 4.1: Distribution of the Respondents by Sex



As shown in the above pie-chart, the number of male respondents is greater than the female respondents. It shows that Nepalese society is still male dominated.

4. 2. 4 Distribution of the Respondents by Education

Distribution of the respondents by Education is shown in the following table.

Table 4.5: Distribution of the Respondents by Education

Educational qualification	Frequency	Percent
Illiterate	46	30.7
Literate only	98	65.3
SLC	4	2.7
+2/PCL	2	1.3
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 4.5, among 150 respondents of the study area, 30.7% are illiterate, 65.3% are literate, SLC passed are 2.7% and +2/PCL passed are only 1.3%. Most of the people of the study area are found uneducated. So, the people are not conscious about the importance of biodiversity conservation. And most of them have no other permanent occupation besides farming. So, the local people collect forest products like young wild animals, timber wood, edible wild vegetable and wild honey. Such activities of the local people establish a conflicting relationship with BNP.

4. 2. 5 Distribution of the Respondents by Religion and Caste/Ethnicity

Most of the respondents of the study area are Hindu. Following table shows the distribution of the respondents according to caste/ethnicity.

Table 4.6: Distribution of the Respondents by Caste/Ethnicity

Caste/ethnicity	Frequency	Percent
Brahmin	34	22.7
Chhetri	22	14.7
Tharu	59	39.3
Magar	3	2.0
Thakuri	2	1.3
B.K.	15	10.0
Giri/Puri/Bharati/Ban	8	5.3
Nepali	5	3.3
Others	2	1.3
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 4.6, most of the respondents are Tharu which is 39.3%. It is common since majority of the people living in Terai are indigenous Tharu. The second largest ethnic group of the respondents is Brahmin which covers 22.7% of the total respondents. Other groups are Chhetri(14.7%), Magar(2%), Thakuri(1.3%), B.K.(10%), Giri/Puri/Bharati/Ban(5.3%), Nepali(3.3%) and others(1.3%) which includes Hudke. Almost all the respondents are Hindu. Although Tharus are also Hindus, they have their own traditional culture for which they have to depend upon the forest products.

4. 2. 6 Distribution of the Respondents by Family Type

It is observed that family type is also another factor that affects relationship between park and people. People living in joint family are found giving more pressure than the people living in nuclear family on the park. The distribution of the Respondents by family type is shown in the following table.

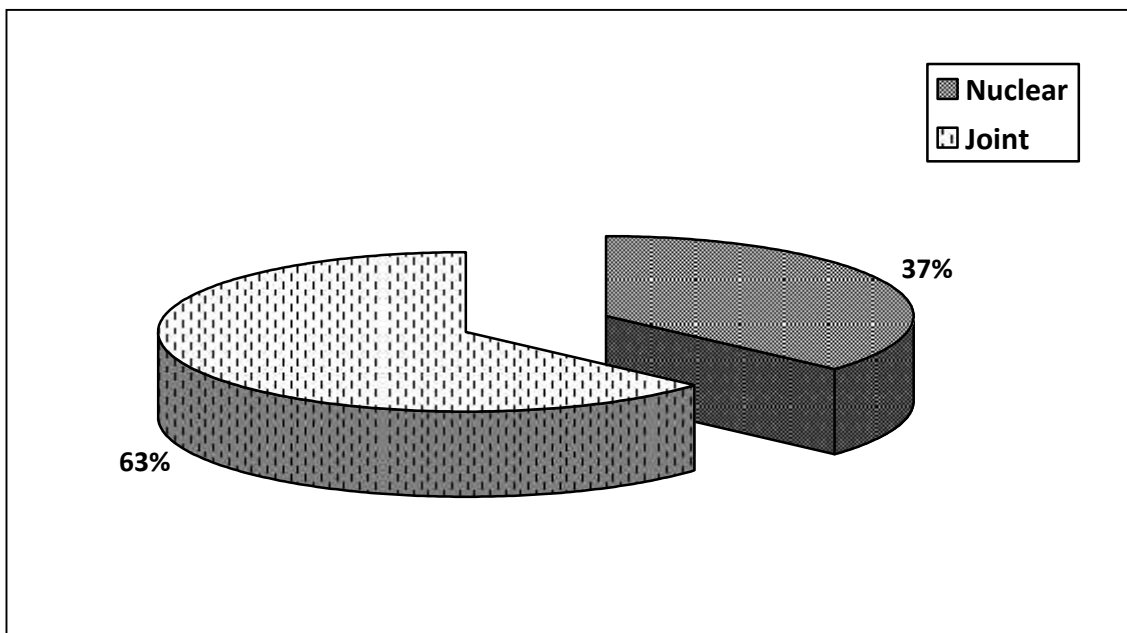
Table 4.7: Distribution of the Respondents by Family Type

Family type	Frequency	Percent
Nuclear	55	37
Joint	95	63
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 4.7, the proportion of the respondents living in joint family is 63% and proportion of the respondents living in nuclear family is 37%. Above table 4.7 can be presented in the following figure.

Fig. 4.2: Distribution of the Respondents by Family Type



As shown in the above pie-chart, most of the respondents i.e. 63 % (95 out of 150) are living in the joint family. Since most of the respondents are indigenous Tharu which generally live in joint family. The remaining 55 respondents (37 %) are living in nuclear family.

4. 2. 6. 1 Distribution of the Respondents by Family Size

Family size of the respondents is shown in the following table.

Table 4.8: Distribution of the Respondents by Family Size

Family size	Frequency	Percent
Upto 4	24	16.0
5-7	68	47.3
7-10	41	27.3
More than 10	17	11.3
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 4.8, the proportion of the respondents having family size up to 4 is 16%, proportion of the respondents having family size 5-7 is 47.3%, similarly 27.3% of the respondents have family size 7-10 and only 11.3% of the respondents are found to have family size more than 10. It is observed that mostly indigenous Tharus are living in joint family. It is also observed that the pressure of local people on BNP is depending on family size of the respondents.

4. 2. 7 Distributions of the Respondents by the Type of Inhabitant

Some of the respondents of the study area are found to be migrant. The type of inhabitant of the study area is shown in the following table.

Table 4.9: Distributions of the Respondents by the Type of Inhabitant

Type of inhabitant	Frequency	Percent
Local	144	96.0
Migrant	6	4.0
Total	150	100.0

Source: Field Survey, 2068

As shown in the table 4.9, most of the respondents i.e. 96% are local. Here, people living in the study area for more than 20 years are considered as local. Rest only 4% are migrated from mountain. Out of the total migrants as shown in the table 4.7, only one migrated last year, one 13 years ago, three 17 years ago and one 2 years ago respectively. Due to fertile land of the plain many land-hungry people from hills migrate to the Terai each year.

4. 2. 8 Distribution of the Respondents by Economic Status

4. 2. 8. 1 Land Possession

Land possession is found as the main factor to determine the relationship between park and people. It is observed that people having bigger size of land are giving less pressure on the park. The status of the land possession is shown in the following table.

Table 4.10: Land Possession

Land possession	Frequency	Percent
<5 Kaththa	11	7.3
6-10 Kaththa	54	36.0
11-15 Kaththa	25	16.7
> 15 Kaththa	21	14.0
> 1 Bigaha	39	26.0
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 4.10, the proportion of the respondents having land less than 5 kaththa is 7.3%, proportion of the respondent having 6 to 10 kaththa is 36%, similarly proportion of the respondents having 11 to 15 kaththa is 16.7%, proportion of the respondents having land more than 15 kaththa is 14% and 26% of the respondents are having land more than one bigaha. Land size below 10 kaththa is too small to support the living of a family. The grass obtained from their farm land is also

not sufficient to feed their livestock. So, people are compelled to collect forest products due to which a conflicting relationship exists between park and local people.

4. 2. 8. 2 Average Monthly Income

4. 2. 8. 3 Average Monthly Income from Agriculture

People of the study area are not found to be involved in commercial farming. The farming system adopted by the local people is found just subsistence. However, local people are able to make nominal income from agricultural products which is shown in the following table.

Table 4.11: Average Monthly Income of the Family of the Respondents from Agriculture

Income	Frequency	Percent
Below Rs. 5000	78	52.0
Rs. 5000-10000	3	2.0
No response	69	46.0
Total	150	100.0

Source: Field Survey, 2068

Table 4.11 shows that the proportion of the respondents having average monthly family income below Rs. 5000 is 52%, the proportion of the respondents having average monthly family income Rs. 5000 to 10000 is only 2%. 46% of the respondents do not have income from agriculture. Above table shows subsistence farming system among the people of study area.

