Economical and Environmental Impacts of Tourism in Annapurna Conservation Area

(A Case Study of Lete Village Development Committee, Lower Mustang, Nepal)

Aneeta Gauchan

A Project Paper Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor Science of Forestry

August 2007

Date: August 30th, 2007

CERTIFICATE OF ACCEPTANCE

This is to certify that Miss Aneeta Gauchan, B.Sc. Final year student at Institute of Forestry, Pokhara has prepared this project paper entitled **"Economical and Environmental impacts of Tourism in Annapurna Conservation area, A Case Study of Lete Village Development Committee, Lower Mustang, Nepal"** under our supervision and guidance. The work is completed in line with the proposal approved upon earlier.

This project paper has been accepted as a partial fulfillment of the requirements for the Degree of Bachelor of Science in Forestry at Institute of Forestry, Pokhara.

Advisor:

……..

Shree Prasad Dhoubhadel
Associate Professor
Institute of forestry
Pokhara Campus
Pokhara

Co-advisors:

……..

Mr. Santosh Rayamajhi
Lecturer
Institute of Forestry, Pokhara
Ph D Scholar, University of Copenhagen
Denmark

……..

Mr. Narayan Prasad Gautam
Partial Teacher
Institute of Forestry
Pokhara Campus
Pokhara

DECLARATION

I here by declare that this project paper, **"Economical and Environmental impacts of Tourism in Annapurna Conservation area, a case study of Lete Village Development Committee, Lower Mustang, Nepal"** is my own work except where acknowledged. I have not submitted it or any of its part to any other academic institutions for any degree. Errors if any, are responsibility of my own.

…….

Aneeta Gauchan
Institute of Forestry
Pokhara
February, 2006

DEDICATION

This project paper is dedicated to my teachers, parents and friends.

ACKNOWLEDGEMENT

First and foremost I would like to express my profound gratitude to my advisor Mr. Shree Prasad Dhoubhadel for constructive suggestions, some of which I couldn't incorporate, to be genuine. My special thanks also go to my co-advisor Mr. Narayan Prasad Gautam for his continual guidance, valuable suggestions, constructive comments and encouragements during research work and in the preparation of this project paper. I would also like to thank Mr. Santosh Rayamajhi for his theoretical guidance and valuable inputs throughout my research period, though he is distant apart.

Without my brother Subash Gauchan this entire research would have been nuisance to conduct, so very special thanks goes to him for having assisted me throughout my field work and in report setups too.

My heartful acknowledgement goes to ComForM for providing research grant for this study and ACAP for permitting to conduct the research in the area along with significant theoretical supports when needed. This report would not have been possible without the overwhelming response and co-operation shown by my village people, so special thanks goes to all the TMC, MG and CAMC members who have been in active coordination with ACAP in community development and conservation of the natural resources in the area.

I would also like to extend my thanks to Santosh Sherchan, of UCO-Jomsom; Nawaraj Chapagain, senior GIS officer of ACAP; Bishnu Bhandari of DFO Kaski, Gyan P. Neupane, Professor at Arizona state university for their small but immense important theoretical support for the research. My vote of thanks also goes to Jaykar,Yogita sani, Rajan dai, Sumit soaltee, Prashant bro and Yamuna for their companionship.

Mr. Som and Miss Prapti who helped me a lot during data analysis also deserve special thanks.

My best friends Miss Sushma Bhattarai, Mr Basanta Pant, Mr Bishnu Hari Wagle and Mr Lok Acharya deserve commendable thanks for their unconditional love and support. Without their moral support it would have been very difficult for me to come so far.

Lastly but not the least, I would like to share this pleasure and credit to my parents for their inspiration, encouragement and support throughout

ACRONYMS

ACA	Annapurna Conservation Area
ACAP	Annapurna Conservation Area Project
AEP	Alternate Energy Program
CAMC	Conservation Area Management Committee
ComForM	Community Based Natural Forest and Tree Management in the Himalaya.
CREST	Centre for Resource and Environmental Studies
DFO	District Forest Office
DNPWC	Department of National Parks and Wildlife Conservation
GIS	Global Information System
GRU	Ghansa Research Unit
HHs	Households
ICIMOD	International Centre for Integrated Mountain Development
IOF	Institute of Forestry
IFAD	International Fund for Agricultural Development
IUCN	The World Conservation Union
KMTNC	King Mahendra Trust for Nature Conservation
LRU	Lete Research Unit
M	Meter
MG	Mother Group
No.	Number
NRs	Nepali rupee
NTB	Nepal Tourism Board
PRA	Participatory Rural Appraisal
RU	Research Unit
SPSS	Statistical Package for Social Science
TMC	Tourism Management Committee
UCO	Unit Conservation Office
VDC	Village Development Committee

ABSTRACT

The study entitled **Economical and Environmental Impacts of Tourism in Annapurna Conservation Area: A Case Study of Lete V.D.C, Lower Mustang, Nepal** with the aim of exploring tourism impacts on people's economy and mountain's environment. It has been carried out by accumulating primary information basically through conducting household survey using questionnaire format; altogether thirty-two households, representing more than sixty percent samples, were taken purposively for this survey. Besides, observation and informal talks or discussion were made for making secondary information. The collected information were analyzed and interpreted afterward.

Majority of the sub-continent’s tourists visit the study area for religious purpose while American and European visit for trekking. The flow of visit is found to have differed significantly before and after 2000 A.D. Moreover, these tourists preferred to use the sites for short period only. Improper livestock rearing practices and high fuel wood consumption have created pressure on natural resources esp. on grass land and forest land; while, pollution due to tourism is found higher on lands than in air. Tourism has played a considerable role to increase the villager’s income status; income inequality within them has slightly decreased down with the passage of time and adoption of tourism business.

Income from tourism business is inflationary with season and tourist expenditure, so for sustainable tourism, domestic tourism ought to be promoted. Well managed rearing practices should be adopted to mitigate pressure on grass lands and forest lands. With the adoption of new technologies, the traditional use of the resources has been deteriorated, thus leading in the degradation of the local culture. So without deteriorating the old knowledge and technologies, new technologies should be locally tested first and fitted later to suit the local environment.

Key Words: Economic, Environment, Impact

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CHAPTER-ONE: INTRODUCTION

1.1 Background

Nepal is a small landlocked Himalayan Kingdom that lies sandwiched between China and India. The country is heavily populated approximately 23 million and is classified as one of the world's poorest nation, but in abundantly rich in natural and cultural diversity. The magnificent varied landscape, rich cultural heritage, diversity of flora and fauna, majestic mountains, glaciers lakes and rivers have been attracting travelers from throughout the world since 1951, when foreigners were first allowed to visit. During the past 40 years, tourism has become the focal point of the economy as the influx of tourists has increased from about 6,000 to approximately 500,000 arrivals, and contributes about 20 percent of the total foreign exchange earnings (Ministry of Culture, Tourism and Civil Aviation 2001).

Tourism has emerged as the fastest growing industry worldwide and has remained at the forefront of global economic growth (Campbell 1999; Sharma 2000). National parks and other protected area have a well established connection with tourism (Boyd 2000). Tourists visit parks and protected areas because such areas can provide experiences that cannot be encountered elsewhere (Eagles and McCool 2002).

The natural protected areas which encompass more than 18 percent of the total area of the country are a major pull factor for visitors, as an important activity (Nepal Tourism Board 2001). Consequently, this high level of visitation in certain parks has resulted in a myriad of problems that include, but are not limited to issues such as: socio-cultural change; economic disparity; deforestation; crowding; litter; waste disposal; and sanitation (Banskota and Sharma 1996; Bhattarai 1985; Gurung 1990; Nepal 2000; Nepal et al. 2002; Robinson 1994; Wells 1994; Wells 1994; Zurick 1992).

Tourism has rapidly become one of Nepal's most important development sectors as well as until recently the country's largest and most reliable source of foreign exchange earnings (Wells 1994a). The importance of tourism in Nepal is underlined by the cast that tourism earnings comprised 3.8 percent of the GDP of Nepal in 1996 and accounted for 18 percent of total foreign exchange earned (Sharma 2000). As elsewhere in the world, protected areas have played a significant role in driving Nepal's tourism industry (Nepal 2000b). National parks

and protected areas such as the Royal Chitwan National Park, the Sagarmatha National Park, and the Annapurna Conservation Area are the main tourist destinations outside the Kathmandu Valley in Nepal (Nepal 2000b; Wells 1994a; Williams et al. 2000)

Tourism is widely held to be responsible for different environmental, socio cultural and economic impacts in Nepal (Nepal et al. 2002; Pobocik and Butalla 1998; Rogers and Aitchison 1998; Sharma 1998a). However, the number of trekkers alone does not indicate the intensity of impacts (Sharma 1998a). For instance tourism impact is reported to be higher in the Sagarmatha (Everest) National Park than in the Annapurna Conservation Area, although the latter receives a higher number of tourists (Nepal et al. 2002).

