

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the Study

Nepal is blessed with diversified flora and fauna. These flora and fauna form the basis of life for Nepali people. Some of these species of plants and animals are in the verge of extinction. Therefore, to protect these endowed species, the government has brought various plans and programs. One of the most important programs in this regard is the establishment of national parks and the wildlife conservation department for the preservation of ecosystems that consist of important plants and animals.

Suklaphanta Wildlife Reserve (SWR) is located in the farwestern terai on the southwest edge of Nepal. The reserve served as a hunting ground and in 1969, it was declared as a Royal hunting reserve. In 1976, an area of 155 sq. km. was gazetted as Suklaphanta Wildlife Reserve to protect Nepal's last remaining herd of swamp deer (*Cervus duvaucelli*). It was later extended to its current size of 305 sq. km. In 2004, 243.5 sq. km. area of adjacent proximity to the SWR was declared as a buffer zone. It was covered with forest and private land that has been assigned to local people living in the buffer zone. The park and local community jointly manage the buffer zone. Together they initiate community development activities and manage natural resources in the area.

#### Buffer zone profile

1. Buffer zone declared	2004
2. Buffer zone area (km <sup>2</sup> )	243.5
3. District covered	1
4. Buffer zone VDC	12

5. Buffer zone mgt committee	1
6. Buffer zone use committee	9
7. Buffer zone user group	501
8. Buffer zone household	18198
9. Buffer zone population	105548

A master plan has been prepared for forestry sector in 1998 giving the top priorities for conservation of eco-system and generic resources. The development of national park and wildlife conservation bears the responsibility and biodiversity conservation has shown its commitment of conservation of nation's natural and biological resources. These protected area encompass 17% land of the country.

Beside timber and woods, people are earning from non-timber forest products (NTFP/ medical plant, food seeds etc. every years 10000 to 15000 tones of around hundred species of NTFP are harvested from forest land and traded in India as raw materials roots, branches, level, barks fruits and seeds (Edwards, 1995)

Before the establishment of park and reserves local people were free to collect fuel wood, timber fooder and thatch grass as such forest (Uprety, 1985)

Most of the people use forest products for their daily needs. Most of people around the protected area in Nepal are fully and partially dependent on it for fulfillment of their daily needs. Unless and until rural people are ensured adequate food, shelter and standard of living all effort to establish and manage the protected area will be fertile (Uprety, 1985).

Forest has traditionally been valued as a source of timber and non timber production. Sustainable management of forest has emerged as high priority in the development of agenda of nation (Hoeruman, 1995).

Despite the impressive coverage of the protected area system, several problems relating to management have emerged. In some area, conflicts have been developed between park authorities and local resident regarding the rights to extract product such as fuel wood and fodder from protected area to meet their essential needs. The restriction or denial of access to park and reserve has in some cases related to economic and social hardship for local people. Ineffective combination and management has worsened their problems leading to some time acrimonious relationship between local people and park authorities (Nepal Environmental Policy and action plan, 1993).

Successfully protection has allowed animals population to grow up in protected area. As a result, some species are hunting a serious impact on local communities. Causing injuries (and occasional fatalities) of human, livestock losses and the destruction of the crop and so adding to the conflict between people and park (Ibid, 1993).

Suklaphanta wildlife reserve and BZ area has vital role of forest resource management and utilization of forest product.

SWR is in low land area of terai Nepal, it is covering an area of 305 sq km similarly SWR Buffer zone is covering an area of 243.5 sq. km of Kanchanpur district. It covers 12 VDC Bufferzone has a total population 105,548. 2007 A.D. (Department of National Parks and Wildlife conservation, 2007).

Buffer zone development is primary based on the improvement of socio-economic conservation and well being of local communities based on self-reliance and contribution to conservation of park and buffer zone resource. The conceptual principles are designed according to the local needs focused at reducing dependency on park resources by developing alternative natural resources based in the buffer zone. The strategy includes organizing rural communities into the user group, enhancing their skills and providing opportunities for undertaking income generation activities, encouraging individual saving and access to credits. Green enterprises, including ecotourism activities are promoted with operative strategies to minimize negative environmental impact and maximize socio-economic benefits at local level. Annual report - 2007 ppp).

The study has been conducted in SWR for systematic documentation of community based organizations (CBOs) and activities and roles for the management and utilization of forest product of SWR and buffer zone area.

In case of conservation, buffer zone means “the demarcated surrounding area of national parks and wildlife reserve, where unplatable grasses were planted for marking irritate to the wild animals to return back to the parks or reserves for the protection of periphery settlement people an giving opportunities to utilize and manage the forest resources. Thus it is a way to improve land use system around protected area, and at the same time provide better protection for a core area. Buffer zone surrounding the parks and reserves are also part and parcel of the protected area system. Protected area of the Nepal are the sources of biodiversity, a repository of wild organism, and tourist destination for entertainment’. Participation of local people in biodiversity conservation has also increased with the establishment of buffer zones in the periphery

of national park and wildlife reserves. Management of these protected areas is governed by the National Park and wildlife conservation Act, which has identified roles and responsibilities of various institutions involved in the conservation of genetic resources including wild life. Local people are organized into groups and committees to manage the collective resource such as forest in the buffer zone. The objective is to make them independent so that they need not rely on park and reserve forests to fulfill their need and livelihood for forest-derived resources.

## **1.2 Statement of the Problem**

Previous experience have shown that unless people are participant in conservation (development activities, a question mark on long-term sustainability will be raised. For this, local people must be encouraged to participate in the conservation activities in the buffer zone area, local communities are organized for effective management and utilization or conservation of forest products for getting maximum benefits without destroying it. For the SWR literature describe the activities role, strength and weakness of CBOs, the need of an intensive study from sociological point of view seems imperative to address such problem associated with social mobilization and participation.

The study has tried to answer the following Question.

- ) What are the features and functions of FUGs.
- ) How do local people mobilize the forest resource.
- ) How the participate in forest resource conservation and community development?
- ) What are the constraints associated with FRC (forest resource conservation)?

### **1.3 Objectives of the Study**

The main objectives of the present study is to find out and document the process of community group activities and management and utilization of forest resources.

- ) To identify the existing user's groups and their structural functional features.
- ) To assess the resource mobilization pattern of the user groups.
- ) To assess the level/ extent of peoples participation in community management and utilization of forest products.
- ) To suggest recommend applicable improvement measures for sustainable community management and utilization.

### **1.4 Justification of the Study**

The study will be useful for forest technician and rural development activist for improvement of their programs. The result of scientific documentation of group activities will be also useful to organize people in the concerned areas.

Study of conservation practices of buffer forest resource will be useful in the future improvement and organization of community groups and user groups.

Similarly, student, researcher and planner can also take reference of this study in proceeding of their tasks of forest resource management and utilization pattern and conservation for rural life.

## **1.5 Organization of the Study/ Report**

This study has organized management and Utilization of forest products of SWR Buffer zone area. The study basically intends to find out and document the process of community group activities and management and utilization of forest products. First chapter has introduction and 2<sup>nd</sup> chapter abt the review of literature. In third chapter has method of studies and chapter four is people of study area. In chapter five management and utilization of forest and chapter six summary, conclusion and recommendation.

## CHAPTER II

### REVIEW OF LITERATURE

#### **SWR Bufferzone**

The buffer zone of SWR in the district of Kanchapur, has six different land use in the area of 152 km<sup>2</sup>. Demographically, it includes 52 wards of 11 VDCs and 7 wards of mahendranagar Municipality. There are 280 settlements and 17886 households in the buffer zone. Regarding caste/ethnicity composition of households in the buffer zone, about 62 percent belong to Brahmin/Chhetri/Thakuri castes, followed by Kami/Dami/Sarki (18%) Tharu (13%) and other (7%) respectively. Livestock include cows, buffaloes, draught animals, goats, sheep and pigs that total 101,628 animals. The livestock unit (LSU) value is estimated at 67740. (Source DNPWC/PCP) 1996.

Land use pattern	Percent Area
Agriculture land	69.98
Forest	20.25
Grass Land	1.68
Shrubland	0.93
Water bodies	7.16

Shuklphanta Wildlife Reserve and Buffer Zone management plan, 2006-2011 SWR and BZ area has vital role of forest resource management and utilization of forest products of SWR and buffer zone area.