4. 2. 8. 4 Average Monthly Income from Non-Agriculture Sources

Some of the respondents are found to be involved in other activities except farming for their living. Average monthly income of the family of the respondent from non-agricultural sources is shown in the following table.

Table 4.12: Average Monthly Income from Non-Agricultural Sources

Income	Frequency	Percent
Below Rs. 5000	79	52.7
Rs. 5000-10000	39	26.0
Rs. 10000-20000	13	8.7
Rs. 20000-30000	2	1.3
No response	17	11.3
Total	150	100.0

Source: Field Survey, 2068

Above table 4.12 focuses on the average monthly income of respondent from non-agricultural sources. Majority of the respondents' (i.e. 52.7%) monthly average family income from non-agricultural sources is below Rs 5000/- . Average monthly income from non-agriculture of 26% of the respondents is found Rs 5,000/- to Rs 10,000/-. Similarly income of 8.7% of the respondents is found Rs 10,000/- to Rs 20,000/- and the income of 1.3% of the respondents is Rs 20,000/- to 30,000/- where as 11.3% of the respondents do not have any income from non-agricultural sources.

4. 2. 8. 5 Distribution of the Respondents by the Type of House

The type of house is observed as another factor to establish a conflicting relationship between park and local people. People having Kachcha house are found depending more on the park resources for the maintenance. Following table shows the distribution of the respondents by the type of house.

Table 4.13: Distribution of the Respondents by the Type of House

Type of house	Frequency	Percent
RCC	3	2.0
Brick and Mud House with Roof of Zinc	29	19.3
Kachcha House with Roof of Straw	75	50.0
Kachcha House with Roof of Tile	43	28.7
Total	150	100.0

Source: Field Survey, 2068

According to the above table 4.13, 75 respondents are having kachcha house with straw roof which is 50% of the total respondents. Very few i.e. 3 respondents are having RCC house which is 2% of the total respondents. 19.3% of the respondents are having brick and mud house with zinc roof where as 28.7% of the respondents are having kachcha house with tile roof. It is observed that most of the respondents are having kachcha house with straw roof. For the maintenance of such house, people have to depend on the park resources. BNP is allowing local people to collect thatching and binding materials from the park once a year only for three-four days which is not sufficient. So, local people have to steal such materials from the park. To maintain their house they also need wood but there is no provision to provide wood to the local people. However, people manage it from the park which is illegal. Due to this, conflicting relationship exists between the park authority and local people.

4.2.8.6 Distribution of the Respondents by Occupation

Occupation of the local people is found playing important role in the relationship between park and local people. People involving in farming are found depending more on the park resources than the people involving in other occupation. Following table focuses on the distribution of the respondents by occupation.

Table 4.14: Distribution of the Respondents by Occupation

Occupation	Frequency	Percent
Farming	150	100.0%
Wage Laboring	76	50.7%
Service	44	29.3%
Business/Trade	1	0.7%
Total	271*	

Source: Field Survey, 2068

**Multiple response type questions*

Above table 4.14 shows the farming as the main occupation of the most of the respondents. According to the table, all 100% of the respondents are doing farming as their living/ main occupation. Along with farming, 50.7% of the respondents are doing wage laboring, 29.3% of the respondents are doing service and very few respondents i.e. only 0.7% are doing business. As shown in the above table 4.12, the main occupation of the local people is traditional farming for which they have to depend upon the park resources, due to this, a conflicting relationship exists between the park and local people.

4. 2. 8. 7 Distribution of the Respondents by Sources of Family Income

The source of family income is observed as one of the factors to determine conflicting relationship between the park and local people. It is found that the respondents having other source of income except farming are found to be more positive towards park. The sources of income of the people of the study area are given in the following table.

Table 4.15: Distribution of the Respondents by Sources of Family Income

Source of Income	Frequency	Percent
Farming	150	100.0%
Wage Laboring	74	50.3%
Foreign Employment	5	3.4%
Service	43	29.3%
Business/Trade	1	.7%
Total	273*	

Source: Field Survey, 2068

** Multiple response type questions*

Above table 4.15 reveals that farming is the main source of income of the people of the study area which is 54.4%. Besides farming there are other sources of income such as wage laboring (27.4%), foreign employment (1.5%), service (15.9%) and business/trade (0.4%).

Farming is found as the main source of income of the people of the study area and farming is done traditionally and crop is heavily damaged by wild animals. So, most of the people of the study area are under the line of poverty. So, poverty of the local people is another factor for conflicting relationship between BNP and local people.

CHAPTER–V

LIVE STOCK KEEPING AND PRACTICE

The main source of income of the people of the study area is subsistence farming. Farming is done traditionally. Livestock play an important/ vital role in traditional farming. Animal dung is used as manure, oxen or buffaloes are used for ploughing and pulling cart. Flesh of certain livestock is used as the main source of protein and milk which is the main source of nutrients for young children is also obtained from livestock. So, for the income of the people of agricultural country like Nepal, livestock play important role.

5.1 Distribution of the Respondents by Livestock Holding

Most of the people of the study area are found to take livestock as the main source of income. Most of the people of the study area are found keeping livestock. The total livestock holding of the respondents is shown in the following table.

Table 5.1: Distribution of the Respondents by Livestock Holding

No. of Livestock	Frequency	Percent (%)
0-10	76	50.7
10-20	52	34.7
20-30	17	11.3
More than 30	5	3.3
Total	150	100

Source: Field Survey, 2068

As shown in table 5.1, the proportion of the respondents keeping livestock 0-10 is 50.7%, 34.7% of the respondents are keeping 10-20 livestock, 11.3% are keeping 20-30 livestock and only 3.3% of the respondents are keeping more than 30 livestock.

However, it is observed that almost all the respondents are keeping livestock and most of them are found to stall feed their livestock. Main place for grass/fodder collection is BNP but there is no legal provision to allow local people for grass/fodder collection from the park. However they are managing required grass/fodder from the park. Due to this, conflicting relationship exists between BNP and local people.

5.1.1 Way of Feeding Livestock

The following table shows the way of feeding livestock.

Table 5.2: Way of Feeding Livestock

Way of feeding	Frequency	Percent
Grazing	5	3.3
Stall-feeding at Home	138	92.0
No response	7	4.7
Total	150	100.0

Source: Field Survey, 2068

As shown in table 5.2, most of the people (respondents) are found to stall-feed their livestock at home, since there is no sufficient grazing meadow for their livestock. The proportion of the respondents who stall-feed their livestock at home is 92%. The proportion of the respondents who feed their livestock by grazing is only 3.3%, rest 4.7% of the respondents do not want to respond in this regard, but from the other respondents, it is found that those 4.7% of the respondents also collect required grass/fodder from BNP. Here, we observe greater proportion of the respondents who stall-feed their livestock at home. They need grass/fodder to feed their livestock. For this they are compelled to depend on park resources, since there is no sufficient community forest.

5.1.2 Way of Grazing Livestock

Most of the respondents of the study area are farmer. Livestock play important role in agriculture. The people of study area are found feeding their livestock by two ways- grazing and stall-feeding at home. The following table shows ways of grazing.