The predominant form of tourism in Nepal is mountain tourism, thanks to Nepal's ecological diversity and cultural richness (Zurick 1992). According to a recent study, 43.0% of the tourists visit Nepal to recreate in the mountain tourism destinations available in Nepal, the Annapurna area ranks as the most visited (62.0% of mountain tourists visit Annapurna) (Nepal Tourism Board 2001). The Annapurna Conservation Area is located in North-central Nepal. The region's steep topography offers a multitude of biodiversity with 1226 species of plants, 475 species of birds, 39 species of reptiles, 22 species of mammals (KMTNC 1995). The area also boasts the world's 10^{th} highest peak, Annapurna (8091m) and the world's deepest river valley, the Kali Gandaki, which intersects the Dhaulagiri and Annapurna Ranges (Gurung & De Coursey 1994). There is great cultural diversity in the Annapurna Conservation Area. Nine ethnic groups inhabit the area, each with its own dialect, specific religious practices, and distinct social and cultural norms (KMTNC 1995). The residents are primarily farmers, laborers, herders or traders, who are very reliant on the natural resources of the area (Thakali 1995).

These factors have contributed to making the Annapurna the most popular mountain tourism destination in Nepal. Since the first Western tourists came to Annapurna in 1957, the annual number of tourists has increased enormously (KMTNC 1996). The Annapurna received 76,000 trekkers in 2001 (ACAP 2001). Thus, tourism has played an important role in the region's economy providing jobs to the local people and increasing economic activities (KMTNC 1995). Over 1000 locally owned lodges/tea shops are spread throughout the area

providing jobs to the local people. Moreover, some locals are employed as guides, porters, and cooks.

The present situation in ACA is considered as a win-win-win scenario where environment, local communities and tourists are all benefiting (Nepal 2000a).

Tourism development in ACA is considered to be a benchmark for the development of tourism in other areas of Nepal (Doggart and Doggart 1996). Nevertheless, there is evidence of some negative impacts, which do need appropriate management responses. This shows that tourism without some negative impact is difficult to achieve (Nepal 2000a). Trail degradation and construction of new lodges in modern design indicated that some members of community will not put environmental concern before profit (Pobocik and Butalla 1998a)

1.2 Problem statement and justification

Development of tourism is crucial on rural livelihood. Especially in developing countries like Nepal, one of the primary motivations for a region to promote itself as a tourism destination is the expected economic improvement. As with other impacts, this massive economic development brings along both positive and negative consequences. Well planned and adequately managed tourism can bring more positive benefits while uncontrolled tourism development may totally ruin not only the economy of the area but also the natural and cultural resources.

The Annapurna region contains some of the major tourism attractions. Accordingly, it is one of the most popular trekking destinations of tourists from all over the world. In 1996, 49,318 foreign trekkers visited ACA and this comprises approximately 60 percent of the total number of trekkers visiting Nepal. Increase in the population and their growing needs, trekking tourism and over grazing of pastures and forests were the main factor responsible for the environmental and socio- economic problems. These problems had led to deforestation, erosion and landslides, litter pollution, aberration in the local cultural values, poverty and socio- economic inequality. With the proliferation of tourism over the past two decades, the Annapurna region has faced various environmental and economic problems. Localized deforestation caused by heavy demand for fuel wood and timber for the construction of over 500 lodges and teashops has altered wildlife habitats (Gurung 1995a).

This proposed research in the area will be able to document the activities performed by the tourist which will be helpful in assessing the environmental and economical impacts of tourism.

This research will be an effort to differentiate activities performed by domestic, Indian, and other country tourist similarly in the impact they pose. This is an effort to differentiate the attitude of different category of users, with different sex, ethnicity, income group, profession group, education level which will helpful to perceive the level of attitude that might be of use to local management and ACAP.

Analyzing perception of local people towards tourism activities will be able to amend tourism development planning at the community level.

1.3 Objectives

The main objective of the study is to assess the Impact of Tourism in Lete V.D.C.

The specific objectives are:

1. To document the activities performed by the tourist
2. To assess the economic impact of tourism
3. To assess the environmental impact of tourism
4. To analyze the attitude of local people towards tourist activities

CHAPTER-TWO: LITERATURE REVIEW

2.1 Definition

Mathieson and Wall 1982:1 define tourism "…. As the temporary movement of people to destinations outside their normal places of work residence, the activities undertaken during their stay in those destinations, and the facilities created to cater to their needs".

One of the widely used definitions is the one adopted by Alliance Internationale de Tourisme, Geneva, 1950 which defines tourism as "the sum of the phenomena and interrelationships arising from the travel and stay of non-residents"

2.2 Conceptual framework

A conceptualization framework of tourism developed by (Mathieson and Wall: 1982) is given below which emphasizes some of the major components of tourism and places the impacts of tourism into the broader context.

Tourism is composed of three basic elements. They are:

1. A dynamic element covering movement to and from the destination.
2. A static element involving the stay itself.
3. A consequential element describing the chief economic, physical and social impacts on the environment.

These categories are illustrated by Mathieson and Wall 1982 (Fig below) as a set of interconnected parts with feedback links throughout the system.

The impact of tourism results from a complex process of interchange between tourists, host communities and destination environments. The framework also recognizes that impacts result from the process of change.

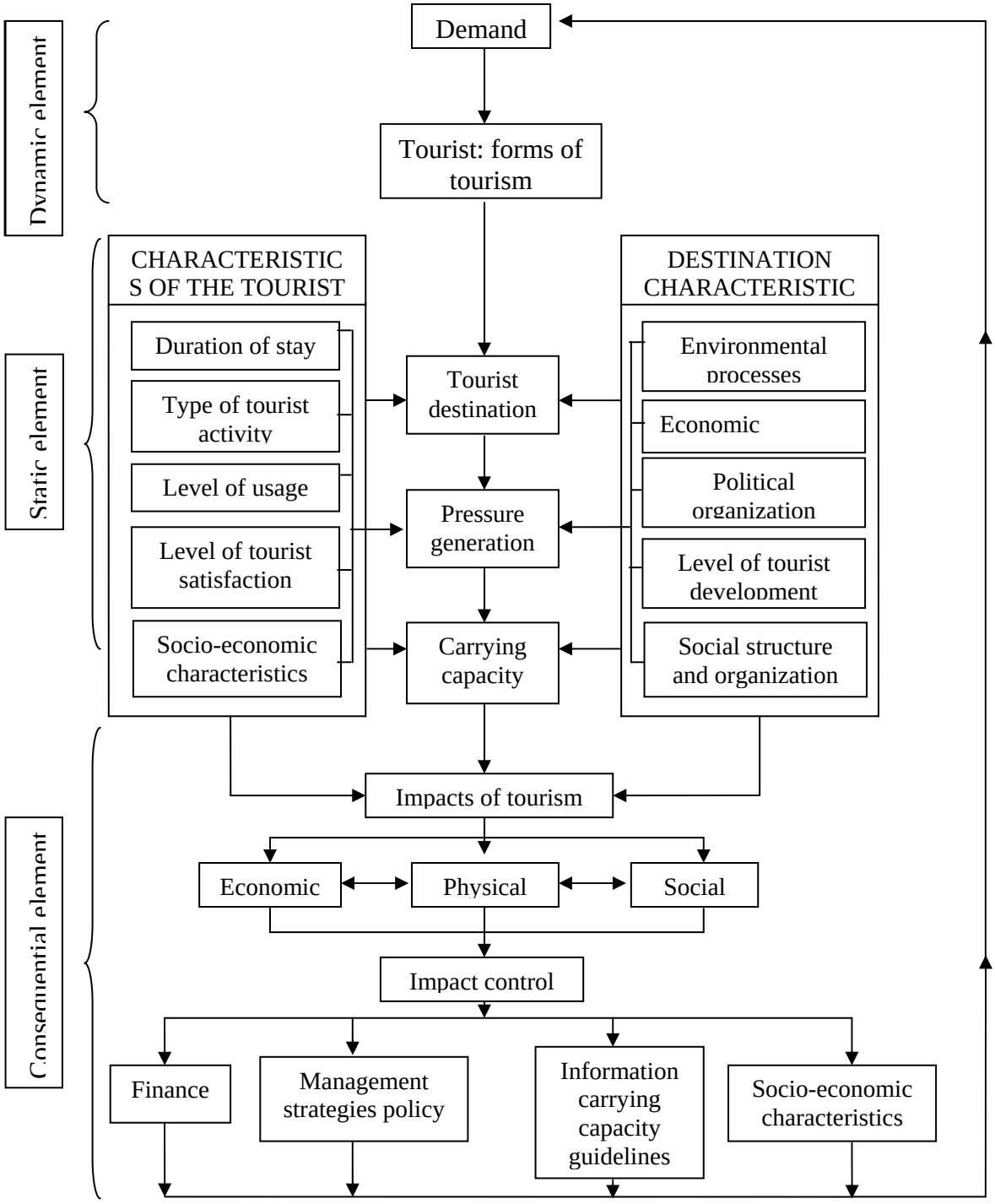


Figure 1: A conceptual framework of tourism. ***(Source: Mathieson and Wall 1982: 15)***

2.3 Economic Impact

Tourism has become an essential tool for the improvement of economic increment of a country in the present time and has remarkably performed a leading contribution in the enhancement of country's economic standard and position, employment generation and so on (Peters 1969). In the context of poor and developing countries like Nepal, it has been considered as a fundamental industry to bring national economy in the progressive way. Poverty is a multidimensional concept encompassing both prevailing welfare levels and capabilities (IFAD 2001).