Forest management policy in Nepal is in developing phase. Before 1957, there was people's own forest management system known as indigenous forest management (Sigdel, 1997).



More over there are now a number of empirical studies arguing that local level initiative should be responsible for protection and management of forest resources.

(Campbell et al. 1958, Chand and willson 1989, Chhetry and pandey, 1992)

Buffer zones are the latest concept of conservation in the natural resources sector, when the surrounding areas of nation parks and wildlife reserves are at risk and becomes conflict, as natural resources are increasingly required to provide for-ever expanding population after that bufferzone concept was brought by the Department of National Parks and Wild Life Conservation (DNPEC) Nepal in 1984 to fulfill the demand of periphery people. During the 1980's various approaches have been used in order to implement buffer zone management such as natural resources management, sustainable yield harvest, tree planting and agro forestry (Sayer 1991). A buffer zone often consists of degraded forests, hence sound management may improve them to became well structured and productive in addition people's needs and priorities may divide a buffer zone into forest, grazing land and many other forms of land use. When a protected area lacks adjunct forest, buffer zone management programs may swing more into community oriented action DNPEC (1993).

Nepal occupies the central part of Himalayas having different climatically zones with different types of natural resources. Due to over exploitation of natural resources in the past a systematic conservation of natural resources has been started since the establishment of national parks, where Buffer zone is one of the practices of natural resources conservation by the government of Nepal. In 1993 Nepal passed the fourth Amendment to the National parks and wildlife conservation Act to

address natural resources problem occurring on land adjacent to national park boundaries. The act gives government authority to designate buffer zones on land adjacent to national parks or reserves. BZ are area in and around national park and wildlife reserves created to lesson biotic pressure and for the sustainable management of natural resources. The creation of BZ is aimed at motivating local communities in participatory management of forest resources to fulfill their needs of forest products through user groups. The government has made provisions to plough back 30 to 50% of revenues earned by the respective parks to community development activities such as skill development and income generating programs to improve their living condition and, health and sanitation as well as adult and non formal education, to generate awareness. The long term objective is to gradually involve the local people in nature and wildlife conservation. The chief warden is responsible for managing forest resources in designated buffer zone areas, but the law encourages him to form user group committee (UGCs) to promote local involvement in forest management (Buffer zone forest Nepal).

Forrest play important role in sustaining the productivity of the land by providing the organic nature of the animal dung supported with the building materials from the forest. Forest provides grass, tree fodder for animals, timber and also major sources of income for people in almost all village of Nepal there is not alternative sources of energy for cooking and heating expect fire-wood. This source is the most important for Nepal, because it is renewable resources, which can provide a sustained income and social contribution for the development of country. Beside this forest play important role in maintaining a stable ecosystem and participation. In Nepal forest has enormous role to play in protecting the

highly topography from natural disaster likes floods landslides, and soil erosion. (Shrestha, 1998)

### **The characteristics feature of SWR**

Any trip to SWR must start at Majagaun a pleasant village home to most of the reserve staff and headquarter and Arjuni entry point Majagoan is home to many bird species and Rhesus monkeys. Spotter deep frequently appear in the middle of night announcing their presence with their unique chirp.

Within the reserve there are a number of human-made waterholds. These were created to attract animals away from the poaching prone Mahakeali Rivers and improve habitat. Rani Tal is a natural lake that is nestled in the forest. It provides excellent habitat for truly impressive variety of birdlife. The largest grassland inside the reserve is known as a Suklaphanta “white grassland” this phanta is suitable habitat for the swamp deer.

### **Flora**

The reserve offers a variety of experience with diverse interior and abundant. Wildlife forest, streams and rivers, lakes and several large phantasm (grasslands), for which the park is named, camprise the habitat for which the park is named, cam[rise the habitat of the reserve. Sal trees dominate the forest, Khair-sisso forests are found along the riverside area.

Much vegetation dominants the wetland areas, the main grass species of the phantasm includes Imperata Cylindrica and Heteropogon contortus which used for thatching by local people.

## **Fauna**

As per the population estimates of 2007 SWR have 1674 Swamp deer. The reserve is home to about 5 resident and 19 migratory wild elephants and endangered species.

A total of 27 Royal Bengal tigers (*Panthera tigers*) an endangered species 350 species of birds, including sarus, crane, swamp francolin, grass owl, warblers, flycatcher, swamp francolin, grass owl, Warblers, flycatcher, and endangered Bengal Florida. The reserve is home to 21 species of fish (DNPWC, 2007).

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The research methods of this study has designed in descriptive and explorative way. It aims to analyze the community group based management and utilization of forest products.

A descriptive design is used to describe the phenomena. It is useful to understand and document the history of forest management system. The explorative research design is helpful to find out the information as per the specific objectives of research. Similarly group mobilization and resource utilization process are done within analytical framework.

#### **3.2 Site Selection**

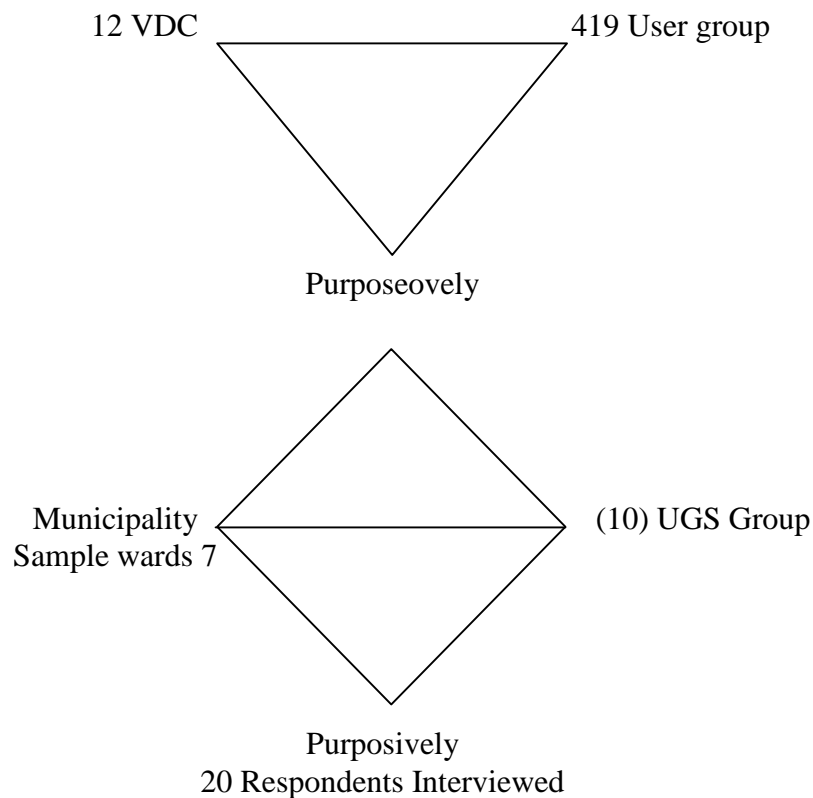
The study was conducted in the buffer zone area of Suklaphanta Wildlife Reserve. The SWR is about 5 km west and 5 km south from Mahendranagar. The wild life reserve is famous for Swamp deer and Bengal tigers. The wildlife reserve has total 305 sq km, between which buffer zone is 243.5 sq km. the selected site covers 7 wards of Mahendranagar Municipality and 2 user committee have been sampled out of 17 user committee. (501 UGS)

##### **3.2.1 Rationale for the Selecting the Study Area**

In this study area has selected the SWR and buffer zone only 7 wards of municipality. Because this area have surrounding by two side of park and more affected area of wild animal. Many programs have lunched by organization of this area and to study impact of this programme. SWR head quarter has also is in Majagoan. There has active user group and member also.

### 3.3 The Universe and Sample

Purposive sampling method were entertained to represent community user group members. 7 wards of Mahendranagar were selected from 12 VDC list of Buffer zone area. Ten user groups from 7 wards of Mahendranagar municipality were executive sampled purposeively and all together twenty respondent of users group have been included. One executive member and one male and one female respondent among (501) UGS use committee, 10 user group were sampled in this study (10 UGS)



**Figure -1 Sampling Frame**

### 3.4 Nature and Source of Data

Basically two types of data viz. Primary and secondary data were collected during the study. Primary date collected through field survey

with the help of questionnaire and PRA methods. Secondary data were collected through independent study on the relevant aspects. For this purpose, many published and unpublished document of National park and wildlife conservation Department of Nepal, other related journals and documents, records were obtained through, KMTNC and PPP field offices and Suklaphanta wild life reserve were consulted.