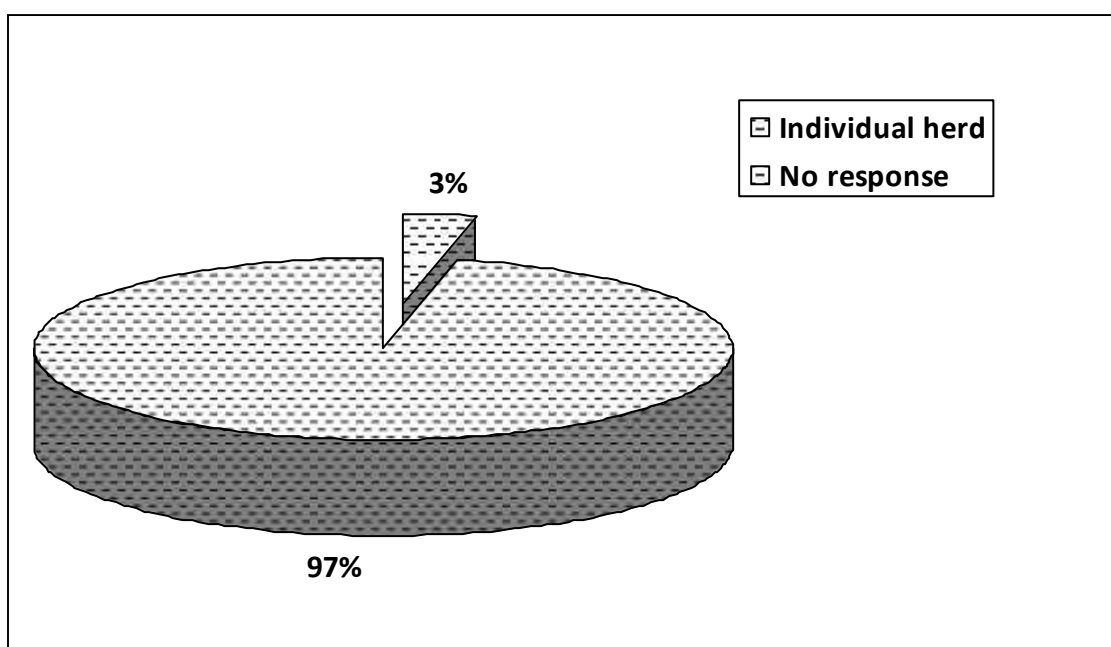
Table 5.3: The Way of Grazing Livestock

Way of grazing	Frequency	Percent
Individual Herd	5	3
No response	145	97
Total	150	100.0

Source: Field Survey, 2068

Above table 5.3 can be presented by the pie-chart as follows.

Fig. 5. 1 Way of Grazing Livestock



Above figure 5.1 shows that only 3 % of the respondents feed their livestock by grazing. Since, there is no proper grazing meadow; people take their livestock to the river bank for grazing. Due to this it is not possible to graze livestock in group herd. So, people graze their livestock in individual herd. Here, in the above pie-chart 97 % respondents do not give any response as they stall-feed their livestock.

It has been already mentioned that in this VDC (Shivapur VDC), there is no grazing meadow for livestock, since most of the forest area has been covered by Bardiya National Park. Some portion of the forest and grazing meadow is captured by landless

(Sukumbasi) people and remaining small portion of the forest area has been preserved as community forest. So, there is no grazing meadow in this VDC. Most of the people are forced to stall-feed their livestock and very few people which are 3 % are using Orahi river bank as grazing meadow. In the river bank grazing livestock in group herd is not possible. So, people graze their livestock in individual herd.

5.1.3 Grazing Problem and Critical Season

According to the research, it is found that only 3.3% of the respondents to take their livestock to the river bank for grazing. All the respondents who graze their livestock have problems. Main problem faced by the respondents is lack of grazing meadows. In this VCD, there is lack of grazing meadow since most of the forest area is covered by Bardiya National Park. Some is captured by landless people and rest of the forest area is preserved as community forest. Due to this reason, there is lack of meadow. Those who have no other option are compelled to take their livestock towards river bank for grazing. River bank is not sufficient to feed their hungry livestock. Winter is cool and dry. In winter season grass does not grow in the river bank. So, it is difficult for the people to feed their livestock by grazing in winter season. In this season, sometimes they are compelled to collect grass/fodder from the Park.

Situation of the grazing problem and critical season to graze livestock is shown in the following tables.

Table 5.4 (i): Grazing Problem

Grazing problem	Frequency	Percent
Lack of Meadows	5	3.3
No response	145	96.7
Total	150	100.0

Table 5.4 (ii): Critical Season for Grazing

Season	Frequency	Percent
Winter	5	3.3
No response	145	96.7
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 5.4 (i), 96.7 % of the respondents are found to stall-feed their livestock. So, these people do not have any grazing problems. Only 3.3% of the respondents are having grazing problem due to lack of meadows.

According to table 5.4(ii), winter season is the critical season for those respondents who feed their livestock by grazing. Since winter season is cool and dry and it rains rarely in this season. So, grass for grazing cannot grow in the river bank. So, winter is the critical season for grazing livestock. In such condition livestock are fed with paddy straw obtained from their own farm land as agricultural bi-product.

5.1.4 Problem in Fodder/Grass Collection

As there is no sufficient community forest in Shivapur VDC, people of this area are found to depend upon the resources of Bardiya National Park. These people are suffering from the problem in collecting fodder/grass from the Park. Following table focuses on the situation of the problem in fodder/grass collection.

Table 5.5: Problem in Fodder/Grass Collection

Problem in fodder/grass collection	Frequency	Percent
Yes, there it is.	136	90.7
No any problem	5	3.3
No response	9	6.0
Total	150	100.0

Source: Field Survey, 2068

As shown in the table 5.5 a large proportion of the respondents (i.e. 90.7%) say that they have problems in collecting grass and fodder. Only 3.3% of the respondents do not have any problem in collecting grass/fodder. Since grass and straw obtained from their own farmland is sufficient to feed their livestock. So, they do not have to move into the Park to collect grass/fodder. In the above table some proportion (i.e. 6%) of the respondents does not respond in this regard. The concern regarding this is that there is no legal provision to provide grass/fodder from the park to the local people. So, park authority takes collection of grass/fodder from the park as an illegal activity, due to which local people are suffering a lot. Consequently, a conflicting relationship exists between BNP and local people.

5.1.5 Problem Creators in Fodder/Grass Collection

There are several problems caused by various factors in the study area regarding fodder/grass collection. The following table shows the problem creators in fodder/grass collection.

Table 5.6: Problem Creators in Fodder/Grass Collection

Problem creators	Frequency	Percent
Park Staff	113	75.3
No response	37	24.7
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 5.6, most of the respondents (i.e. 75.3%) say that Park staff create problem to them while collecting grass/fodder. While collecting grass/fodder from the Park, if they encounter with the Park staff then they are taken to the Park Office/Post for punishment. Rests 24.7% of the respondents have not mentioned anything about the problem creators.

There is no legal provision to allow local people to collect grass/fodder from the park. If locals are found doing such illegal activities in park then they are taken to the park office by the park security for punishment which is taken as the main problem by the

local people. Due to this, a conflicting relationship exists between the park and local people.

5.1.6 Fodder/Grass Collection Site

Though the livestock are essential for local farmer, it is difficult to feed them. However, they have managed grass/fodder to feed them from various sources which is shown in the following table.

Table 5.7: Fodder/Grass Collection Site

Fodder/grass collection site	Frequency	Percent
Farm Land	150	100.0%
BNP	139	98.6%
Community Forest	8	5.7%
Total	297*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in the above table 5.7, 100% of the respondents collect grass/fodder from their own farm land, 98.6% of the respondents collect from Bardiya National Park and rest 5.7 % of the people from community forest. We observe that grass/fodder collected by the people is not sufficient. So, most of the people collect grass/fodder from Bardiya National Park to feed their livestock. Due to this, pressure of local people on the park has increased which creates conflict between the park and people.

5.1.7 Problems Faced in Fodder/Grass Collection

Local people or respondents of the study area are suffering from various problems from various sites. Following table focuses on the problems faced by the respondents.

Table 5.8 : Problems Faced in Fodder/Grass Collection

Problems	Frequency	Percent
Get punishment from BNP Staffs if caught	3	2.2%
Parks rules.	116	85.3%
Lack of Community Forest	73	53.7%
Lack of Meadows	1	.7%
Attack of Wild Animals	5	3.7%
Total	198*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in the above table no 5.8, 2.2% of the respondents are getting problems while collecting fodder/grass. According to them, if they get encountered with the Park staff, they were taken to the Park Office for the punishment. Majority of the respondents i.e. 85.3% have claimed that existing park rules are the main problems for collecting grass/fodder from the park. They think that affected people should get grass/fodder and firewood from the park easily without any problem. 53.7% of the respondents think that they are facing problems in collecting grass/fodder due to lack of community forest. They believe that if there were sufficient community forests then it would not be necessary for them to move into the park for collecting grass/fodder. According to the above table, 3.7% of the respondents take 'attack of wild animals' as the main problem faced in collecting grass/fodder. According to them many people have become wounded by the attack of wild animals while collecting grass/fodder. Only 0.7% of the people think lack of meadows is the main problem faced in collecting grass/fodder. According to them if there were sufficient meadows then it would not be necessary for them to collect grass/fodder from the park, they would be able to feed their livestock only by grazing.

CHAPTER–VI

FIREWOOD COLLECTION PRACTICE AND PROBLEMS

Before the invention of fire, ancient man used to take the foods in natural forms (i.e. raw). It is believed that fire was invented in Stone Age. From that time human started to take cooked food. They used wood and dry leaves as fuel for cooking food. Most of the people of poor/developing countries are still using firewood as the main fuel for cooking food.