Income generation and employment from tourism enterprises such as jobs for porters, cooks, and guides are the major economic benefits of tourism in the area. Nepal et al. (2002) reported that more than 1500 local people are employed by lodges alone in the southern slopes of the Annapurna area. Lodge owners in ACA are clearly benefiting form tourism (Wells 1994a). Nevertheless, not all employment benefits accrue to local communities (MacLellan et al. 2000).

Therefore, ACA management policy needs to manage the disbursement of benefits more carefully if it wants to avoid potential grievances in future. There is little doubt that tourism has brought economic opportunities to remote mountain areas of Nepal where agriculture and animal husbandry were traditionally the main occupations of most households (MacLellan et al. 2000). Observations have shown that these opportunities have increased access to better housing conditions, education and healthcare in villages with tourism. However, communities in villages without tourism do not have such earning opportunities, thus they are still engaged in subsistence activities. A major problem of tourism is that income generated by tourism is very likely to bypass the local communities (Shrestha et al. 1995).

Sherpa (1987) reflected that "income from tourism is deceptive”. English (1986) found that at least 50 percent of tourist expenditures in developing countries are likely to stay in the country. Thus, the country as a whole does get economic benefit from tourism but not much of this benefit filter or trickle down to local communities. It has also been reported that tourism development may carry with it certain costs. Inflated process for land, property and food are frequently reported (Boo 1990). The price of the basic commodities is substantially

higher in the vicinity of the protected areas, than the neighboring area which causes hardship to the local people.

Shrestha (1993) conducted the study in Annapurna area, reported that tourism had negatively affected the household expenses of the villagers, the prices of essential items, and prices and rents of houses and lands. However, contribution of tourism sector in the economy of the country cannot be ignored, also at the local level in the Annapurna Conservation Area (ACA), tourism has improved village economy, family income, and employment condition (Shrestha 1993).

Box 1: Summary of Selected Economic Impacts of Tourism on Mountain Environment

Positive	Negative
Encourages: ➢ Inflationary trends ➢ Conspicuous consumption ➢ Demonstration effect ➢ Imports for tourism/leakages ➢ Privileged treatment of tourists	Creates ➢ Job opportunities ➢ Foreign exchange ➢ Additional income/tax ➢ Better multiplier effect ➢ Diversification of economy ➢ Jobs for unskilled/ semi-skilled
➢ Withdraws Labor ➢ Overburdened communal services ➢ Overuse of scarce resources ➢ Uneven economic development ➢ Tourist enclaves ➢ Seasonal dependence ➢ Dependence on tourism ➢ External domination (city)	Improves ➢ Infrastructure ➢ Local arts/crafts ➢ Regional development ➢ Standards of living

(Source: Singh, T.V.)

Box 2: Concept of Tourism Multiplier and Leakage

Linkages of the tourism sector with other sectors of the economy can be viewed in terms of the **multiplier effects** of tourist expenditure. A dollar spent by a tourist transmits impulses to different sectors of the economy. As the domestic sectors in the economy become stimulated by tourist expenditure, they in turn demand additional resources sending further stimuli to other sectors. In this process, output, income, and evaluation which can be broadly grouped into four types.

Types of Multipliers	Description
Output Multiplier	The amount of additional output generated in the economy as a result of increase in tourism expenditure.
Income Multiplier	Additional income (wage and salaries, rent, interest, and distributed profits) generated in the economy as a result of increase in tourism expenditure.
Employment Multiplier	The total amount of employment generated by an additional unit of tourist expenditure.
Transaction or Sale Multiplier	The amount of additional business revenue created in the economy as a result of increase in tourism expenditure.

Leakage

When the private sector purchases goods and services from sources outside the community, money is no longer subject to the multiplier effects and the economic benefits leak out of the community. Although it is not always possible to completely eliminate the import of goods and services used in tourism at the national, regional, and community levels, evidence from Nepal reveals that little effort is being made to

(Source: ICIMOD and CREST 1998)

2.3.1 Measuring Economic Impact

Two common methods used to measure economic impact are:

1 Export value: Whenever, we talk about tourism's economic impact, it is not the **total earnings** or foreign exchange that is always indicative of economic significance, for the country or the region as are **net earnings** (Collier 1989). **Net earnings**, say, net foreign exchange earnings, are derived by subtracting the total amount spent on imports from the total foreign exchange earnings. At the local and regional level studies, the same method could be applied and it is examined what fraction or percent of money spent by tourist retains in the region or area.

2 Multiplier Effect: Tourist expenditure on goods and services has a flow-on effect on the economy of an area called multiplier effect. The total impact of initial expenditure can be calculated by calculating multiplier. **The multiplier effect** of tourism is the number by which initial tourist expenditure is multiplied to obtain cumulative income effect (Mathieson and Wall 1982). The higher the multiplier value, the lower is the leakage and good for local economy. The lower the multiplier value, the higher is the import and external leakage and not productive for the area.

2.3 Environment Impact

Tourism has been considered as one of the major causes of environmental degradation in the mountains of Nepal (Bjonness 1980 and 1983, Byers and Banskota 1992, Gurung 1995). Because of the fragile nature of mountain ecosystems, it takes years for trees to grow once they are destroyed. The ever increasing number of trekkers and mountaineers in the high Himalayas promotes firewood sales by the local people resulting into forest clearings and degradation (Bhattarai 1985, Puntenney 1990). Firewood is used by lodge owners to cook food and provide hot showers to tourist. Hence more pressure is exerted on the forest through tourists as compared to the local people. Thus, additional load of tourists in a resource limited and ecologically fragile area leads to deforestation (Shrestha et al. 1995). However, environmental impact statements of any kind are extremely difficult to make due to various reasons (Wall and Wright 1997: 3-5).

It is a well known fact that deforestation is some of the factors that engender soil erosion problems and thus reduce land productivity. Moreover, the villagers are compelled to spend more time in meeting their own needs of firewood from a rapidly receding forest.

Annapurna trekking circuits are intruded by 60 percent of the total trekkers leading to different impacts in the area (Nepal 2003).Annapurna conservation area (ACA), thus, has been established to mitigate negative or undesirable environmental impacts through promotion of local guardianship and making tourism and other developmental activities responsive to the fragility of the area and has been successful in a wider way (Adhikari and lama 1986-1996). A study conducted in Manang showed that whereas average daily household fuel wood consumption was 7.81 kg, a lodge used 42.5 kg (Gurung 1995). In this situation, ACA has made considerable progress in introducing alternative energy sources. However, most lodges in the Annapurna region continue to use fuel wood as their main energy source (Jampen 2000). The seasonality and concentration of trekkers in the area pose critical environmental and social problems.

Box 3: Summary of Selected Environmental Impacts of Tourism on Mountain Environment

Positive	Negative
Encourages ➢ Ecological awareness ➢ Conservation measures ➢ Measurers to hold pollution ➢ Cleanliness in campgrounds/ parks/ trails/ woodlands	Destruction of: ➢ Forests esp. for fuel wood purpose ➢ Fauna poaching ➢ Grazing land for camping ➢ Pollution in water, air, noise and trash, garbage, trails, etc.
Helps: ➢ Maintenance of scenic landscape ➢ Research/ environmental impact studies ➢ Retreat from marginal hillside farming	Degradation of: ➢ Landscape ➢ Scenic appeal ➢ Promotion of throwaway mentality ➢ Congestion/ overburdening ➢ Hygiene problems

(Source: Singh, T.V.)