### **3.5 Techniques of Data Collection**

Various techniques of data collection were used to collect information, which are given below.

#### **3.5.1 Household Survey**

For the data information, information regarding their living status and dependency on forest, other socio-economic condition such as occupation education, population, income resource etc. of UG were collected. Household survey was done for twenty HH. (see survey questionnaire in Appendix)

Twenty respondent households were selected from the UGS i.e. one executive and one general member (one male and one female) of the concerned UG.

#### **3.5.2 Interview**

Semi structured interview were employed for the key informants. This method was helpful to collect information. This method was helpful to collect information as per the specific objectives of the research. Key

information are most reliable in giving information on particular subject (Pelto and Pelto, 1991).

Key information were selected from among the user groups. They were social workers, teacher local leaders, etc. The semi, structured questionnaire consisted of the information regarding user groups activities in the management and utilization of forest products. There were twenty respondents of Mahendranagar municipality of buffer zone are interviewed.

### **3.5.3 Participant Observation**

Local people's working area and time, living standard, health and sanitation, settlement pattern, forest products, collection and using activities were observed.

### **3.5.4 Focus Group Discussion**

Focus group discussion represents local respondent's different points of view. Capabilities and the knowledge of community groups. This method was adopted to verify the information obtained from the key informants. This method was used to find out the user groups perception on co-operation, and co-ordination among the user group members in the forest management and utilization activities.

## **3.6 Data Analysis and Interpretation**

Qualitative and quantitative data, collected through primary and secondary sources during the field work were processed accordingly and analyzed by using both the statistical and non statistical tools. Simple statistical components likes standard deviation (SD), frequency



distribution and percentage were used as per the need. The results are shown in the tables, diagrams and photographs.

### **3.7 Limitation of the Study**

Every study has its own limitations likewise, this study too is no exception. As a student of Rural Development, this dissertation is conducted to fulfill the requirement of the degree of Master of Arts in RD. As constrained by time and economic factors small area is selected with particular socio economic characteristics. The findings of this study may not be generally conclusive in other areas.

## **CHAPTER IV**

### **INTRODUCTION OF THE STUDY AREA**

#### **4.1 Pysio-Geographical Features**

Topographically, Suklaphanta wild life Reserve and buffer zone lies in western part of Nepal terai region, Kanchanpur district. Mahakali zone surrounded by Kailali district in east, India in west Dadeldhura in north and India in southern Part.

##### **4.1.1 Geographical Setting**

Suklaphanta wild life reserve covers an area of 305 sq. km Buffer zone of 243.5 sq. km and has 12 VDC of Kanchanpur district Kanchapur district is in elevation ringing from 150 meters to 1498 meters above sea level.

##### **4.1.2 Climate**

The park has three season from October through early April the weather is dry. The days are worm and pleasant, and night are cool, from April to June the temperatures warm up into the 40°C Range. The hot sticky days give way to the monsoon rains that last until September (DNPWC).

##### **4.1.3 Soil and Land**

This SWR and BZ lies in low land of Siwalik hill. The land is fertile and plain. The soil of the western part of SWR and Buffer zone (MNR) is found sand mixed soil and fertile soil in western part. it is a dry part of the terai region. So there is big problem of irrigation.

#### **4.1.4 Natural Resources**

One of the main resources of SWR buffer zone are forest product (Timber, firewood grass and grazing land) and river (irrigation and fishing). Inside the park, there are so many natural resources like. A grader of timbe, firewood, grass land, fish stone sand in Mahakali river white grass land. Rani Tal and Salgoudi Tal etc. But SWR does not allow to use these natural resources.

#### **4.1.5 Settlement Pattern**

There are 280 settlements and 17886 households in the buffer zone, regarding caste/ ethnicity composition of households in the buffer zone about 62% of household belonged to Brahmin/ Chhetri/ Thakuri caste followed by Kami/ Dami/ Sarki (18%) Tharu (13%) and other 7% was found (DNPWC/ PCPs)

### **4.2 Work of Organization**

In SWR buffer zone area, various organization have been working for conservation and community development.

Several conservation and development related institutions provide services in the buffer zone VDC. Agriculture and livestock extension services are provided by the agriculture and livestock centers and sub centres. All VDCs in the buffer zone have a post office and all except Rauteli Bichawa have a PCO. (Public telephone service). Bank Branches are concentrated in main market centers. In some cases, a development institution services are more than one VDC. Some 100 institutions provide basic social service (education and health) in the buffer zone VDC. All VDCs and Mahendranagar Municipality have at least one institution providing health services. All VDCs/ Municipality have

primary schools. there are 101 primary, 30 lower secondary, 35 secondary, 9 higher secondary school and 1 science campus in the BZ. the proportion of households with food insecurity varies from 28 (pipaladi) - 41 (dekhatbhuli) percent on ranking of development performance, all VDCs in the buffer zone predominantly failed to perform well.

### 4.3 Socio-Economic Characteristics of the User's Group

There are Brahmin, Chhetri and Tharu Communities in UG. The total population of user respondents is 419 comprising of 196 male and 223 female. The agriculture is the main occupation of buffer zone user's group.

#### 4.3.1 Introduction of the User Groups

In SWR Buffer zone area i.e. Mahendranagar Municipality, household survey of 20 respondents from 10 UGs was done. It has inculcated name of user groups, No. of user area of major forest etc.

**Table no. 4.1: Information of User Groups**

S.N.	Name of the User Group	No. of user HH	Area of forest in H	Major forest
1.	Kalika user group	250	105	sal
2.	Janjyoti user group	186	115	sal
3.	Sagram Phata user group	205	95	Khayar, Jamun
4.	Bagphata user group	264	NA	NA
5.	Janaki user group	235	98	sal simal
6.	Jaibek Bibidhata group	189	87	sisau
7.	Krishna user group	Na	Na	Na
8.	Ninglasaini user group	278	76	sal
9.	Shiva Shakti user group	208	89	sisau
10.	Himalayan user group	195	92	Sal, say

### 4.3.2 Introduction of Respondent and User

There are Brahmin, Chhetri and Tharu, Kami communities in UG. The study area covers Mahendranagar municipality ward no. 13, 14, 15, 16, 17, 18, 19. The user of buffer zone come from different settlement. Their number according to settlement are presented in table below

**Table no. 4.2: Introduction of Respondent and User Types**

Settlement Area	Ward no.	Types of User	No. of ser HH
MNR	13	Primary	2
MNR	14		2
MNR	15		2
MNR	17		2
MNR	16		2
MNR	18		2
MNR	19		2
MNR	13		2
MNR	14		2

Source: Field survey, 2008

Above table shows that only primary types of user group are found. Primary user donate those users who use the forest products. All the UG respondents equally do the participation and contribution in the forest management utilization and conservation activities.

Out of 419 UGs 10 user groups were selected for interview. One executive member from each group and one general members were included in the interview. Altogether twenty person were interviewed.

### 4.3.3 Demographic structure of UG (Respondent)

The total population of UGs is 419 have been formed out of which there are 223 female UGs and 186 male UGs. Table three provides detail description of age and sex composition of the population among respondent households.

**Table no. 4.3: Age/Sex Composition of the Population of UG Household**

Age group	Male	Female	Total
0-15	75 (18%)	9 (21%)	165 (40%)
16-55	106 (25%)	113 (26%)	219 (52%)
Over 56	15 (4%)	20 (4%)	35 (8%)
Total	196 (47%)	223 (53%)	419 (100%)

Source: Field survey 2008.

The given table shows that economically active population (between 16 to 55 yrs) is 52 percent. Economically dependent population (age between 0-15 years) is about 40% and above 56 years is about only 8%. In total economically dependent population is 43%. It shows that among the total population 196 (47%) are male and 223 (53%) are female. Though economically dependent children help in fetching water fetching grass, help in field and other household activities and above 56 years old people also help in agriculture activities and other household works.