6.1 Fuel Supply Situation for Cooking

Most of the people of the study area are also using firewood as the main source of fuel. However, very few people are using alternative source of firewood for cooking. Following table shows the situation of fuel used by the local people for cooking.

Table 6.1: Fuel Supply Situation for Cooking

Fuel for Cooking	Frequency	Percent
Firewood	128	85.3
Biogas	22	14.7
Total	150	100.0

Source: Field Survey, 2068

Table 6.1 shows that out of 150 respondents 85.7% of the respondents are using only firewood for cooking. The proportion of the people who are using bio-gas as the fuel for cooking food is only 14.7%. The table 6.1 shows that majority of the people are using firewood for cooking. Bardiya National Park is the main source to supply firewood to the locals. There is no legal provision to provide firewood from the park.

However, local people are managing it from the park illegally which is another factor to increase conflict between the park and people.

6.1.1 Fuel Wood Collection Place

It has been already mentioned that most of the people living adjacent to BNP are using fuel wood for cooking food. Following table focuses on the places from where local people collect fuel wood.

Table 6.2: Fuel Wood Collection Place

Place for Firewood Collection	Frequency	Percent
Community Forest	2	1.3%
BNP	126	84%
No response	22	14.7%
Total	150	

Source: Field Survey, 2068

Table 6.2 shows that 84% of the respondents, who are using fuel wood for cooking collect fuel wood from the park and rests only 1.3% of the respondents collect fuel wood from the community forest. 14.7% of the respondents do not respond in this regard since they are using biogas. Majority of the people are found collecting firewood from BNP which is the main illegal activity of the local people in the park. Due to this a conflicting relationship exists between the local people and BNP.

6.1.2 Problems Faced in Firewood Collection

As in grass/fodder collection, locals are also facing problems in firewood collection. Following table shows the various problems faced by the respondents while collecting firewood.

Table 6.3: Problems Faced in Firewood Collection

Problem	Frequency	Percent
Get punishment from BNP Staffs if caught	16	12.5%
Parks rules.	103	80.5%
Lack of Community Forest	70	54.7%
Attack of Wild Animals	2	1.6%
Total	191*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in the table 6.3, majority of the respondents (i.e.80.5%) take the existing park rules as the main problem for collecting firewood. 54.7% of the respondents think lack of community forest as the main problem. 12.5% of the respondents think punishment given by BNP if caught by the Park staff, as the main problem faced in firewood collection and only 1.6% of the respondents take attack of the wild animals as the main problem faced in firewood collection.

6.1.3 Problem Creators and the Way of Problem is Given

Following table focuses on the problem creators in firewood collection.

Table 6.4: Problem Creators

Problem Creators	Frequency	Percent
Park Staff	128	85.3
No response	22	14.7
Total	150	100.0

Source: Field Survey, 2068

Above table 6.4 shows Park Staff as the main problem creators in collecting firewood. 85.3% of the respondents say that Park Staff give them trouble. While collecting firewood if encountered then Park Staff catch and take them to the Park Office for punishment. Rests (14.7%) of the respondents do not response in this regard. Since 14.7% of the respondents are using biogas.

The following table shows the way of problem given.

Table 6.5: The Way Problem is given

The Way Problem is Given	Frequency	Percent
They charge Rs. 200.00	2	1.3
A fine of 200-500	105	70.0
No response	43	28.7
Total	150	100.0

Source: Field Survey, 2068

According to the above table 6.5, 70% of the respondents say that while collecting firewood inside BNP and if arrested by the Park Security then they are fined Rs 200 to Rs 500, 2% of the respondents say that they are fined only Rs 200. Rests 28.7% of the respondents do not respond. It is observed that such punishment system of the park is making local people negative towards the park which is the main cause to increase conflict between the park and local people.

6.2 Alternative Source of Firewood

Very few respondents of the study area are found using alternative source of firewood. The following table shows the status of the alternative source of firewood.

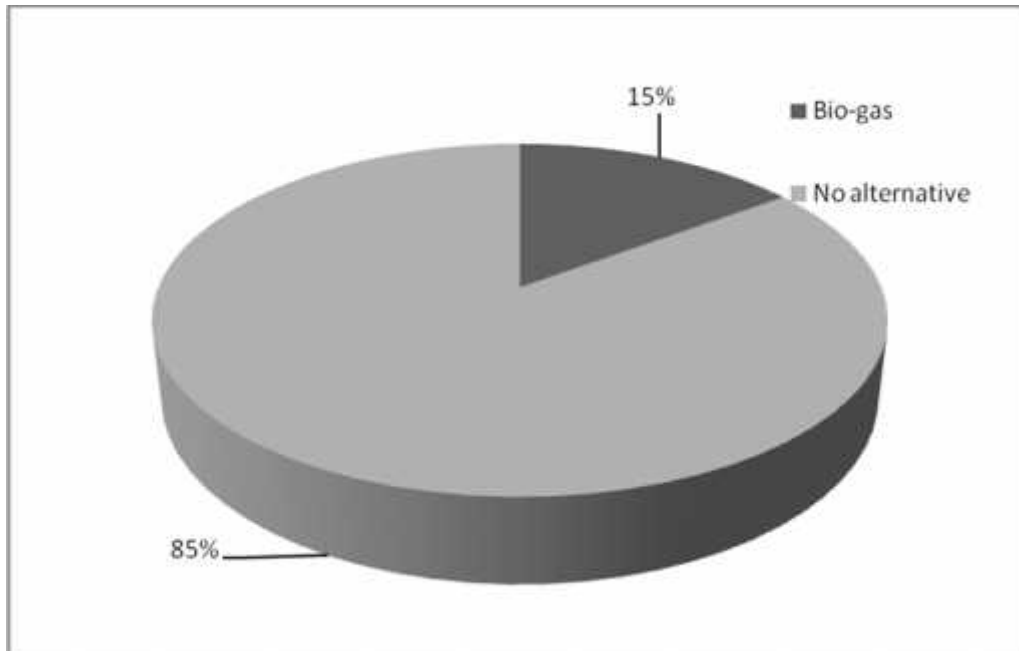
Table 6.6: Alternative Source of Fire Wood

Alternative Source	Frequency	Percent
Bio-gas	22	15
No alternative	128	85
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 6.6, some of the respondents are found using biogas as the alternative in the problem of firewood which can be presented by the following pie-chart.

Fig. 6.1 Alternative Source of Firewood



As shown in the above figure, only 15% of the respondents are using biogas as the alternative of firewood. Majority of the respondents (i.e. 85%) are still using firewood. According to the respondents, fuel gas obtained from biogas plant is not sufficient mainly in winter. So, the people are compelled to use firewood. And they are found to collect firewood from BNP.

The respondents, who have built biogas plant, are assisted by various NGOs/INGOs.

CHAPTER–VII

RELATIONSHIP BETWEEN BNP AND LOCAL PEOPLE IN OTHER DIMENSIONS

7.1 Amount of Crop Damaged by Wildlife

Due to poor fencing system in the park boundary, wild animals easily cross the boundary and damage crops which is the main problem of the local people. Amount of crops damaged by wildlife is shown in the following table.

Table 7.1: Amount of Crop Damaged by Wildlife

Amount of Crop Damaged	Frequency	Percent
20-30 kg	2	1.3
30-50 kg	7	4.7
50 kg-100 kg	17	11.3
1-2 quintal	65	43.3
>2 quintal	59	39.3
Total	150	100.0

Source: Field Survey, 2068

As shown in the above table 7.1, 1.3% of the respondents have lost 20 – 30 kg crops by wild animals. Similarly, 4.7% of the respondents have lost 30 – 50 kg, 11.3% of the respondents have lost 50 –100 kg crops, 43.3 % of the respondents have lost 1 – 2 quintal crops and 39.3% of the respondents have lost more than two quintal crops by wild animals. According to the above table 7.1 most of the respondents have lost 1 - 2 quintal crops due to wild animals.

Table 7.1 shows that all the respondents are losing crops more or less due to wildlife. Due to such loss of the crops also a conflicting relationship exists between the park and local people.

7.1.1 Wild Animals Damaging Crops

Wild animals which damage crops most are found wild boar, wild elephant, deer, blue bull, rhino, monkey and birds. The following table focuses on the wild animals which damage crops most.