2.4 ICIMOD Parameters for Assessing Tourism Impacts: Hindu Kush Himalayas, Nepal

In 1995, the International Centre for Integrated Mountain Development (ICIMOD) hosted a workshop on mountain tourism in the Hindu Kush Himalayas. Participants of this workshop devised monitoring parameters for assessing the impacts of mountain tourism. Five areas of impacts are particularly targeted: (1) physical impacts, including forest and vegetation conditions, consumption of forest products, usage of alternative energy, water, air quality, noise pollution, sanitation, biophysical environment, and community environmental consciousness; (2) socio-cultural impacts, or demographics, social mobility, social cohesion, attitudes and values, practice of cultural traditions and rituals, cultural heritage, and law, order and security; (3) economic impacts, including contribution to cash income and livelihood options (e.g. distribution of tourism revenues), land ownership (e.g. sales to outsiders), asset formation (e.g. new construction), wage rates, prevalence of child labor, reinvestment of tourism revenues, and linkages within the productive sectors; (4) gender impacts, measured in terms of income and employment for women, women's work load, status within the household and the community, literacy level, attitudes of facilitating agencies toward women's participation, sex ratios and life expectancy; and (5) development parameters including accessibility to an area, availability and quality of services, literacy levels, vitality of local institutions, human resource development, general enthusiasm and relative change in standards of living.

Summarized from Pitamber Sharma 1998c.

The World Tourism Organization has identified core indicators of sustainable tourism. These indicators can be applied to all destinations and include: site protection, stress, use intensity, social impact, development control, waste management, planning process, critical ecosystems, consumer satisfaction, local satisfaction and tourism contribution to local economy. Supplementary indicators specific to mountain environments are listed as (WTO 1995):

- Reproductive success of indicator species (loss of flora and fauna)
- Extent of erosion caused by tourists (erosion)
- Length of vehicle line-ups (lack of access to key sites)

- Consumer satisfaction (lack of solitude)
- Site attraction (loss of aesthetic qualities)
- Pollution counts (diminished water quality)

Sometimes indicators are qualitative and not subject to quantification in an economic sense; “This limitation, however, does not in any way detract from their utility as management information in promoting sustainable tourism” (Manning et al. 1995: 7). The use of checklists is another tool for gauging and managing various impacts of tourism. When used at the planning stages, the information gathered from the checklist can be used to modify potential problems in the identification and design of a project.

CHAPTER-THREE: METHODOLOGY

3.1 Introduction

The selections of appropriate methods are the most important part of any type of research. This study applies both qualitative and quantitative approaches to achieve the research objectives. A series of attempts and attendance of stakeholder meeting were held to collect in-depth information in order to fully understand and analyse the research objectives. The qualitative methods helped to capture the understanding of social process.

3.2 Study area description

The Annapurna Conservation (ACA) is spread over 7,629 sq. km. of Kaski, Myagdi, Parbat and Manang districts in northwest Nepal. Established in 1986, the conservation area is surrounded by high mountains and deep valleys. A mosaic of ethnic groups has carved lifestyle out of its steep terraces and barren plateaus. The conservation area is also home to 1,226 species of plants, 38 species of orchids, 9 species of Rhododendrons, 101 species of mammals, 478 species of birds, 39 species reptiles and 22 species of amphibians (www.aca.htm)

ACAP is divided into seven unit conservation offices located in the field - Jomsom, Manang, Lho Manthang in the Northern Program section and Bhujung, Lwang, Sikles and Ghandruk in the Southern Program section. While the focus of Jomsom, Manang and Ghandruk, which are also popular areas for trekking, is on integrated tourism management and agro-pastoralism, the programme priorities for Bhujung, Sikles and Lwang are poverty alleviation and integrated agriculture and livestock development, agroforestry, and community development respectively. ACAP

Lete V.D.C where my research was conducted falls within Jomsom UCO of Mustang district. Mustang district lies form 28^0 24 N to 29 20 N Latitude and 83 30 E to 84 to E longitude. The altitudinal range varies form 1372 to 8167 m representing sub-tropical, temperate and alpine types of climate. Out of 3573 sq km of total area, the forest coverage is only 145.85 sq km which is only 4.05% of total area. The total grassland covers 1447.03 sq km (40.49%) and total shrub covers 44.16 sq km.

My study was conducted in lower Mustang which is a transition between trans-Himalaya and inner Himalaya. Total area of Lete is 53 sq km; adjoining boundaries are Kunjo in the east, Myagdi district and Kobang VDC in the west, Kunjo VDC in North and Myagdi district in the south. XY coordinate of Lete VDC are: X 461277 and 3171029 in the west, X 461655 and Y 3168243, the focal point and X 465440 and Y 3165210 in the east. Lete VDC receives rainfall of 1545 mm/annum and per day 8.93 mm. Barley, maize, potato and buckwheat are major cash crops of the area.

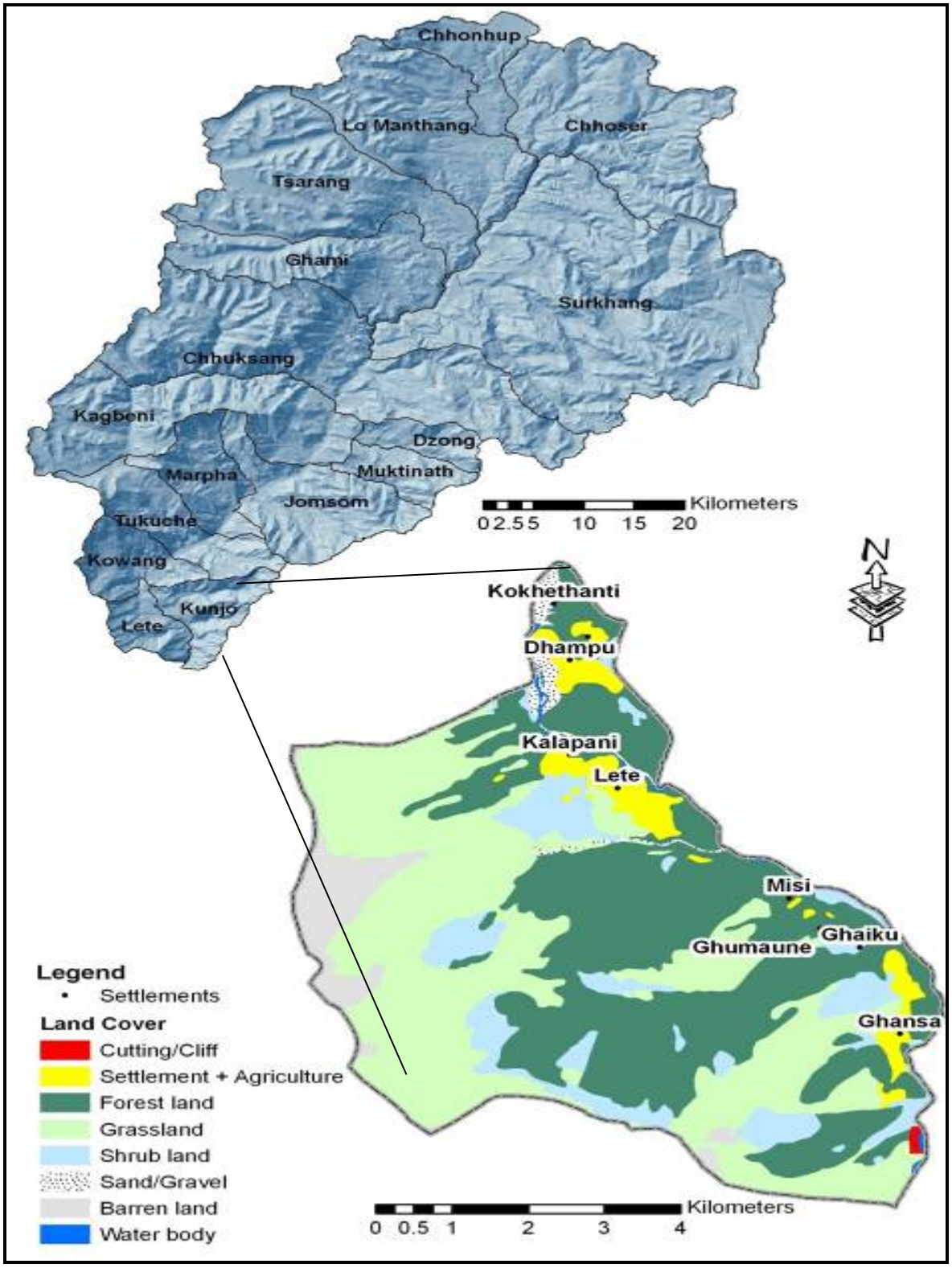


Figure 2: Map of Mustang District with Lete V.D.C and its Settlements

3.3 Selection of the study area and respondents

Respondent from seven settlement were interviewed and later they were merged into two research unit namely Lete Research Unit and Ghansa Research Unit based on proximity and the no of hotels in the area. The total of 32 respondents (16 from each category) was selected randomly. 37 % of the respondents were females in totality.