#### 4.3.4 Educational Structure

Education play key role in the development of society and country. To know the socio-economic condition of any society, education assumed as a key affecting factor.

In general literate means a person who can simply read and write. The CBS suggests that ability to read and write one's own name may have also been interpreted as being literate. The literacy status of UG has been present in the table.

**Table no. 4.4: Literacy Rate by Sex of UG**

Sex	Literate	Illiterate	Total
Male	100 (49%)	20 (10%)	120 (59%)
Female	55 (27%)	30 (14%)	85 (41%)
Total	155 (76%)	50 (24%)	205 (100%)

Source: Field survey, 2008

The literate rate of Mahendranagar municipality is 75%. The relation 49% are male and 27% are female. Where as 24% has illiterate. Therefore out of 24% of illiteracy only 10% in male and 14% in the female.

This figure shows that higher literacy rate as 76%. It was seen that illiterate in female is high. Traditional rites, rituals, ignorance of their parents and social custom bares girls from going to school. It is the main resin of poor literacy rate of female.

### 4.3.5 Educational Attainment

Education is a means through which human lead a better may bring life. Education attainment is more marked for youth. Generally most of the population UG household are educated or they can easily read and write. So they understand the value of education.

**Table no. 4.5: Education Attainment by Sex**

Education level	Male (%)	Female (%)	Total (%)
Primary	33 (44%)	21 (28%)	54 (72%)
Secondary	9 (12%)	5 (7%)	14 (19%)
Higher (above SLC)	6 (8%)	1(1%)	7 (9%)
Total	48 (64%)	27 (36%)	75 (100%)

Figure in the table shows only those, which have formal schooling

Source: Field survey, 2000

The above table shows the education attainment of both sexes. The total number of student at different level of school is 75. Among them 72% student are in primary level of which 44% boys and 28% girls. Similarly 19% students is at secondary level with 12% boys and 7% girls, 7 (9%) student are at higher secondary level with 8% boys and 1 % girls. The number of females participants in education is less then male at each level of education.

### 4.3.6 Occupational Composition

Most of the respondents are engaged in agriculture. In occupational, composition, child group (0 to 15) economically dependent



population is not included. The following table no. 58 provides occupational composition of user's groups.

**Table no. 4.6: Occupational Composition of UG Respondent**

Occupation	No. of household	Percent (%)
Agriculture	25	48
Services	12	23
Trades (business)	15	29
Total	52	100

Source: Field Survey, 2008

Above table shows that out of 52 household the maximum number of household is 48% involved in agriculture, 15 (29%) are involved in trade and maximum number 12 (23%) involved in government services.

#### **4.3.7 Agriculture**

Agriculture is the main occupation of buffer zone user's group. The agriculture production in any region general depends upon the existing ecological factors. The quality of soil, amount of manure used, irrigation facilities and timely cultivation and regular care of plants determine the quality and quantity of crops production. Mostly semi-modern method is used in agriculture. Some time they use tractor. Otherwise, they use spade, ploygh, oxen kodalo, kuto etc. They also use chemical fertilizers. Irrigation facility is good.

Agriculture products are vary in different seasons. Mainly paddy, wheat, maize, fruit, mustard, and various types of vegetable are product grown.

**Table no. 4.7: Agricultural Production of UG Respondent**

Types of Agriculture	AV. Amount (100 Kg)	Percent %
Paddy	50	43
Maze	23	20
Wheat	21	18
Vegetable	13	11
Mustard	5	4.5
Fruit	4	3.5
Total	116	100%

Source: Field survey, 2008

Paddy is the main agriculture product of SWR Buffer zone, convering 43% it is their main food. They also sell some percentage of the total production.

Maize is the second product after paddy, covering 20%. Some percentage is locally consume and some percentage of production is sold for money. Wheat is another product of this region, covering 18% of the local production it is consumed locally. Vegetable is also important product, covering 11% of total product. Mustered seed and fruits is also important product of these areas.

#### **4.3.8 Livestock**

In the study area, livestock rising has been found some one of the major components of farming system. It also serves as a source of income and livelihood for the village people. People have raised cow, buffalo, goat, oxen, pig for their own propose, the number of live stock raised in given in table below.

Each household of user group has raised livestock for their own purpose and for selling. All their cattle are stall fed with grass, fodder hay and kudo, grass, hay and fodder are obtained from community forest.

**Table no. 4.8: Livestock among the UG Household**

Types of livestock	No. of livestock
Cow	4575.39
Buffalo	4224.00
OX	280.0
Goat and Sheep	266.34
Pig	24.31
Total	9370.04

Source: (PCP, SWR) Suklphanta Wildlife Reserve and Buffer zone Management Plan- 2006-2011.

Cow are raised for milk and to produce oxen for ploughing. If they do not have oxen, they have to face difficulty at the time of cultivation.

Buffalo are raised for milk. A number of pigs are raised for meat purpose. It is due to cultural structure because most of the respondents are related Brahmin, Chhetry and Tharu caste/ ethnic groups.

Animal's manure and bedding are kept in Malkhaldo and at the cultivated time, it is used as manure/ compost in the field.

## CHAPTER V

### FOREST RESOURCES MANAGEMENT

#### 5.1 Nature of Forest

There is tropical, dry, and deciduous forest dominated by hardwood sal (*Shorea robusta*) grass lands and revive forest featuring gigantic and simal tree. Main other flora are Asna (Saj), Khayar Bhalayo, Sissoo etc.

Those forest areas have the world's most endangered species such as Royal Bangal tiger. Leopard, Swamp deer and wild elephant. The other fauna is blur bull, black buck, ghadiyal, mars Magyars etc.

The nature of forest is mainly secondary forest. According to field visit, primary and good product forest is in side of park'. The forest of buffer zone is generally very thin. Many forest lands have either open grass land or bush forest. Some user groups have not found owned any forest land. So there is a lack of forest cover in buffer zone.

Comparatively Mahendranagar municipality have good forest. More UGs have no forest to use for their daily uses. The area covers many salty area that is good for cultivation.



“Forest of Park Area”

## 5.2 Management, Activities and Conservation

UG management committee manage their community forest in coordination with national park. The forest outside the area of National Park's Boundary is hand over to local people minimum of 21 unit of same area in 2000 AD.

One of the main activities of the people of buffer zone is the conservation of the forest in the national park and buffer zone area. Buffer zone committee of national park, Suklaphanta integrated conservation project of WWF Nepal, Suklaphanta wild life nature conservation trust of king Mahendra Trust for Natural conservation and park people program (PPP) supported by united Nation Development program \*UNDP)\ raise fund for the management of forest resources, community Development program, conservation education, income generating or skill development program etc. of the people of buffer zone. It has main goal of the conservation of forest in buffer zone and wildlife of national park.

Mainly the Mahendranagar Municipality user groups are working for plantation of forest in their forest area. The user group have made boundary for the protection of domestic animals.

They make drain for the protection from wild animals. They also manage guards for the illegal cutting of the tree, grass, fodder and illegal activities in these areas.

They are managing rural and regulation for cutting timber, firewood and grass. They have time o cutting timber, firewood and grass with some tax also.

### 5.2.1 Role of UG

The user groups have their own fixed boundary of the forest. They get the products from their forest. They plan various traces. They make boundary for the protection of forest from the domestic animals and other damage. They also make drain between the park and the buffer zone areas. They manage guard for the protection of forest areas. They make rule and regulation to manage the forest. They also have implemented the system of reward and punishment also.

The user groups have own community forest area. The user groups themselves manage it. One of the important factors of forest management is better people participation.

**Table no. 5.1: Activities of user Group**

S.N.	Activities	Percent
1.	Conservation Program	32%
2.	Community Development Program	28%
3.	Income Generating and Skill Development	20%
4.	Conservation education program	10%
5.	Administrative expenses	10%

Source: Field survey, 2008

User groups working plan has different activities. Conservation programs 32% budget is distributed. Income generating and skill development 20% and conservation education and administrative expenses 10% budget has been distributed in the users group working plan.

They are managing for plantation of tree, fodder, and plants. According to buffer zone management guideline, user groups work plan is mandated for utilization of natural resources, conservation of forest area community development activities and utilization of the forest products and budget distribution which is shown as below.