Table 7.2: Wild Animals Damaging Crops

Wild Animals Damaging Crops	Frequency	Percent
Wild Boar	149	99.3%
Wild Elephant	140	93.3%
Deer	145	96.7%
Bhue Bull	127	84.7%
Rhino	7	4.7%
Monkey	125	83.3%
Birds	149	99.3%
Total	842*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in the table 7.2, the proportion of the wild boar that damages crops is 99.3%, Wild elephant – 93.3%, Deer – 96.7%, Blue bull – 84.7%, Rhino – 4.7%, Monkey – 83.3% and birds 99.3% respectively. Here, most of the wild animals appear damaging crops. However, amount of crops damaged by wild elephant, wild boar and deer is remarkable. Damage of crops is another main factor to increase conflict between park and people.

7.1.2 Wild Animal Attack and Human Casualty

Seven cases were found about wild animal attack and human casualty. Necessary data were collected about the cases using the unstructured interview. Three people had lost their lives and four people were seriously injured by wild animal attack in the study area.

Case-1: According to Dirge Damai of ward no.7 of Shivapur VDC, his wife was seriously injured due to wild elephant attack in Bhadra, 2065 B.S. He spent more than NRs. 40,000/- for her treatment but he did get any help from neither BNP nor BZMC as she was blamed that she was not made injured by the wild elephant, rather she might have fallen from the Atuwa.

Case-2: Bhim Lal Poudel of the same ward i.e. ward no. 7 was also injured due to tiger attack 10 years ago, but according to him, he also did not get any assistance from the Park side as he was injured inside the park while he was stealing grass.

Case-3: Mani Ram Sapkota of ward no. 3 of the same VDC was killed and eaten by tiger in 2058 B.S. when he went to BNP to collect grass. According to his family, they did not get any compensation from the park as he was killed inside the park while stealing grass.

Case-4: Another local farmer named Laxmi Prasad Gautam of ward no. 3 was seriously injured by tiger attack in 10th Falgun 2057 B.S. when he was working in his own farm land in the evening. His left eye was completely damaged and right eye was partially damaged by the tiger attack. His family spent more than NRs 1,20,000/- which is a huge amount for the ordinary farmer like them. But they got only NRs 5,000/- as compensation from the park.

Case-5: Parvati Mijar of ward number 1 of the same VDC was killed by wild elephant attack in Kartik 2067 B.S. when she went to chase the elephant from her paddy field with her husband. According to the husband of Parvati Mr. Aibanne Sarki, he got only NRs 1,75,000/-(NRs 25,000/- immediately and rest NRs 1,50,000/- after one year) as compensation. Aibanne Sarki got compensation since Parvati was killed outside the park

in her own farmland. According to him, the process of getting compensation was too lengthy and bothersome.

Case-6: Kali Das Tharu of ward number 8 of the VDC was also killed by wild elephant in Ashwin 2068 while he was looking after his paddy field at night. He had four sons; out of four three were blind. Dependents of Kali Das got NRs 25,000/- immediately and they are waiting for NRs 1,50,000/- and they will get it only after one year according to the park rule.

Case-7: Both legs of Laptan Tharu of ward no. 8 were damaged by wild elephant attack 12 years ago. The Tiger Top hotel took full responsibility for his treatment. But he did not get any help from BNP because he was unknown about compensation policy of the park and he did not inform the park authority about the injury.

Wild animal attack is common to the people living near the park boundary throughout the world. Government should take full responsibility for the treatment of the victim and providing appropriate amount of compensation to the dependents in case of death of a person. But concerned authority is not doing so. So, due to this a conflicting relationship exists between the park and local people.

7.2 Compensation

7.2.1 Compensation in Case of the death of Livestock /Crop Damage

The following table focuses on the local people's perception in case of the death of livestock and crop damage.

Table 7.3: Compensation in Case of the death of Livestock /Crop Damage

Compensation	Frequency	Percent
Doubled Value	24	16.0
Market Value	126	84.0
Total	150	100.0

Source: Field Survey, 2068

As shown in table 7.3, the entire respondents have demanded compensation in case of livestock killed and crop damaged by wild animals. Majority of the respondents (i.e. 84%) have demanded such compensation according to the market value. But 16% of the respondents have demanded compensation double the market value. From the discussion with the local people, it is observed that still they are not getting any compensation in case of damage caused by wildlife from BNP or concerned authority. Due to this a conflicting relationship exists between BNP and local people.

7.2.2 Compensation in Case of Human Casualty

Many people have lost their lives by the attack of the wild animals like wild elephant, tiger, leopard and rhino. According to the respondents still they are not getting the proper compensation from the Park. The following table shows local respondents' perception about compensation in case of human casualty.

Table 7.4: Compensation in Case of Human Casualty

Compensation	Frequency	Percent
NRs 300000-500000	149	99.3%
Bearing of Educational Expense of the Dependents	124	82.7%
Employment for Deceased Family Members	56	37.3%
Total	329*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in the table 7.4, 99.3% of the respondents have demanded NRs 3,00,000/- to 5,00,000/- , 82.7% of the respondents have demanded educational expenses of the dependents and 37.3% of the respondents have demanded employment for deceased family members as compensation.

According to the local people, they get a compensation of NRs 1,75,000/- in case of human casualty. They say that they get NRs 25,000/-immediately and rest NRs 1,50,000/- after one year. To know more about compensation process, the researcher has talked to Mr. Devi Prasad Devkota (Chair-person of Buffer Zone Management

Committee, BNP). According to him, BZMC provides Rs 25,000/- from its own fund immediately after the casualty and for rest of the amount (i.e. Rs 1,50,000/), BNP recommends to the Ministry for Soil Conservation and Forest and MSCF then recommends to the Finance Ministry. From Finance Ministry, amount of compensation is paid to the dependent of the victim. According to the local people, the process is too lengthy and the amount paid is too less to support the dependents. It is observed that the compensation process and the amount of compensation are the other factors to enhance the conflict between the park authority and local people.

- ✓ In Kenya, people get US \$ 545 for human death and US \$ 273 for human injury due to wild animal.
- ✓ In west Bengal (India) the compensation rate per death by wild elephant is US \$ 2051 and US \$ 1021 for serious injury.
- ✓ In Nepal people get Rs 1,50,000/- for death, Rs 50,000/- in case of serious injury, max Rs 10,000/- for livestock loss and max Rs 5,000/- for crop damage,(Joshi, 2010).

7.3 Violation of Park Rules and Punishment

Local people living adjacent to BNP are compelled to violate the park rules to fulfill their subsistence needs. Generally no one is excused in case of first violation of the park rules, which is shown in the following table.

Table 7.5 (i): Consequence in Case of First Violation of Park Rules

Action taken by park authority	Frequency	Percent
Punished	136	90.7
No response	14	9.3
Total	150	100.0

Source: Field Survey, 2068

Table 7.5(i) shows that most of the respondents (i.e. 90.7%) are punished in case of first violation of the park rules. Rest 9.3% of the respondents do not want to tell about this matter.

According to 8.1% of the respondents, they are fined of Rs 200. Majority of the respondents (i.e. 91.9%) say that they are fined Rs 200 to Rs 500 in case of violating park rules. And 39.7% of the respondents say that park staff seized their tools like sickles and axes. The type of punishment given to the local people in case of violating park rules is shown in the following table.

Table 7.5 (ii): Type of Punishment Given in Case of Violating Park Rules

Type of punishment	Frequency	Percent
They give charge of Rs. 200.00	11	8.1%
A fine of Rs.200-500	125	91.9%
Seize Tools	54	39.7%
Total	190*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in table 7.5(ii), 8.1% of the respondents say that they pay charge of Rs 200 as punishment, 54% of the respondents say that their tools are seized as punishment, and majority of the respondents say that they have to pay a fine of Rs 200/- to 500/- which is too high for the local people. Amount of fine is observed as another factor to establish a conflicting relationship between BNP and local people.

7.4 Behavior of BNP Staff

Following table shows the behavior of BNP staff with the local people.

Table 7.6: Behavior of BNP Staffs with Local People

Behaviour	Frequency	Percent
Friendly	4	2.7
Sometimes Friendly, Sometimes Rude	50	33.3
Rude	82	54.7
No response	14	9.3
Total	150	100.0

Source: Field Survey, 2068

Table 7.6 shows that according to 2.7% of the respondents, park staff behave with the local people friendly, 33.3% of the respondents say that park staff sometimes behave friendly and sometimes rudely. Majority (i.e. 54%) of the respondents say that park staff behave rudely. But 9.3% of the total respondents do not want to say anything about the behavior of the park staff. It is observed that behavior of BNP staff is another factor to increase conflict between BNP and local people. But according to assistant warden of BNP, they behave friendly with the local people.