3.4 Sampling frame

Sampling frame for questionnaire survey is given below:

Table 1: Sampling frame for respondent selection

Research unit	Settlements	No of respondents taken	No of respondents	
			Hoteliers	Non-hoteliers
Lete	Lete	7	10	6
	Kalopani	6		
	Dhampu /Kokhethati	3		
Ghansa	Ghaiku	1	10	6
	Ghumaune	2		
	Ghansa	13		
Total		32	20	12

3.5 Primary data collection

3.5.1 Questionnaire

A set of questionnaire was developed to achieve the research objectives. The questionnaire contains three parts. The first part includes socio-economic condition of the respondents, the second part includes questionnaires to meet the specific objectives and the third part contains 11 statements, which were developed on Likert scale to measure the attitude. The attitude/perception of different level of respondents were measured in a “strongly disagree” to “strongly agree” (1-5) Likert scale first and later merged into 1-3 Likert scale “Disagree, Neutral and Agree” because it was really difficult to rank people’s opinion on five-point scale. The questionnaire was prepared in English first and then translated into Nepali.

3.5.2 Observation

Forest product collection, distribution and meeting of local committee were observed. The observation methods were used for collection more ideas and information about the forest management; pressure for fuel wood and other forest products on forest. Functioning and

meeting of local committees regarding conservation of forest and environment was also observed.

3.5.3 Formal and informal discussion

Discussion with the local aged people, women and members & staff of ACAP and other local institutions were conducted whenever needed. Office, school and teashop were the places where such discussion was mostly held. Various purposive and valuable discussions were held with CAMC, TMC, MG members who were actively functioning regarding conservation of the natural resources. Technical information and related documents were collected from different institutions. Information received from visitor centres and UCO-Jomsom was used to gather extra information about tourism impacts in the area.

3.6 Secondary data collection

Tourist visit records at Ghansa and Jomsom checkposts and data available regarding tourist activities from UCO- Jomsom were reviewed thoroughly. This information was helpful in interpretation and comparison of the results. Secondary data were collected from UCO-Jomsom, ICIMOD's discussion papers, IOF library and annual reports of ACAP. Additional information was also gathered to meet the objectives of the study from published and unpublished research reports, journals, manuals, literatures and available maps.

3.7 Data analysis

The data collected during the field work were categorized into separate variables. These variables were categorized as Research unit Lete and Ghansa and Respondent status Hotelier and Non-Hotelier. The data were logically interpreted along with simple tables, charts, and graphs. Mainly Statistical Package for Social Science (SPSS) was used to analyze the information.

3.7.1 Analysis of socio-economic condition of respondents

It was analyzed by using simple statistical tools like percentage, mean, average, standard deviation, minimum and maximum and it was presented with tables, bar diagrams and pie charts.

3.7.2 Analysis of the attitude/perception

Different variables were defined and used regarding the analysis of people's attitude on the 11 statements. The mean score (weighted mean) obtained on the Likert scale was used to determine the attitude of the respondents. Also, using chi-square test (independent) for analyzing significant differences of the statements among defined variables at 5 percent (Alfa=0.05) level of significance.

3.8 Energy consumption survey

Energy consumption survey was carried out on observational basis and secondary data collected based on recent ongoing research conducted by Santosh Rayamajhi, PhD student at University of Copenhagen, Denmark and Lecturer at Institute of Forestry, Pokhara.

3.9 Methodology framework

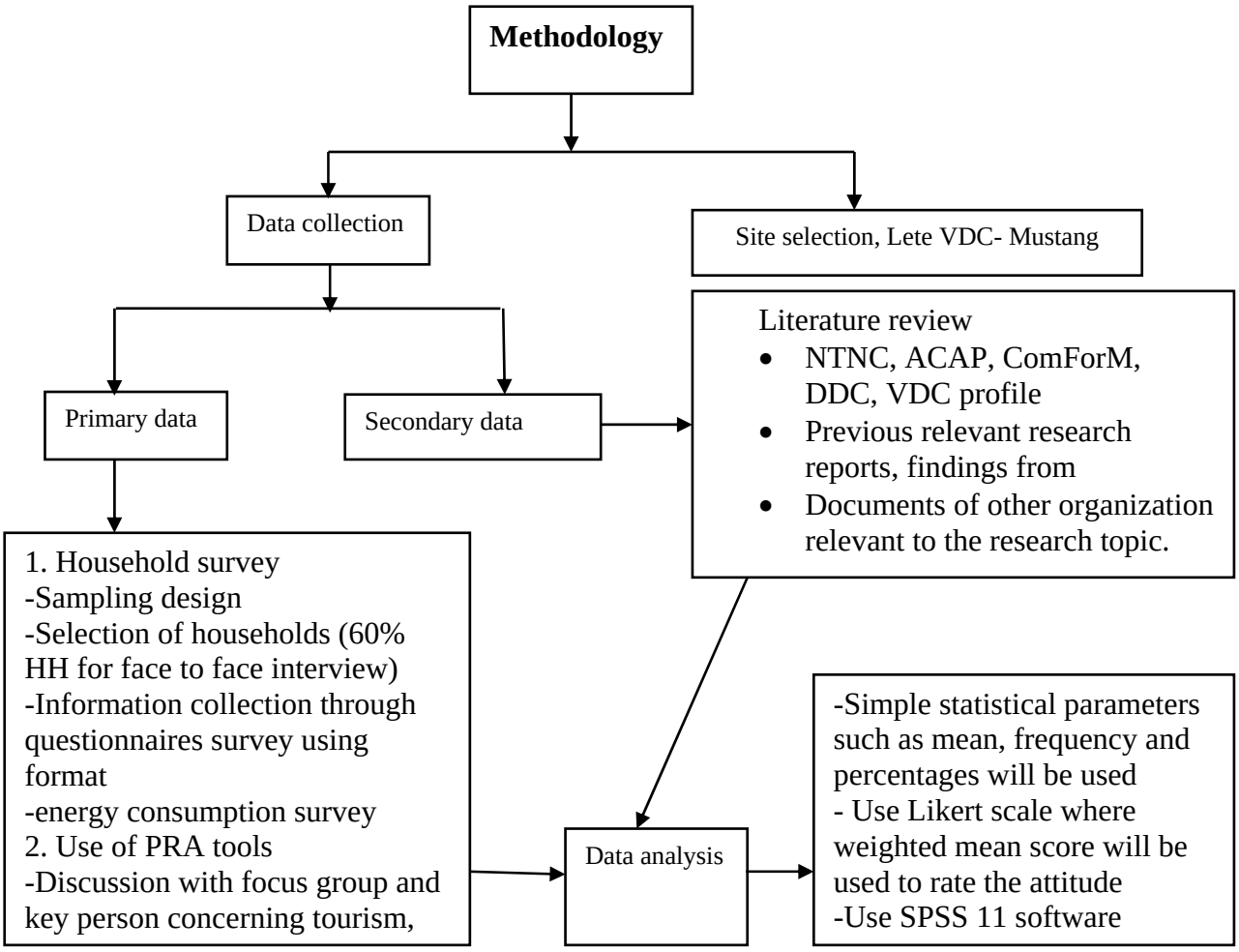


Figure 3: Methodology Framework

CHAPTER-FOUR: RESULTS AND DISCUSSIONS

4.1 Demographic information

4.1.1 Category and Sex of respondent

A total of 32 respondents from 5 settlements of Lete V.D.C were interviewed by visiting house to house. The gender breakdown of the survey population sample was 12 female and 20 male in totality. The female and male representation in Lete was 56.3% and 43.8% and that in Lete the male representation 81.3% was followed by 18% female.

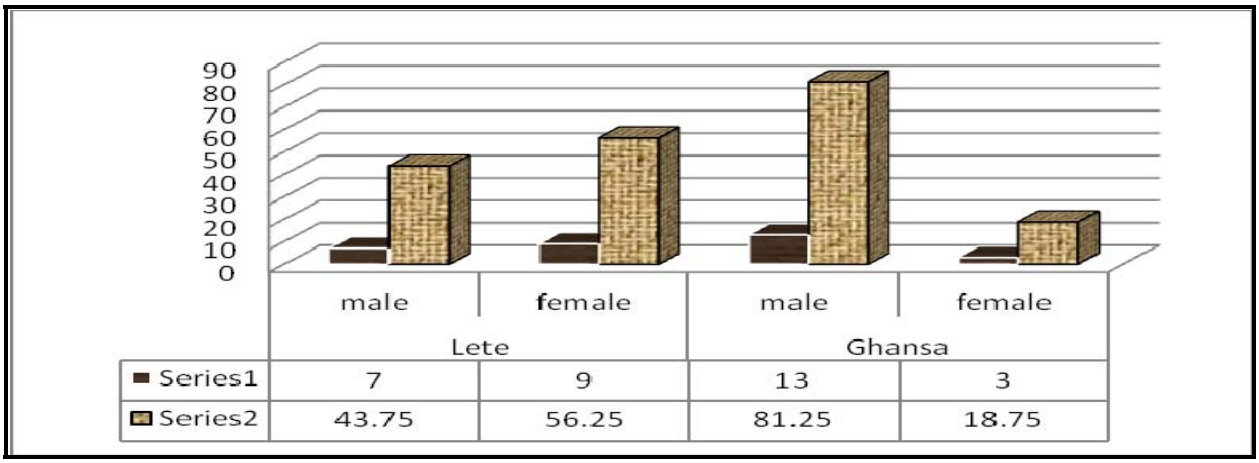


Figure 4: Category and sex of respondent

4.1.2 Category and Age of the respondent

For analysis purpose, the age of the respondents was classified as described by Mehta and Heinen (2001): young (18 to 35 years old), middle aged (36 to 55 years old), and old (56 years old and older). The middle aged represented 43.8% of the surveyed population, followed by old (31.3%) and young (25.0%) in lete while in Ghansa the surveyed population was represented by middle aged (43.8%), young (31.3%) and old (25.0%) successively.