#### **5.2.1.1 Boundary**

User's groups are working for conservation of their community forest. First of all, they make boundary for protection of domestic animals. They make down, Biobarrier, wire fencing, etc. to protect buffer zone forest, to prevent damage of crop, animals around the protected area to avoid the strolling around.

#### **5.2.1.2 Guard**

User's group manages one or more guard for monitoring and conservation of their forest area and to implement rule and regulation regarding forest protection like illegal cutting, entry of domestic animal and other damage.

#### **5.2.1.3 Construction and Use of Machan (view Tower)**

They had made Machan in this area, with the support of user groups and other organization. Machan is used to see the wild animal crossing the crop area and give information for all villagers and chase away wild animals. The also use it for sight scence of wild animals, egrets, herons, storks, eagle and elephant for tourist.

### **5.2.2 Role of Park**

Government of Nepal, Department of National park and wildlife conservation with approval of national park and wildlife conservation Act 1973, (DNPWC) has providing BZ management regulation 1996. According to BZ management regulation 1996, the user groups manage their activities.

The warden (conservation officer) possess the main unit of the protected areas in buffer zone. There is a special unit of management of BZ in each park. The park management of BZ is in each park. The park management of BZ to conservation of park wildlife and forest total income of 50% park resource development of BZ forest and conservation of wildlife, community development, income generating, skill development conservation education etc. For the management of BZ, the park has also two program one is development of BZ forest and other is conservation of wildlife of park side. Beside it also run programs to reduce the dependency of people in the park and forest resource utilization. For this propose activities of national park provides 30 to 50 percent of the park revues for the development of buffer zone forest.

The money is used in development of income generating activities, skill development, community development, conservation education, development of forest resources and different community development program in order to prove 50% of income of the park for the development of buffer zone, the national park makes a buffer zone committee. The entire user groups represent in the BZ committee. It makes over all working plan, distribution of the funds and the classification of the status of user groups the user groups of BZ are under the SWR. They have to run according to rules and regulation of national parks and wild life



conservation Act 1973 Buffer zone management regulation, 1996 and buffer zone management guidelines 1999. the BZ committee, which is a unit of national park, runs together with user groups. The BZ management committee is formed to distribute fund for community development in accordance with the rules and also undertakes field visit if necessary to examine and evaluate the problems, submitted prior to distribution of fund.

One of the significant roles of the national park is to make less dependency of the forest of national park for the people of buffer zones. The park is directly involved to form user groups to formulate rule and regulation and working plan.

Other organizations are also working to help activities park goal. They also provide plan sampling, to help boundary formulation, initiate conservation education, finding alternative energy source and initiate rural technology and also invest for the conservation of forest, wildlife and environment. The park management of buffer zone user's groups distribute fund for i.e. three groups. Crop damage and population determines their class A,B,C. More populate and more effected wildlife, crop damage area fall number A, class, middle population effected of wildlife is class B and less population and less effected of wildlife and crop damage is in class C.

### **5.2.3 Rewards and Punishment System**

One of the main goals of user groups is the conservation of forest and natural resources. For this purpose user group makes own rule and regulations regarding cutting down the tree, firewood collection grass cutting and grazing domestic animals.

UGS have own rule and regulation of reward and punishment system. They make rule by dissection of user group mass meeting it has two different parts for animal and forest. Domestic animals have fixed rate of punishment but all UGs have not similar rate. Timber firewood, fodder and grass have not fixed rate. Without permit to take any product, they have also different rate of punishment to cut green and dead tree.

**Table no. 5.2: Punishment System of Illegal Cutting**

Components	Minimum Rs.	Maximum Rs.
Tree cutting	1000/-	5000/-
Fire wood cutting	100/-	2500/-
Grass cutting	50	500/-

Source: Field survey, 2008

So for this purpose they also make the system of punishment and awards system. So if one is found cutting trees then he would have to pay a penalty of Rs. 1000 to 5000/- if one found cutting fire wood then he would have to pay a penalty of Rs. 1000 to Rs 2500/- if one is found to cutting grass than he would have to pay a penalty of Rs. 501 to Rs. 500. It has also reward system for informant. 50% of penalty is given to him. This is general rule which has been implanted by many user groups. It may vary slightly in different UGS.

**Table no. 5.3: Punishment System of Illegal Interred of the Domestic Animals**

Components	Minimum Rs.	Maximum Rs.
Goat	5	50
Cow	10	100
Oxen	10	100
Buffalo	20	200

Source: Field survey, 2008.

Above table shows that if any domestic animal enters the forest areas they have to pay some money as penalty. If one goat is found in forest areas he would pay Rs. 5% to Rs. 50%. If one cow/ oxen is found he would pay Rs. 10/- to Rs 100/-. Similarly if one buffalo is found he would pay Rs. 20 to Rs. 200/-. The rule of penalty is not same in UGs. Each of them has employed separate rules.

#### **5.2.4 Gender Participation in the Forest Management**

In our society there are so many work differences between men and women. Thus they have different rules. So there are some differences among men and women in the participation of forest management.

**Table no. 5.4: Gender Participation in Forest Product Collection**

Activities	Men%	Women %	Total
Fuel wood harvesting	50%	50%	100
Fuel wood collection	30%	70%	100
Grass cutting and collection	10%	90%	100

Source: Field survey, 2008

The above table shows that both male and female is equally participate in fuelwood collection where as in fire wood fetching, women play major role comprising 70%. In grass cutting male's participation is quite less only 10% but female play vital role in it, it is clearly seen that women participate more than men is forest product collection.

**Table no. 5.5: Gender Participation in Plantation and Bush Leafing Activities**

S.N.	Activities	Man	Women	Total
1.	Plantation	60%	40%	100%
2.	Bush cleaning	30%	70%	100%

Source: Field survey, 2008

Above table shows that men's participation in plantation is more than women. 60% Vs 40% in bush cutting the participation of women is more than 70%. Where as male participation is 30% only. The focus group discourse and key information interview also give similar findings.

### **5.2.5 Women's Participation**

Above given table suggest that women's participation is higher in forest product collection and plantation. But out of 419 user groups only ten women president is found in over all buffer zone. According to women informs they are not satisfied in the forest management activities, as they have varied role in management activities. Male members of user groups also accept the improvement of women's role is forest management activities. It was also found that women member are not participating the meeting of UGs. One of the women respondents said that she did not get information about the meeting. Those women who

also attain the meeting also do not have vital role in decision, making. In our society, there are also many work difference between men and women. They have different role in society so that in forest management activities also, there are some differences among men and women involvement in the time of survey mixed groups were also found.

### **5.2.6 Problem Associated with the forest Management and Conservation**

Most of the proper good forest area has already been covered by national park. So remaining forest are or the forest of buffer zone is not good. So for the immediate use, people pf buffer zone do not get the forst resources, although they have been protecting the forest. Because of this, it is difficult to protect the forest.

User group have their own rule and regulation regarding forest management system for grass cutting, firewood collection and timber cutting. So the consumer can not get the forest products according to their need. So there is always conflict between the over group and general users.

**Table no. 5.6: Problem Arising in Forest management**

Source of Problem	Respondent	Percentage
Illegal Timber cutting	10	40
Fire wood collection	8	32
Grass cutting	4	16
Use of Grazing land	3	12
Total	25	100

Source: Field Survey 2008

\*Multiple answers

Above table shows that major problems of forest management is related to timber. In the time of field study 40% respondent shows the problem of timber. The second problem is fire wood and 32% respondent have this problem. Similarly grass and grazing land are also problem of the management activities.

### **5.2.7 Formation of User Groups and their Boundary**

In the time of field study, formation of user group was done to evolve fix boundary of settlement. National Park, Park people program, Suklaphanta nature conservation and king Mahendra Trust etc have promoted the formation of user group in these areas. They give awareness to make own user group to management and utilization of forest its main goal is to develop user's group's own community forest with better management conservation and utilization. Procedures for the formation of user group are to assemble all user of this area where the user groups is going to be formed. They select a chairman, a vice chairman and secretary from among the user members. This is an agreement between the user group and the national park for the purpose of stability of user's groups. They register the users group at the concerned national park/. Wildlife reserve. Minting all the decision of the meeting and making all user groups put their signature at the end of meeting.

User's group formation process had fixed boundary of unit of social geographical natural resource of such area and conservation of biodiversity. According to BZ management guideline 1999, the basis as well as following issues is to be considered.