7.5 Problem Creators

The detail about the problem creators is shown in the following table.

Table 7.7: Problem Creators to the Local People

Problem creators	Frequency	Percent
Neighbor	14	9.3
Park Staff	122	81.3
No response	14	9.3
Total	150	100.0

Source: Field Survey, 2068

Table 7.7 shows that most of the respondents (i.e. 81.3%) have blamed park staff as the main problem creators to them. Only 9.3% of the respondents have blamed their own neighbors as the problem creators. Rest 9.3% of the respondents have not mentioned about their problem creators.

7.6 Perception of Local People towards Park Rules

Most of the respondents think that existing park rules should be changed. Majority of the respondents agree with this regard which is shown in the following table.

Table 7.8 (i): Responses of changing park rules

Change of park rules	Frequency	Percent
Yes	136	90.7
No response	14	9.3
Total	150	100.0

Source: Field Survey, 2068

Table 7.8 shows that 90.7% of the respondents think that existing park rules should be changed. Rests 9.3% of the respondents have not mentioned anything about changing park rules. Following table shows the types of changes expected by the local respondents.

Table 7.8 (ii): Types of Changes Sought After

Type of change	Frequency	Percent
The rules should be flexible.	108	72.0
There should be rules to provide grass and firewood to local people.	4	2.7
BNP should manage to sell firewood & other essential materials	24	16.0
No response	14	9.3
Total	150	100.0

Source: Field Survey, 2068

As shown in the table 7.8(ii), 72% of the respondents want to make existing park rules flexible. 2.7% of the respondents claim that there should be rules to provide grass and firewood to the local people. 16 % of the respondents think BNP itself should manage to sell firewood and other essential materials from the park. And rest 9.3% of the respondents have not mentioned anything about changing park rules. It is observed that majority of the respondents want change in the existing park rules. According to them if existing park rules were made flexible then conflicting relationship between BNP and local people could be improved.

7.7 Local People’s Perception for Conflict Resolution

Local respondents have expressed their opinion for the resolution of the conflicts that exist between BNP and local people which is shown in the following table.

Table 7.9: Suggestions for Conflict Resolution

Suggestions	Frequency	Percent
There should be effective fencing system	123	82%
Periodically the BNP should sell forest products to the local people.	19	12.7%
BNP should conduct Awareness Program	9	6%
Compensation System should be Effective	17	11.3%
Electrification should be done in the BNP's boundary	1	0.7%
Total	169*	

Source: Field Survey, 2068

** Multiple response type questions*

As shown in the above table 7.9, that majority of the respondents (i.e. 72.8%) have said crops raid and livestock damaged by wild animals as the main cause of conflicts between BNP and local people. So, they think there should be effective fencing system in the park boundary. 12.7% of the respondents have suggested that BNP

should sell essential forest products to the local people periodically. 6% of the respondents have said that lack of knowledge is the cause of conflict between BNP and local people, so they suggest BNP to conduct awareness program to the local people. 11.3% of the respondents have said compensation process should be made effective. Very few (i.e.0.7%) of the respondents have said that by electrifying the park boundary, intrusion of wild animals into the cultivated land can be stopped which help in reducing conflicts between park and local people.

Regarding conflict resolution, the people involved in focus group discussion have said that local people should change their traditional farming system. Instead of this they should follow other occupation like herb farming, animal husbandry, fish farming and bee-keeping. According to them, for these occupations they do not have to depend upon the park resources. Regarding animal husbandry, I have raised question about the dependency on park for grass/fodder but the people involved in focus group discussion have said that instead of growing crops in their own farmland, they could grow grass for their livestock.

It is observed that if concerned authorities encourage the local people to change their occupation then the conflicting relationship between BNP and local people can be improved.

CHAPTER–VIII

SUMMARY, CONCLUSION AND RECOMENDATION

8.1 Summary and Major Findings

This study has primarily focused on assessing the various aspects of relationship between the park authority and local people of Shivapur VDC adjacent to Bardiya National Park of Bardiya district. General objective of this research is to study Park People Relationship. But the specific objectives are as follows:

-) To find out the livestock keeping practice and their dependency on the park resources.
-) To assess the demand and supply situation of fuel wood in the village near Bardiya National Park.
-) To explore the different perspectives of park authority and local people regarding the conflict.

The study is undertaken for purely academic purpose. So, there are the limitations of time, budget and man power. So, this study focuses on the Park-People Relationship in Bardiya of only one VDC i.e. Shivapur VDC. It has basically focused on exploring the causes of the conflicting relationship and impacts of BNP on livelihood of local people. From the theoretical point of view this study is guided by conflict approach.

From the methodological point of view, it has followed both exploratory and descriptive research design as demanded by the nature of the subject matter. The study area is Shivapur VDC adjacent to BNP located in Bardiya district. Only 150 households are selected among 1330 households of Shivapur VDC from stratified random sampling on the basis of ethnicity. Household heads or representatives of the household heads were made the respondents of this study and are interviewed separately.

It has made use of major qualitative data collected by using interview schedule as the main tool for data collection. Observation technique, key-informant interview etc.

also help to collect some important qualitative data. Due to the use of more qualitative data, the study has been made of qualitative nature as per the interest of the researcher. The questions in this interview schedule are structured and of both open and closed nature. But in this process, the study also has made use of some qualitative data also collected by the same tool. Though the main data used here are primary but some secondary data also have been used whenever felt essential.

All the qualitative data collected have been managed, analyzed and described manually but qualitative raw data have been analyzed by using a computer program Statistical Package for Social Sciences (SPSS). The data which can be presented have been shown by using tables and pie-charts.

There exist conflicts between BNP and local people from its establishment. However, Bardiya National Park is trying to minimize conflicts between the park and local people by running various programs like income generating and awareness programs with the co-ordination of various NGOs/INGOs such as- WTLCP, TAL, BCP, NTNC and BZMC. But BNP seems to be unable in this regard.

After analyzing the various causes of the conflicts between the park and local people, the following findings have been made.

-) Most of the people of the study area are found illiterate and uneducated. Due to which the people are not able to understand the importance of national park and its bio-diversity.
-) Most of the people of study area are Hindu. According to Hindu culture, after the death of a person the dead body is burnt. For this firewood is used from the park.
-) Most of the people of study area are subsistence farmer with land of 6 to 10 kaththa which is too less to support their own life and their livestock from its products.
-) Monthly income of most of the people of study area is below NRs 5000/- from each agricultural and non-agriculture source.
-) Most of the people of study area have built kachcha house with straw roof collecting the materials from the park.

-) Almost all the people are keeping livestock traditionally collecting required grass/fodder from the park. A very few people are found to graze their livestock in the river bank. Due to the lack of market, the locals are found not to be benefitted well from animal husbandry.
-) Very few people of the study area are found using bio-gas as the alternatives of firewood. But majority of people (i.e. 84.7%) are found using firewood collected from the park as the main fuel for cooking and other purposes.
-) According to the local people of the study area, due to strict park rule, they are suffering from the problems in collecting grass/fodder and firewood. They have further added that main problem creators to them for collecting grass/fodder and firewood are the park staff.
-) According to analysis of the study, it is found variation in the crop damage. Crop raid by wild animals near the park is found more whereas in the 'far zone' amount of crop raid is found less.
-) According to the local people they are not still getting any compensation in case of crop damage by wild animals. However, they are getting nominal compensation in case of human casualties but the process is too lengthy.
-) In case of violation of park rules, local people are punished by fining Rs 200/- to Rs 500/- and their tools like axes and sickles are also seized by the park staff. In this regard, local people think that without any restriction, they should get facility to get grass/fodder and firewood from the park as compensation to the damage caused by park animals.
-) According to the majority of the people (i.e. 54 %), park staff behave rudely with the local people which can be one of the cause to enhance the conflicts between the park staff and local people.
-) Majority of the people (i.e. 90.7%) have said that some existing strict park rules should be changed.
-) According to the local people, park authority has not coordinated with the local people to manage conflicts.
-) According to the perception of the most of the people, main causes of conflicts are crop raid and livestock depredation by wild animals. If park authority stops

intruding of wild animals into the settlement areas by making strong fence, people will manage essential resources like grass/fodder and firewood themselves without going into the park. They think, doing this the conflicts between the park authority and local people can be minimized to some extent.