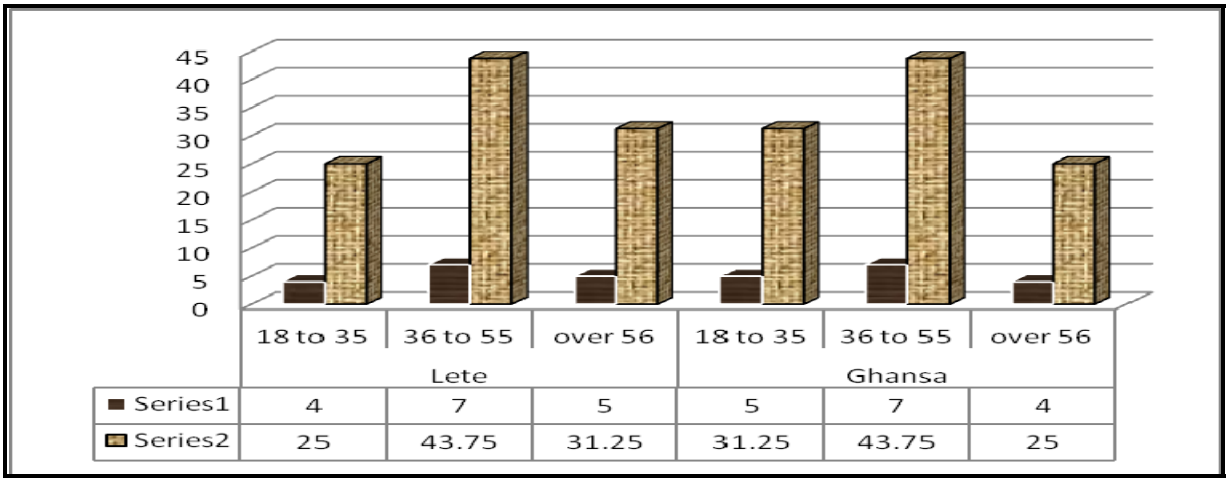


Figure 5: Category and age of respondent

4.1.3 Caste/Ethnic group of the respondent

Thakali (Janajati) is the dominant caste of Lete V.D.C. Major Respondents from both of the research unit were Janajatis followed by caste/ethnicity of BCN (6.3%) in Lete and BCN (12.5%) and Dalit (6.3%) in Ghansa.

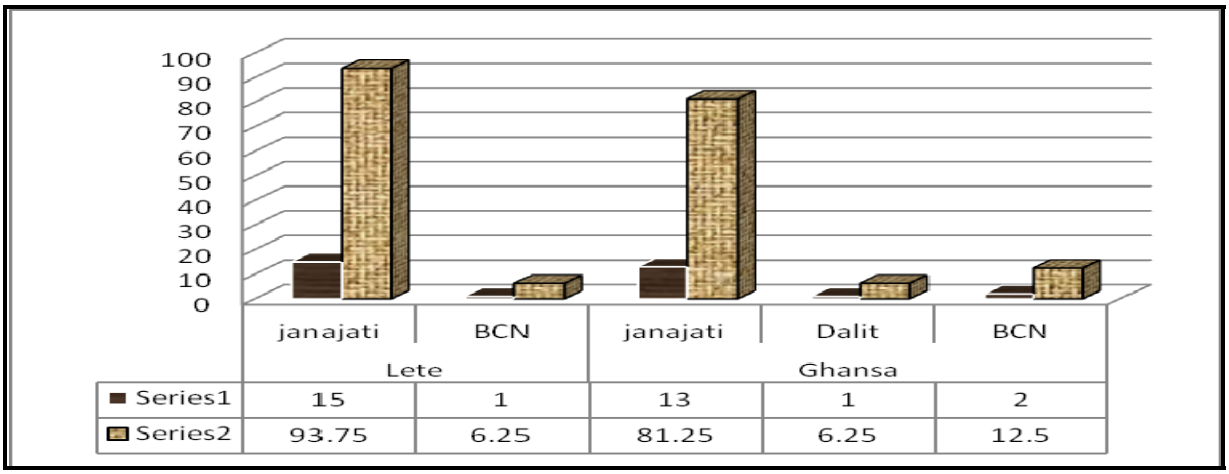


Figure 6: Category and caste/ethnicity of respondent

4.1.4 Category and Education level of the respondent

Education plays important role in sustaining socio-economic, infrastructure and natural resources developments. Education status of the respondents was classified broadly into illiterate, Primary (1-5), Secondary (6-SLC) and college degree. About 40.6% of the total surveyed household populations have taken secondary education. Majority (56.3%) of respondents from Lete has undertaken secondary education while none of the respondents

were with college degree qualification. The total number of illiterate respondents (31.3%) equals to the total number of college degree holders followed by 25% secondary education respondents and 12.5% primary education respondents.

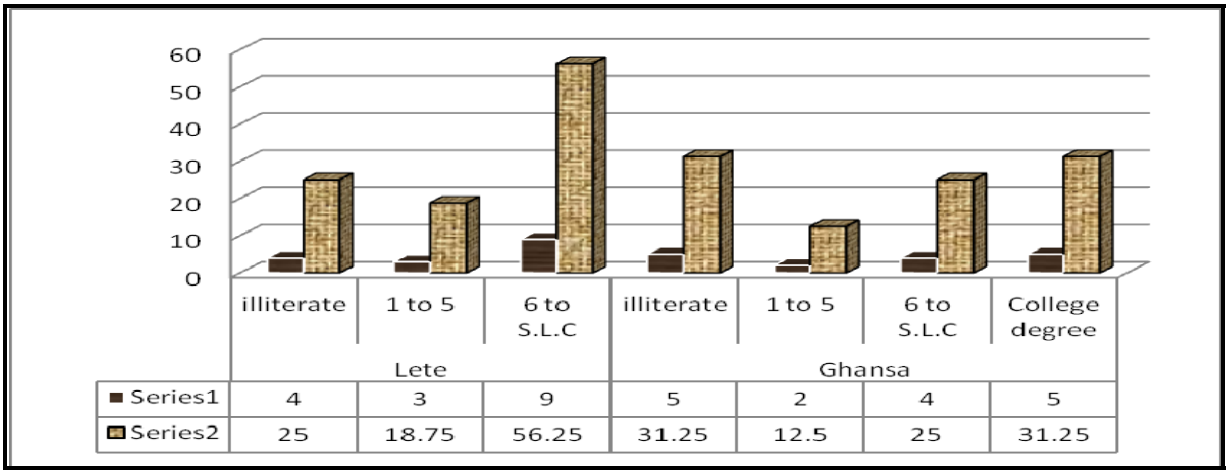


Figure 7: Category and education level of respondent

4.1.5 Category and Occupation of the respondent

Major occupation of both research unit is Hotel Business (62.5%) on which the economy of the respondents' count on. Since Thakalis are the dominants of Lete V.D.C and their major occupation being hotel business, they have been relying on it since past. 25% of the respondents in Lete research unit rely on Agriculture followed by Pvt/Govt. job with only 12.5% while that in Ghansa the major occupation of the respondents being the hotel business (62.5%) was followed by Agriculture 31.3% and Pvt/Govt. job with least no of respondents (6.3%).