1. Present structure of village/ town settlement or Helments located in the BZ

2. Availability and possibility of use of natural resources particularly forest products.
3. The population of the area and structure of the community in the place with the view of geographical location, distance, accessibility and other aspect of the area for common benefit.
4. The possibility to assemble the local community in the place with the view of geographical location, distance, accessibility and other aspect of the area for common benefit.
5. The prospect of people's participation of buffer zone management committee adequate and systematic number.

#### **5.2.8 Meeting of Users' Group**

The meeting of user's group have been conducted regularly such as weakly, half monthly and monthly also. UG household are designing of their forest plan. They also take decision for cutting grass, fire wood and timber. They are doing design punishment and penalty for illegal activities.

According to BZ guideline 1999, the meeting of user group should be called once in every two weak. The meeting of users' group shall be held on the time date and location set by the chairman. If the meeting is not called in accordance with every two weak, date, time and location set, 25% of member of the group may decide and call meeting. All member of the group should be compulsory attend the meeting shall be passed unanimously as far as possible. The member's presence in the meeting should be signed in the decision of the meeting and the chairman, view chairman and secretary should certify it.

### **5.2.9 Participating in Meeting**

The user group member have good participation in meeting. Almost 90% member participant in meeting. Some user group have 10% member participation in their meeting and some user group's members has 75% participation in their groups meeting women respondent also agree that they have less participation in meeting. It is clear that less a few member are not attending in time of meeting. In the time of field survey user groups' member participated in the meeting is a good members.

### **5.2.10 Registration and Handing over of forest of user group**

The newly formed committee group is registered in related park. Buffer community forest UG has been registered in SER according to rules of wild life reserve. It is necessary to have status, name, boundaries, approximate area, number of households and population. Formatted user groups have to apply to the warden of SWR Majgaon Mahendranagar.

It includes information on name and address of forest management, boundaries, and area and species of wildlife. It also needs name, position and signature of user group member with date.

The SWR warden issues the registration certificate to the SWR registered. Buffer user group according to national park and wild life conservation act 1973 and buffer zone management regulation 1996. The registration certificate has name, boundaries and area clearly.

### **5.2.11 Buffer Zone Management Committee**

Buffer zone committee has been formed in every national park to manage the buffer zone according to sub-rule (3) of rule 26. The BA



management committees distribute the found for community development.

In meeting the BZ management committees elect on president, warden is member-secretary of this committee. Members- secretary has vital role in this committee and they have a lot of authorities also. BZ management council has two participants from each user groups/ committee. They design about work plan and provided compensation for wild animals damage. The committee meeting should be held at least four times in a year, not exceeding three months between each meeting. Date, time and location of meeting are being set by the chairman or by one this of the member of committee.

#### **5.2.12 Conflicts between UG and Park**

In the BZ area, there is conflict between park and local people. Park has been doing many works in buffer zone to minimize this conflict such as community development, 50% revenue of park have provided in buffer zone facility of Khar khadai etc. it has many problems like crop reading, timber, firewood, grass budget etc.

**Table no. 5.7: Source of Conflicts**

S.N.	Source of conflict	Respondent	Percent
1.	Crop reading	8	40
2.	Timber/ firewood	4	20
3.	Building resources	1	5
4.	Grass/ Grazin land	2	10
5.	Budget	1	5
6.	Area of Forest	4	20
	Total	20	100

Source: Field survey, 2008

Above table shows that the major source of conflict is crop reading by wild animal is 40% respondents view crop reading as main sources of conflict. 20% respondent say forest and timber/ fire wood as source of conflict. Similarly other conflict sources are grass/ grazing land, budget and building resources.

### **5.2.13 Problems and solution of conflict**

For the management of the forest, the user groups face many problems one of the source of conflict is sustainability resource.

#### **(a) Timber**

The user need much timber for their daily uses. But most of the forestland is secondary forest. So they can not get adequate timber for their daily need like as agriculture using, timber and building materials. They are not allowed to get timber and use of the forest product of the national park.

#### **(b) Firewood**

Because of the lack of alternate fuel resource like electricity, petroleum product and bio-gas. So they need large amount of firewood. As they do not get into the forest of the wild life reserve, they can hardly fulfill the demand of firewood.

#### **(c) Area of Forest**

Some of the buffer zone user groups have not found their own forest area, and even if they have the forest, the provided forest is not productive. One of the main complains of users group is that the best forest area is already covered by the wildlife reserve.

#### **(d) Crop raiding**

One of the difficult problems is crop raiding. Which makes the people of buffer zone suffer from many wild animals damage the crop of the people, which always create problems and tension among the buffer zone people.

#### **(e) Budget**

It is the key factor, the user groups make many working plan. They need much amount to attend their plan but they have always a lack of money. They prefer many job but budgets allocated by buffer zone committee is very less. So there are certain problems in their work.

In order to solve their problems, the people call the meeting and try to solve them through the decision and resolution of the meeting.

Among these problems, they are managing conflict by meeting. If they have problems of distribution of timber, firewood and grass, they call meeting of UG and manage. In case crops reading and lack of budget they meet with park, VDC for solution.

### **5.3 Forest Resource Utilization**

The people of SWR buffer zone area have their own allotted forest and they fulfill their need from their own forest area. They have made rule and regulation for the utilization and distribution of forest products.

#### **5.3.1 Distribution and Use of Forest Product**

They have to pay fixed revenue for the utilization of the forest products in the approval time of the user and their decisions. They have managed grass, fuel-wood, timber, medicinal plants Khar-khadai, etc.

## **Grass**

Grass is one of the most important resource of the user groups. They keep many domestic animals for their daily need. They have their own rule regarding the consumption of grass. The time generally is given monthly fortnightly and weakly they do not provide this opportunity for the other user groups. They are using own forest area. They have different rules for using grass. They have rule to pay some money to cut grass but they have different rule. User pay Rs 5/- per person for cutting grass.

## **Fuel Wood**

Fuel wood is more useful resource of this area, they have certain rule for collection of firewood monthly, half yearly and yearly. They have to pay fixed money for the collection of fire wood. They are collecting firewood from their forest area from dead trees and branch of the tree.

## **Timber**

Some user groups have timber. They can use timber for agriculture purpose, halo, kodalo etc and buildings doors, window, furniture also. In the same way, they have to pay some money for the collection of timber. Many user groups do not have timber for them. Mainly they use dead and fallen down trees for their purpose.

## **Khar Khadai**

Inside the park there are many resources but people cannot use these resource so only once a year, people are allowed to inter into the park area for a weak. They have to pay Rs. 25/- per person in one season for 7 days to collect only dry grass and NTFPs. They are not allowed to collect other types of forest resources.

Park only buffer zone people provide it. The main goal of this provision is to the minimize people and park conflicts.

### **5.3.2 Use of Fund**

The user groups of SWR buffer zones have their own fund. SWR buffer zone development committee distribute 50% of it revenue for the development of buffer zone through user groups. SWR manage buffer zone committee for the distribution of found. The buffer zone user groups have dividing the three categories A, B and C according to population of user, record of grazing of wolf animals, crop-raiding and affect by wild animals. User groups having more population higher wild animals grazing and higher crop raiding by wild animals or damaged is categorized as class 'A'. User groups having middle population, middle wild animals grazing and middle crop raiding by wild animals or damaged is categorized as class 'B'. User groups having less population, low wild animals grazing and lower crop raiding by wild animals or damaged is categorized as class 'C'.

Compensation is given according to the classification of the user groups. They have also collected the revenue of the grass, forewood and timber to provide for user. Penalty of the illegal cutting of tree, grass and firewood they collect in their fond. They also collect penalty from entrance of the domestic animals in forest area. They saving and credits program also.

They use found for development of their forest. They do plantation of the fuel-trees, grass, timber and medicinal plants. They have been making boundary and managing the grads to protect the forest.

## **5.4 Main Problems of Buffer Zone**

The people of SWR and BZ have many problems. It is surrounding the main national park area. The park is banned for the people. So they always lack many forest products for their daily use.

Many wild animals enter into the BZ area and people always face the problem of crop raiding. The wild animals also attack people and their domestic animals.