) Some people have said that park should sell essential resources to the local people. Doing this the conflicts can be minimized.

8.2 Conclusion

Generally, agriculture lands surround many National Parks in the developing countries. The people living around such National Parks are interacting with them in many ways. Some of them have built an ecological relationship with the park; whereas in certain cases, the existence of National Parks has been questioned because of the growing conflict over land uses and practices. Thus National Park and local people are facing challenges. So, naturally there has been conflict of interests that is the protection of the park authority and basic needs of the surrounding communities.

The negative interface that now exists between the National Park and the local people is causing heavy loss on both sides. The main problem is crop damaged and livestock depredation by the wild animals. Similarly, the main problem for the park authority is people's illegal activities such as unauthorized use of forest resources and poaching.

This research has been focused on the problems faced by Shivapur VDC and BNP. Most of the people of Shivapur are illiterate. Farming is the main economic activity. Due to illiteracy they do not know about bio-diversity and nature conservation. They have no other reliable economic sources except agriculture and livestock keeping. Agricultural activities are based on old traditional system, which depends upon forest resources. Livestock keeping practice also depends upon forest resources. They always try to get access to natural resources from the park, since there is no public forest in this VDC. But park rules are very strict to protect the National Park. Wild animals damage the agricultural crops but local people feel that they do not get anything return from BNP. Firewood is necessary to cook food but there is no alternative source of firewood. So, the local people try to collect/steal firewood from the park and park authority prevent from the collection of firewood. In this way conflict is arising between them. This is the cause of struggle for existence. An understanding between the park and people should be maintained to minimize the conflict.

8.3 Recommendations

The study has found that there is conflict between BNP and local people and suggests to reduce the conflict as follows.

) **Utilization of Waste Product of the Park:**

If local people are allowed to collect and use the waste product of the park like dry leaves, unwanted twigs, old rotten trees, dry wood and fodder under the supervision of the park authority then the conflicts between the local people and BNP can be minimized to some extent. This will also help to reduce the risk of forest fire that causes a huge damage in the park each year in summer.

) **Compensation Strategy:**

The amount of compensation paid to the locals in the loss caused by wild animals is only nominal and the process of getting it is too lengthy and nuisance. So, proper amount of compensation according to the current market value should be provided for the loss caused by wild animals and the process of getting it should be made convenient.

) **Maintenance of the Fence:**

Existing electric fence should be maintained effectively. For this, local people should be made responsible.

) **Role of BZMC:**

Buffer Zone Management Committee should not work as the puppet of the park authority; rather it should play an active and effective role to establish a healthy relationship between the park and local people.

) **Socio-economic Development of the Local People:**

The main factor in the chain of negative interface between the local people and the conservation areas is the low socio-economic status of the people living around the park areas. Therefore, it is important to develop the living standard of local people for a proper protection and conservation of the park. Government should run income generating programmes for the people living near the park. Various INGOs and NGOs can help in this regard.

) **Education:**

Most of the people living around the park are illiterate, so they have lack of awareness about conservation, bio-diversity and National Park. The program of adult literacy should be made compulsory for those people to bring the awareness of conservation and National Park. An emphasis should also be given to educate school children about conservation. Students and teachers should be encouraged to visit park and take part in its activities.

) **To Participate Local People in Program:**

Most of the people living around the park areas are indigenous people. They are illiterate and lack of awareness about environmental conservation degradation and its overall impact, they do not know the significance of protecting these animals and forest resources. So, they should be given education of environmental conservation. There should be given programs that can be facilitated with the help of film documentaries and school education. It is not easy to motivate the local people due to lack of effective programs, so they should take interest in the protection of Nation Park and conservation. There should be participation of the local people in the conservation and National Park program. It is necessary to make them feel that wild animals are valuable assets which cannot survive without their care and protection.

) **Alternative Sources of Firewood and Grass:**

The main factor of conflict between BNP and local people is the illegal utilization of forest production like firewood and grass/fodder by the local people. People can become self-sufficient by planting private trees which grow faster and growing grass in their own lands. People should be encouraged to build bio-gas plant.

) **Change of Occupation:**

Instead of traditional system of agriculture, farmers can also adopt other occupation such as animal husbandry small cottage industries, fish farming, bee keeping, tourism and other means of livelihood. They can utilize their own farmland for this purpose. Government should provide loan to encourage the local people to start such activities at nominal interest rate.

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APPENDIX-I

Interview Schedule

Name:

Roll No.:

A. Basic Information

Name of the household head: Date:

Name of the respondent: Tole:

S.N.	Question	Answer	
1.	Age		
2.	Sex	a) male	b) Female
3.	Education	a) Illiterate c) SLC Passed e) University	b) Literate d) Higher Secondary
4.	Religion	a) Hindu c) Islam	b) Buddhism d) Others (specify)
5.	Caste/Ethnicity	a) Brahmin c) Tharu e) Thakuri g) B.K. i) Nepali	b) Chhetri d) Magar f) Newar h) Giri/Puri/bharati/Ban j) Others (specify)
6.(i)	Family structure	a) Nuclear c) Others (specify)	b) Joint
6.(ii)	Family Size	
7.	Occupation	a) Farming c) Others (specify)	b) Labour
8.	Source of family income		
9.	How much land do you have?	a) <5 Kaththa c) 11–15 Kaththa e) >1 Bigaha	b) 6–10 Kaththa d) >15 Kaththa

10.	Average monthly income (Rs)	Present	
		Agriculture sources	Non agriculture sources
11.	Type of house	a) RCC b) Brick & mud house with zinc roof c) Kachcha house with straw roof d) Others (specify)	
12.	Type of inhabitant	a) Local	b) Migrant
13.	If migrant, no of years spent here		
14.	Amount of harvest / crop damaged by wild animals	a) > 10 kg c) > 30 kg e) > quintal g) > 5 quintal or above	b) > 20 kg d) > 50 kg f) > 2 quintal
15.	Which animal mostly damages the crops?	a) Wild boar c) Deer e) Rhino g) Birds	b) Wild elephant d) Blue bull f) Monkey

B. Livestock Keeping and Practices

Q.N.	Question	Answers	Jump
16.	Livestock holding	a) Cow/ox: b) Buffalo: c) Goat/Sheep: d) Pig: e) Poultry: f) Others(specify).....	
17.	How do you feed your livestock?	a) Grazing b) Stall-feeding at home →	23
18.	If grazing, how do you graze your livestock?	a) Individual Herd b) Joint Herd	
19.	Where do you graze your livestock?	a) Remaining grazing meadows b) BNP c) River bank d) Road side e) Community forest	

20.	Do you have grazing problem?	a) Yes b) No	
21.	What kind of problem do you have?		
22.	Which season is more critical to graze livestock?	a) Winter b) Hot c) Monsoon	
23.	If you stall-feed your live stock, from where do you collect the fodder/grass?	a) Farm land b) BNP c) Community forest d) Others (specify)	
24.	Do you have any problem regarding fodder/grass collection?	a) Yes b) No	
25.	If yes, what kind of problem?		
26.	Who gives you such problems?	a) Neighbors b) Park staff c) BZUG d) Others (specify)	

C. Fuel Wood Supply

27.	Which source of fuel do you use to cook food?	a) Firewood b) Bio-gas c) Others (specify)	
		If the response is (b) then skip to Question no. 34	
28.	From where do you collect fuel wood?	a) Community forest b) BNP c) Own land d) Others (specify) ...	
29.	Do you have any problem for collecting fuel wood?	a) Yes b) No	
30.	If yes, what kind of problem?		
31.	Who gives problems?	a) Neighbors b) Park staff c) BZUG d) Others (specify)	
32.	How do they give the problem?		