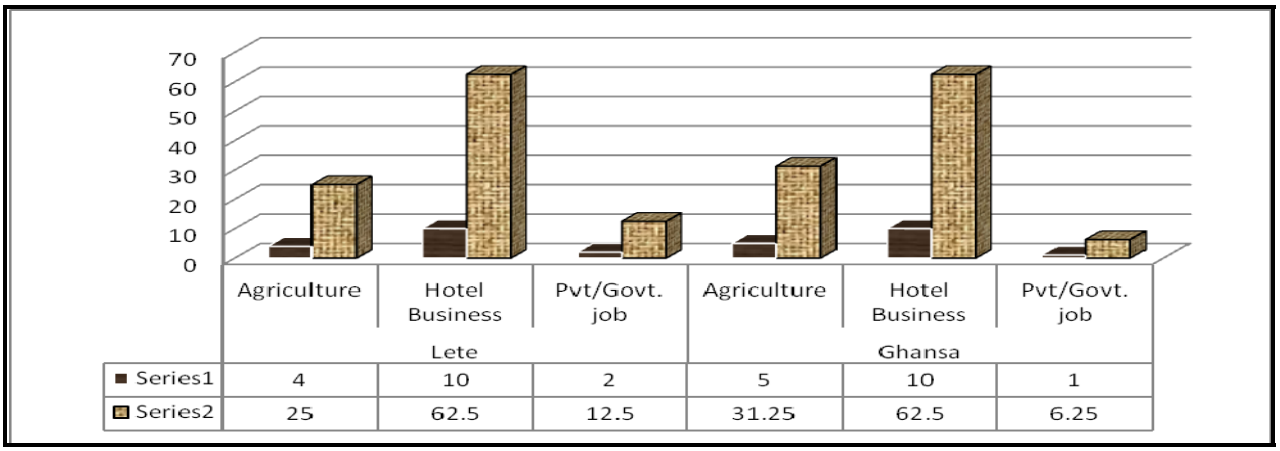


Figure 8: Category and occupation of respondent

4.1.6 Source of Income

The mean income source between the respondents of the two research unit differs widely but there is no significant difference between on farm, non farm and off farm income source in the past and present in both research units.

Table 2: Different source of income in past and present in NRs

Res. Unit		Source of income					
		On farm		Non farm		Off farm	
		Past	Present	Past	Present	Past	Present
Lete	Mean	72733.33	112808.3	552676.9	308551.4	16266.67	14087.5
	Minimum	8600	11500	1800	50000	2400	1200
	Maximum	200000	500000	5000000	1500000	42000	52500
Ghansa	Mean	48875	56187.5	174916.7	335466.7	35160	9250
	Minimum	5000	5000	30000	35000	4800	6000
	Maximum	140000	160000	610000	3300000	120000	12000

Table 3: Paired samples test of different source of income in the past and present

Income source (Past-Present)	Research unit	t	df	Sig.
On farm income source in the past - On farm income source in the present	Lete	1.684	11	.120
	Ghansa	1.677	7	.137
Non farm income source in the past - Non farm income source in the present	Lete	.975	11	.351
	Ghansa	2.947	10	.015
Off farm income source in the past - Off farm income source in the present	Lete	.926	5	.397
	Ghansa	.920	3	.425

4.2 Activities performed by tourist in the area

4.2.1 Tourist visit season and activities concerned

Tourist arrivals outreach during the autumn and spring seasons (October to March). Figure below shows tourist flow highest in autumn season, domestic and Indian tourist basically for religious purposes and American and European tourist for trekking and mountaineering purpose according to the respondents.

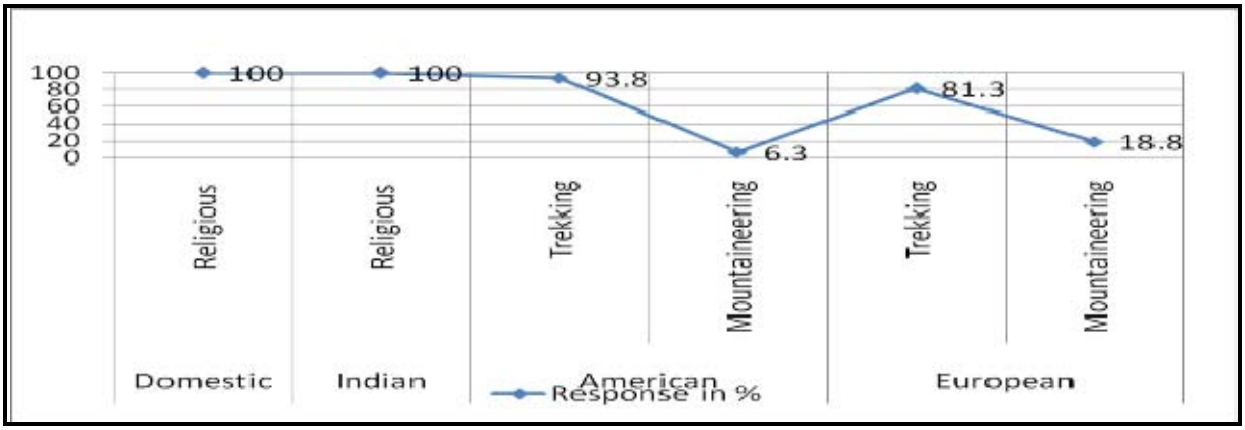
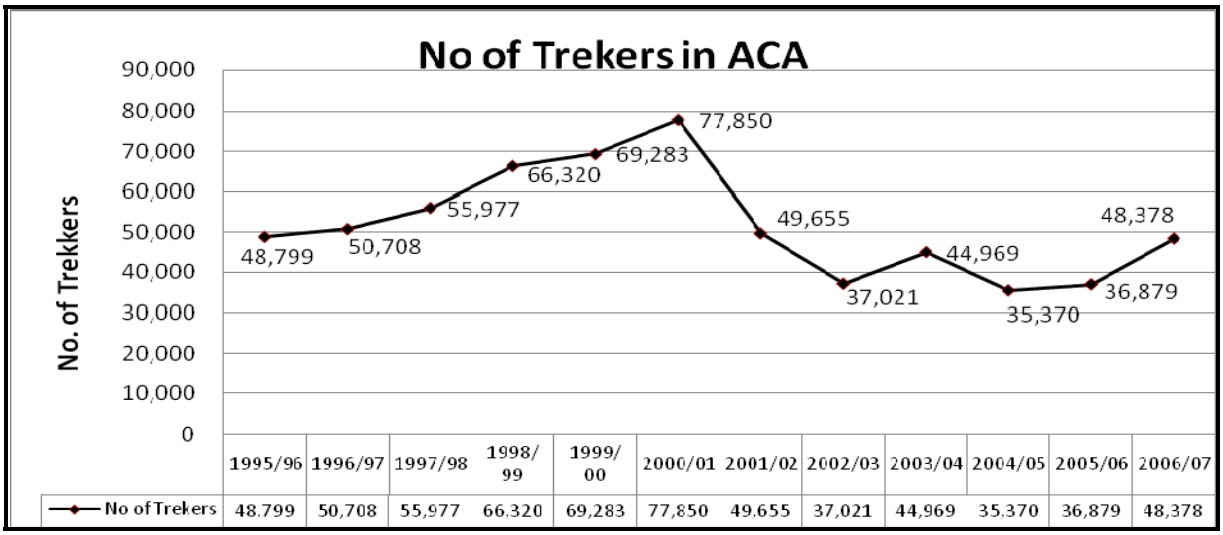


Figure 9: Activities of different tourist types

4.2.2 Trend of tourists/trekkers visit

Annapurna conservation area (ACA) receives the highest no. of trekkers, more than 60% of the total trekkers visiting the country. With the maximum no. of trekkers- 77,850 in the year 2000/2001 to 48,378 trekkers by the end of June, 2007, ACA has faced severe fluctuation of tourist visiting the area during different time intervals. The table below shows the trend of tourist/trekker visit.



(Source: ACAP 2007)

Figure 10: Trend of trekkers visit in different time intervals

4.2.3 Trend of tourists/trekkers visit before and after 2000 A.D

Table below shows that the flow of Indian tourist according to Lete respondents and flow of American and European tourist differed in the two time frames (before and after 2000 A.D)

while the flow of domestic tourist was the same throughout the time frame. Paired samples test was done based on the assumption that, the Thakalis who are native to the area have been engaged in tourism business since past and they have a clear and sharp recall regarding flow of tourist in past and present.

Table 4: Paired samples test of tourist's visit trend before 2000 A.D and after 2000 A.D.

Tourist type	Research unit	Test statistics	
		t-value	p-value
Domestic tourist	Lete	1.567	.138
	Ghansa	1.000	.333
Indian tourist	Lete	5.000	.000*
	Ghansa	2.739	.015
American tourist	Lete	3.467	0.03*
	Ghansa	5.196	.000*
European tourist	Lete	6.249	.000*
	Ghansa	3.896	.001*

4.2.4 Basic services provided by host and their extent of consumption

Tourism flow or the supply side of tourism depends on the quantity and quality of goods and services provided by the host. There are number of good hotels providing all the necessary services demanded by the tourist, however the area is on the way destination, so the services highly demanded is only food, accommodation and sanitation facilities. For extent of consumption see Annex table 28.