People are not allowed to dig canals through the NP for irrigation. They can not collect sand and stone for their construction. The domestic animals are not allowed to enter into the park for grazing.

## **5.5 Proper Management of BZ**

I have given some suggestions if we take some serious stride then only we can manage the BZ properly. For this the boundary should be properly made so that neither the animals would enter into the national park. So there won't be any problem of crop raiding and threaten of wild animals to the people of BZ area.

The forest of the BZ should be developed properly in which should meet the basic demand of the people of BZ area. So sustainable development of BZ is the key factor to raise the life style of the people. So for the development of the tourism also, buffer zone needed. The people of the BZ area should be involved. Some woods for the conservation should be needed abatable until the forest of BZ are developed.

Facility of irrigation should be providing from the river of the national park area without disturbing biodiversity of the national park.

Alternative resource of energy should be providing in BZ area, like biogas, solar panel etc.

Many type of community development program should be lunch in BZ area. Conservation education and biodiversity awareness program should be conducted from sustainable development of the country.

## **5.6 Well Management of Buffer Zone**

If we do some work for BZ area, we can well manage the BZ. One of them is to manage strong boundary of the park that wild animal is BZ cannot involve in crop raiding. To provide timber and firewood for buffer zone people from distortable tree. To do development to park and buffer zone and involved of buffer zone people in park tourisms.

BZ forest area to conservation and take care and well plantation for development of forest to make in dependent of people by them forest area for forest product.

## **5.7 Crop Raiding**

One of the difficult problem is crop rading. Which does the people of bufferzone force. Many wild animals damage the crop of the people, which always create problems and tension among the BZ people.

It is the main cause of conflict between park and local people. Crop raiding is not only problem of SWR BZ area; it is major problems of all national park and reserve. Because NP and BZ has closed boundary. Many times the wild animals move over the BZ area and they start for crop raiding. In the park area animals population is high so wild animals moving and greasing into the BZ and start crop raiding. The wild animals cross in BZ easily because there is not good Barbour. Some species has

cross in the day and some has night so it is problem for chasing. Some species has not stopped in Barbour also sus monkey will cross by jump and elephant break down the Bar (boundary).

Elephant swamp deer, wilder, monkey, etc to come in crop land and damage crop. Main of the crop are rice, maize, potatoes, vegetable and frost also damage by wild animals.



## **CHAPTER VI**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter summarize the major findings of the study area and draws conclusion about the management and utilization of forest products in SWR buffer zone's local user group it has provides some recommendations to make well management and utilization of forest products by development of buffer zone people and buffer zone forest resources.

#### **6.1 Summary**

This study is about SWR buffer zone management and utilization of forest products, community user group in buffer zone area forces it that manages and utilize of forest resource. The study has SWR buffer zone area, forested in Mahendranagar Municipality in Kanchanpur districts. The data of the study was collected in 2008. Major findings of this study has been summarized as follow:

SWR, BZ has lowland of terai in far western part of Nepal, surrounding by SWR and down side of Churia hill. SWR and BZ has important natural resources like flora is sal, khayar, sisaw, simal, Asna (saj) etc. and fauna like 27 royal Bengal tiger, wild elephant, swamp deer (1674), Blue bull, Barking deer, Hog deer, wild boar, leopard, jackals, langur and rhesus monkey, one-horned rhino etc.

In this study area has move population is Brahmin/ Chhetri community. But the field study area Tharu (13%) kami/ Damai/ Sharki (18%) was found.

PPP (UNDP/ HMG), SNC (KMTNC), DDC has been working in this buffer zone area to help in local community development and other types of work.

All people of buffer zone is primary user. Literacy rate is good of the buffer zone area 75.63% has literate in total household survey of respondent and large number of student has formal schooling.

Agriculture is major occupation of this area 80% respondent is involved in agriculture field.

Live stock is also farming in this area has large number with lack of forest resources.

In BZ area has secondary forest but inside of national park has evergreen and good forest.

A BZ person has managing their own community forest to fulfill their needs of forest resources and buffer zone committee has formed for management of buffer zone forest and community development.

National park has main goal is to reduce the dependency of the local people in buffer zone area and forest resources inside of the park.

They are managing reward and punishment system for good management of buffer zone forest.

Gender participation of this area has some present in management and large present in utilization.

They are solution of this problems and conflict by rule, meeting in park and local user groups.

They are using forest resources is grass, firewood and less amount of timber in their forest area.

They are using fund for management activities.

Buffer zone major problem is crop raiding timber firewood, grass, greasing land, irrigation and building materials.

SWR other organization and local people has conducted conservation education for protected park and buffer zone flora and fauna.

SWR buffer zone has doing many works for community development by SWR, other organization and local people.

## **6.2 Conclusion**

SWR buffer zone area's user groups have vital role for protection of park. So the park has managed buffer zone for local people. The local people has formed user groups for management and utilization of forest product in BZ area. People has doing good management of forest in BZ area when the park handover the local community. Lack of the forest resource in BZ area, they are facing many problems in day to day.

Local people have been facing many problems of crop raiding timer, firewood, grass and grazing land etc. they have not enough alternative energy sources in cooking and they have not other sources of income so they are dependent on natural resources. SWR BZ committee and other organization has does work in community development, alternative energy sources, plantation, conservation education, and development of forest in BZ area, it will be making strong barrier of park.

It has lack of women participation and income-generating program. Now it is need to participant of local people for management activities of park.

### **6.3 Recommendation**

In the time of field survey in SWR BZ has need to fulfill some work in this area by long term plan and some is immediately. Increase of people participation for buffer zone management activities.

Conducted conservation education and Biodiversity awareness program for local people and school student strongly.

Solution of crop raiding is problems and other damage in buffer zone by wild animals. To conduct income-generating, community development, alterative energy, sources plantation, improve livelihood in local people and forest development program.

Development of the women participant in forest management and skill development of infrastructure and tourism in buffer zone areas.

## BIBLIOGRAPHY

- Baral J.C. and P. Lamsal (1991). *Indigenous system of forest management: A potential assets for implementing community forest program in hill of Nepal. (With Special reference of Palpa District)* Field document No. 17 Kathmandu.
- Basnet, N. (1997). *Application of GIS for women in forest development and management. A case study of Godawary Watershed, Lalitpur district.*
- Bista M.R. (1998). *An Evaluation study of the Resource Management Practice of Churia Forest Development Project (ChFDP), Saptari district.*
- Bista S., (1997). *Forest flora of SWR. Herbs, Shrubs and Climble.*
- Buffer Zone Area Act 1992.*
- Buffer Zone Management Guideline (1999).* HMG, MoF, Department of National Park and Wildlife Conservation.
- Buffer Zone management Regulation (1996).* HMG, MoF, Department of National Park and Wildlife Conservation.
- Campbell et al. (1987). *Human impact on some forest of the middle hills of Nepal,* Mountain research and Development.
- Chhetri R.B. and T.R. Pandey (1992) *User group forestry in the far western Region of Nepal,* Kathmandu ICIMOD.
- Dahal D.R. (1994). *A review of forest user groups, case studies from eastern Nepal,* Kathmandu, ICIMOD.

- EDWARD D.M. (1996). *Non timber forest products of Nepal*.
- FOA, (1978). *Forestry for local community development*, Rome (Paper).
- Forest Department, Annual Report (1998). *Park People Programme* (HMG/UNDP/ GEF)
- Ghimire, Mines Kumar, *Management and utilization of forest product management and utilization of forest product in buffer zone area*, Bardia district.
- Gilmour D.A. and R.J. Fisher (1991). “*Village, forest and foresters*” *Philosophy, process and practice of community forest in Nepal*, Sahayogi press, Kathmandu, Nepal.
- Ingies A.W. and D.A. Gilmour (1998). “*Empowering user group in community forest management in Nepal, Problems and Possibilities*” NAFP Discussion paper, Kathmandu, Nepal, Australia Community Forest project.
- Karki M. and J.B.S. Karki (1994). *Sustainable management of common forest resource. An evaluation of selected forest user groups in western Nepal*, Kathmandu.
- Maharjan M.R. (1994). *Chiraito Cultivation in community forest*. Nepal-UK community forest project.
- MPFS (1988). *Master plan for forestry sector, Nepal*. Main Report, HMG/ ADB/ FINNEDA/ Kathmandu, Nepal.
- NAFP (1984). *Nepal Australia forest project, Nepal’s National forestry plan 1976*, Kathmandu.