33.	Are there any alternatives that you use for the problem of fuel wood?	a) Dung c) Improved stove	b) Bio-gas d) Others (specify) ...
34.	Who assisted you to build bio-gas plant?	a) Self c) VDC e) Others (specify)	b) BNP d) NGOs/INGOs
35.	Is the bio-gas sufficient to fulfill the need of fuel wood?	a) Yes	b) No
36.	If 'no', then, from which source do you fulfill the demand of additional fuel?	a) Firewood b) Gas stove c) Others (specify)	
37.	If answer is 36(a), then From where do you collect firewood?	a) Community forest c) Own land	b) BNP d) Others (specify)

D. Compensation

38.	Do you get any compensation for the loss caused by the park?	a) Yes	b) No
39.	Are you satisfied with the amount of compensation?	a) Yes	b) No
40.	If not, why?		
41.	In your opinion, how much compensation should be given to the victim or his/her family?	<p><i>For human kill:</i></p> <p>a) Rs 50,000/- b) Rs 100,000/- c) Rs 300,000–500,000/- d) Bear education cost of dependent</p> <p><i>For livestock kill/ crop damage:</i></p> <p>a) Market value of livestock/ crop b) 75 % of value c) 50 % of value d) 25 % of value</p>	

E. Relation between the Park Staff and the Local People

42.	How do park staffs behave local people?	
43.	If you have problems, who gives you these problems?	a) Neighbors b) Park staff c) BZUG d) Others (specify)
44.	Do you think park rules have to be changed?	a) Yes b) No
45.	If yes, what type of change?	
46.	If you disobey the park rules, are you punished or forgiven for the first time?	a) Forgiven b) punished
47.	What type of punishment? Please explain.	
48.	Does the park authority coordinate with the user committee/local representative in reducing such conflicts?	a) Yes b) No
49.	If yes, what type of coordination?	
50.	Do you have any more thing to say?	

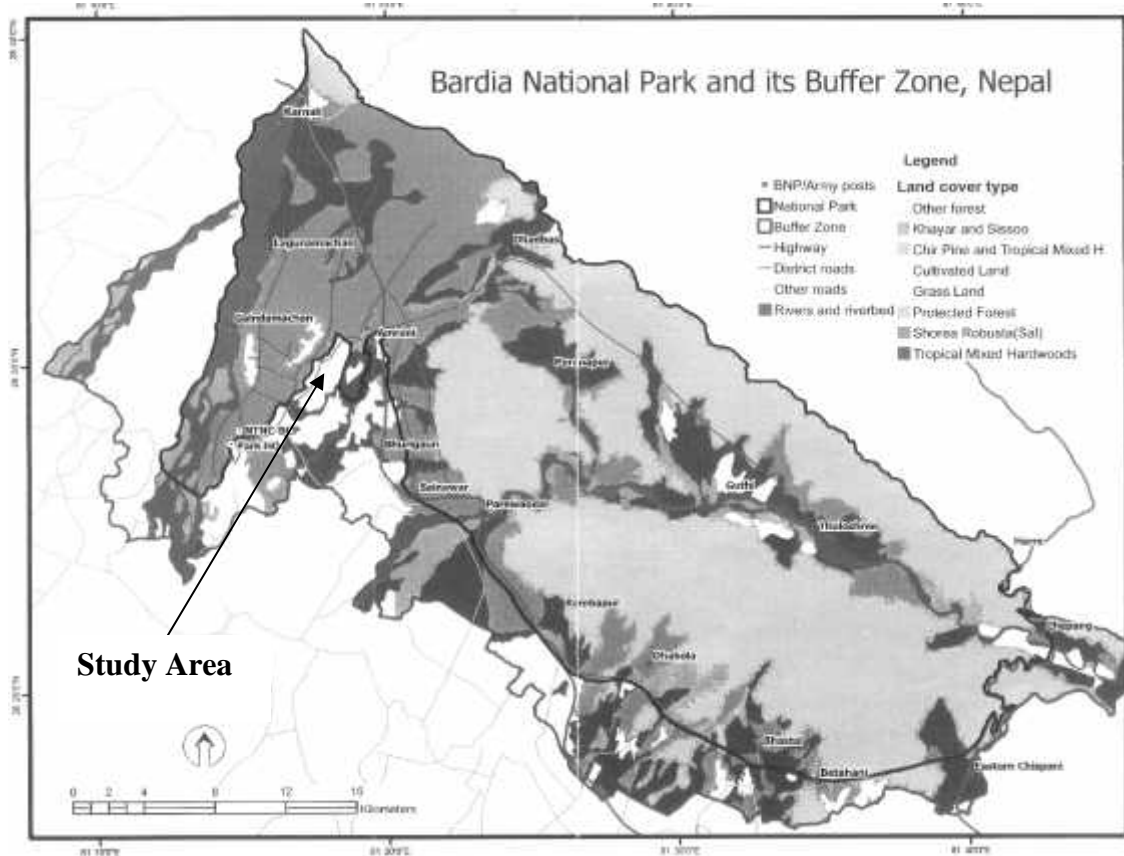
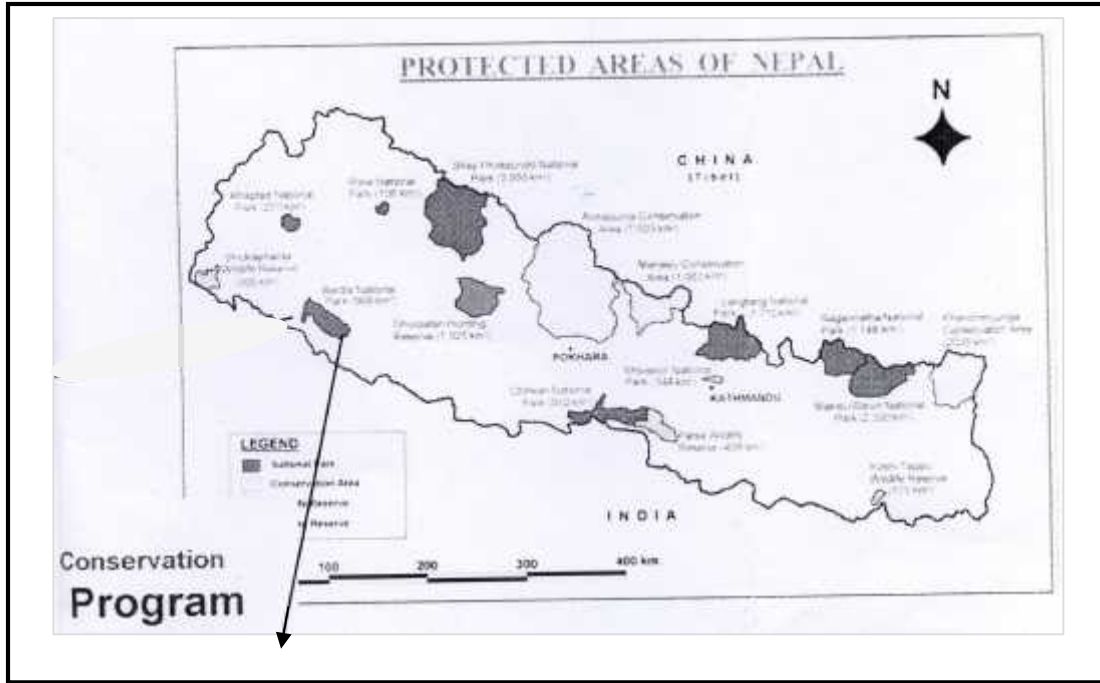
APPENDIX-II

List of Key-Informant

1. Mr. Ramesh Kumar Thapa Assistant Warden, Office of Bardiya National, Park
Thakurdwara
2. Mr. Devi Prasad Devkota Chair Person, Buffer Zone Management
Committee, BNP
3. Mr. Rabin Kadaria National Trust for Nature Conservation, Bardiya
conservation Program, BNP
4. Mr. Rudra Bahadur Khadka Officer, Buffer Zone Committee Office(BNP),
Thakurdwara
5. Mr. Bal Krishna Acharya Head Master, Shree Jaya Jyoti Higher Secondary
School, Shivapur Bardiya,
6. Mr. Chakra Bhandari Local Political Leader, Shivapur VDC, Bardiya

APPENDIX-III

Map of the Study Area



APPENDIX-IV

Photographs:



Livestock grazing in the BNP



**Chiuri Damini wounded by
wild elephant in Bhadra, 2065 BS.**



**Laxmi Pd Gautam
(eyes damaged by tiger
attack in Falgun 2057 BS)**



**Laptan Tharu (both legs damaged
by wild elephant 12 years ago)**



These people (blinds) lost father by wild elephant attack in 2068 BS.



Local farmer showing scars made by tiger attack.



(an edible fern species) for selling.



Interview with local farmer.



Interview with Park Staffs.



**dry grass to chase wild
elephant at night.**



Local farmers chasing wild elephant using torch.



Machan/tower built with the help of BNP for looking after crops.



caused by wild elephant.



Local farmers extracting lentil traditionally. Livestock grazing on the river bank.



A Kachcha house with straw roof for the maintenance of which people depend upon park resources.



Ajbanic Sarki lost his wife due to wild elephant attack in 2067 BS.



Atuwa (Shelter made by local people for looking after crops).