- Paudel, H.L. (1998). *The impact of community forestry programme on the life of less privileged peoples*. A case study in Dolakha district.
- Sherpa L.N. (1993). *Guideline for Buffer Zone Identification* (Protected area buffer zone working paper no. 1)
- Shrestha J.K., (1998). *Women role of forest management*, A case study Paleban community forest, Tityang VDC Banglud district.
- Shrestha, R.K. 1998. *Deforestation in Nepal. A case study of Bhojad village of Chitawan district*.
- Sigdel, B.D. 1997, *Forest Management in transition phase. A case study of Zilang village*, Tanabu district.
- Uprety B.N. (1985). *The park peep interface in Nepal. Problem and new direction of people and protected area in hinda-kush Himalaya* KMTNC and ICIMOD, Kathmandu.

## HOUSEHOLD CENSUS FORM

### 1. General Information

- a. District
- b. VDC/ Municipality
- c. Ward
- d. Village

### 2. Respondent

- a. Name
- b. Age
- c. Sex
- d. Caste

### 3. Family Composition

Age							
< 15		15-55		> 56		Total	
Male	Female	Male	Female	Male	Female	Male	Female

### 4. Education Status

Topic	Male	Female	Total
Illiterate			
Literate			
Primary			
Secondary			
Higher Secondary			



## 5. Annual Income (In Rs.)

Type	Amount in Rs.
Agriculture	
Livestock	
Service	
Labour work	
Others	

## INTERVIEW SCHEDULE

1. Community forest user groups information
  - a. date of establishment    b. Registered date
  - c. Participation of meeting
    - Mass meeting    - committee
  - d. Time of meeting
    - Mass meeting and committee
    - Rule and Regulation

2. Position of FUG
  - a. General member            b. Executive member
  - c. Sub Group

Male group	
Female group	
No. of user	

3. While forming the FUG were you consulted if yes, what purpose?
4. What type of activities are being done by youth FUG?
5. What is your natural forest?
6. What types of forest product you are using?
  - a. Timber    b. Non-timber    c. Medicinal plant
7. What types of benefits you are taking from your FUG?
8. Your role in management of FUG?
9. Your involvement area in FUG?
10. What types of role in management of forest?
- 11 Rule and regulation of FUG you do like and untilld?
12. What do you suggest for the further important of your FUG?
13. What organization helped?
14. Information of forest?
  - a. Area of forest    b. Major forest    c. No. of user

Male	Female	Total

15. Beneficiary household population

Male	Female	Total

16. Covered village

17. Name and area of forest you are using and management?

18. Historical background.

19. Institutional status

Class	Income in Rs.
A	
B	
C	

20. Formation of constitution

Law and by law

21. Office established Yes/ No

22. Participation of women in meeting and decision making process

23. Income sources?

24. Monthly saving?

25. Reward and punishment system?

26. Decision making process

- Household level

- FUG level

27. Functional status

Activities.

a. fund raising and mobilization

b. Formation of FUG?

c. Utilization

28. Self-evaluation of FUG and why?

a. Excellent b. V Good c. Good

29. Formation of FUG?

Class	Income In Rs.
A	
B	
C	

20 Formation of constitution

Law an by law

21. Office established Yes/ No

22. Participation of women in meeting and decision making process

23. Income sources?

24. Monthly Saving?

25. Reward and Punishment system?

26. Decision making process

- Household level

- FUG level

27. Functional status

Activities.

a. fund raising and mobilization

b. Forest management

c. utilization

28. Self-evaluation of FUG and why?

a. Excellent b. V. Good c. Good

30. Conflict management (UG and Park)

a. Sources

b. Reason

c. Solving process

d. Suggestion

31. Agriculture survey

Type of land	Crop grown	Yield obtained

32. Live stock survey

Types	No.

33. How many suggestion for SWR/ BZ mgnt/

- a.
- b.
- c.
- d.

34. How to do well management

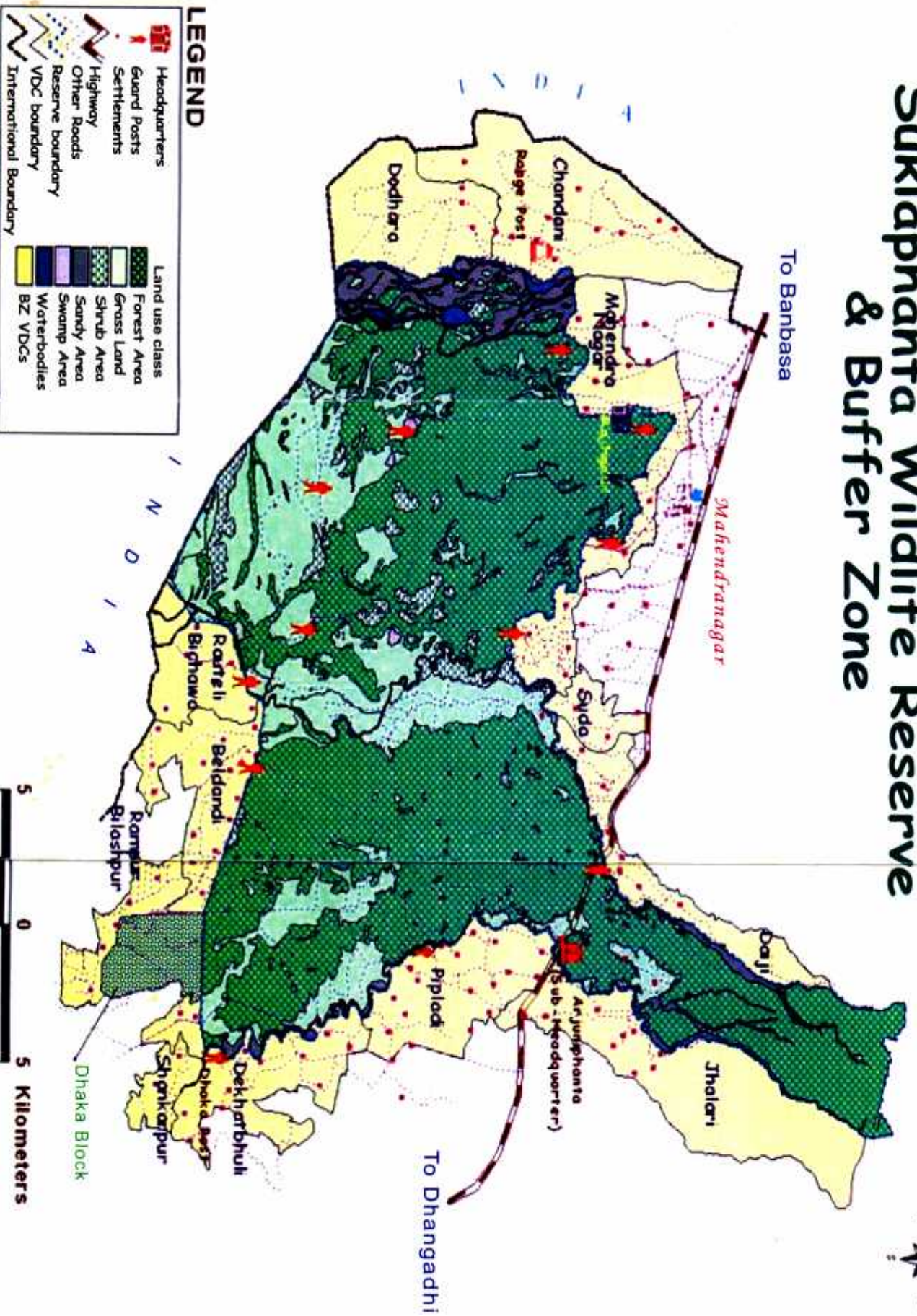
- a.
- b.
- c.
- d.

35. Have any problem management and utilization for forest product?

- a.
- b.
- c.
- d.

36. What is the main problem of BZ?

# Suklaphanta Wildlife Reserve & Buffer Zone



## PHOTOS



Swamp Deer in the Wild Life Reserve



Swamp Deer in the Wild Life Reserve





Bengal Tiger in Suklaphanta



Peacock in Buffer zone