4.2.5 Expenditure rate on demand services by tourist types

The per day capita spending of the tourist is an important factor having economic significance. It is influenced by the income of the tourist, the relative prices of different classes of products/services he purchases while on travel, etc (ICIMOD 1998).

The average per capita daily expenditure of the domestic tourist is very low; however, we have to develop domestic tourism. Domestic tourist spends less mainly because they cannot afford to spend more. Both American and European tourist seems to spend more compared to domestic and Indian tourist, respondents from both RU say. However this trend of expenditure is inflationary with season and tourist types.

Table 5: Mean expenditure rate in NRs. on demand services by tourist types

Tourist types	Services				
	Accommodation	Food	Communication	Transportation	Hygiene products
Domestic	43.5	67	58.3	1100	48
Indian	105.5	82	166.6	2000	90
American	125.5	30	181.2	2280	107.8
European	125.0	37	182.5	2280	110

4.2.6 Purpose of tourist's visit /rest in the area and their extent of visit

There are several key attractions and side trips in this area which can easily lure the nature lovers. Ghansa is famous for Bird watching, where different species of birds are found in the nearby forest. The Thakali cultural museum, Chhiltum Gompa in Lete is also major attractions. Side trips adjoining the area includes Sabrang Dhuri which is an excellent site for wildlife viewing; Dhulu Danda which offers better view of the surrounding peaks and Lete valley; Titi lake, habitat of different types of water birds; Dhaulagiri Icefall which offers breathtaking views of Mt. Dhaulagiri, Mt. Annapurna 1, Mt. Nilgiri, Mt. Tukche Peak and a bird's eye view of villages from Lete-Kalopani to Tukche. Since this area is a route destination to major attractions of Mustang district, these awesome attractions has not been properly exposed which would be a great aid to promote the area in terms of tourism. However the purpose of tourist's visit or rest in the area is highly for tea break and accommodation. The extent of their visit is shown in Annex table 30.

4.3 Environmental impact

4.3.1 People participation in conservation programs

From the beginning of ACAP, the main focus was on motivation and conservation awareness. It is stated that unless the target group is well aware of the development activities, intended beneficiaries can hardly be expected to derive benefits from it (Sherpa et al. 1989; Mishra 1989). Since the research area falls within the ACA boundary, out of 32 surveyed respondents, 65.6% have actively participated in conservation programs.

Table 6: Participation and training received on conservation

Activities	Responses %			
	Lete		Ghansa	
	Yes	No	Yes	No
Participation in conservation programs	68.8	31.3	62.5	37.5
Training received on conservation	53.3	46.7	50.0	50.0

4.3.2 Participation in training on conservation

64.25% of the respondents from both the RU have received training regarding awareness followed by conservation training (37.5%).

Table 7: Participation in training on conservation

Types of training	Lete			Ghansa		
	High	Medium	Low	High	Medium	Low
Empowerment	25.0	25.0	50.0	14.3	0.0	85.7
Awareness	57.1	42.9	0.0	71.4	14.3	14.3
IGA	50.0	50.0	0.0	0.0	33.3	66.7
Conservation	50.0	0.0	50.0	25.0	62.5	12.5

4.3.3 Rearing practice of domesticated animals

16 respondent of the Ghansa research unit had total domesticated animals of 380 including cow, buffalo and mule. Two common rearing practices were adopted i.e. free grazing, stall feeding or both. 75% of the respondents freely grazed their domesticated animals during day and in the morning and evening they were stall fed with minimum forage requirement. This clearly indicates intensive pressure on natural resources esp. grassland and forestland. While in Lete research unit the domesticated animals numbered only 32 but all of them were free grazed. In comparison the pressure on forest land and grassland was higher in GRU then in LRU.

4.3.4 Trend of infrastructure established for tourism purpose

With flow of tourist, the demanded services lead to accelerate the establishment of infrastructures in the area. Since this RU,s are only the entry points of hot spots of ACA, the trend of infrastructures establishment is medium, respondents say.

Table 8: Trend of infrastructure established for tourism purpose

Research unit	Mean	Response in %		
		High	Medium	Low
Lete	1.81	25.0	68.8	6.3
Ghansa	2.31	6.3	56.3	37.5
Average	**2.06**	**15.65**	**62.55**	**21.9**

4.3.5 Pollution due to tourism and extent of pollution

Tourism causes the same forms of pollution as any other industry. Facilities related can also have major impacts on the environment during operation. 64.15% of the total respondents responded that major pollution due to tourist activities is on the land followed by Air, water and crowdedness. However there are TMC, CAMC and MG members coordinating very actively and in hand to hand with ACAP to minimize pollution in the area.

Table 9: Pollution due to tourism and extent of pollution

Pollution types	Response			Mean
	High	Medium	Low	
Air	31.55	17.2	51.25	2.195
Land	64.15	29.15	6.65	1.425
Water quality	16.65	24.85	58.45	2.42
Crowdedness	5.0	36.9	58.1	2.53

4.3.6 Solid waste type and extent of pollution

The problem is not only the generation of solid waste, but also the type of solid waste generated and the method of disposal. With TMC, s, CAMC, s and MG,s in the area much of the solid waste has been properly disposed if seen. The respondent's response in Ghansa RU about degradable and non-degradable solid waste types is much higher than the respondent's response in Lete RU as shown in table below.

Table 10: Solid waste type and extent of pollution

Solid waste	Research unit	Mean	Response %		
			High	Medium	Low
Degradable solid waste	Lete	2.47	6.7	40.0	53.3
	Ghansa	2.13	20.0	46.7	33.3
Non degradable solid waste	Lete	1.40	60.0	40.0	0.0
	Ghansa	1.27	73.3	26.7	0.0

4.3.7 Fuel wood consumption

Fuel wood is the most important source of energy in all the settlements. Besides, the alternative source of energy is kerosene, electricity and gas as shown in the Annex table 34. Kerosene is supplied by ACAP on a subsidized rate mainly for use among the lodge/hotel owners (Sherpa et al. 1989). The use of kerosene is directly related to mitigate the pressure of fuel wood from the forest.

With ACAP co-ordination, 93.75 percent of the respondent have introduced alternative source of energy, thus lessening pressure for fuel wood from the forest. There are also 25 percent respondent saying despite the alternative sources their fuel wood consumption is still the same, however frequently used source of energy for heating and cooking purpose in the mountains is still fuel wood. See Annex table 37.

Table 11: Per household consumption of fuel wood at different time intervals

Mean consumption (kg/hh/week)	Mean consumption (kg/hh/day)	Standard deviation
113.5	**16.21**	**42.1**

Mean population size per household is 5.27 (*Sources*: *ComForM data base*) so the mean consumption of fuel wood per household is 3.07 kg only. **[Conversion factor: 1 *Bhari* =38.42 Kg]**

The table below shows the reduction of fuel wood use by 50 percent in Lete and 37.5 percent in Ghansa by introduction of LP Gas and Kerosene.

Table 12: Frequently used energy for heating and cooking purpose

Res. Unit	Response on energy sources		
	Fuel wood	**Kerosene**	**LP Gas**
Lete	50.0	6.3	43.8
Ghansa	62.5	0.0	37.5
Average	**56.25**	**3.15**	**40.65**

4.3.8 Monthly consumption rate of energy according to season

Fuel wood along with kerosene and electricity consumption was higher in peak season while the consumption of LP Gas was higher in off season. Due to ease of using the alternative and during winter the flow of residents in the lowlands makes the accessibility of fuel wood difficult, which lessens pressure on forest during peak season compared to off season.

Table 13: Mean consumption rate of energy according to season

Res unit	Fuel wood		Kerosene		Electricity		LP Gas	
	Peak	**Off**	**Peak**	**Off**	**Peak**	**Off**	**Peak**	**Off**
Lete	35.42	24.75	63.73	17.10	2111.54	436.43	1.83	74.79
Ghansa	44.00	22.44	67.08	16.25	1038.21	385.33	1.82	.9545
Average	**39.71**	**23.59**	**65.40**	**16.67**	**1574.87**	**410.9**	**1.82**	**37.87**

Unit: Fuel wood= *bhari*/m, Kerosene= litre/m, Electricity= Rs/m, LP Gas= Cylinder/m

[Conversion factor: 1 *Bhari* =38.42 Kg]

4.4 Economic impact

The income to the region is reflected in the wages, salaries, rents and profits generated by tourist spending. The major economic impacts depend upon income earned and employment generated through tourism. Jobs provided by hotels are the main form of employment. Thus economic impacts of tourism can be viewed in terms of how different aspects of economy are affected by tourism expenditure and tourism development.

4.4.1 Income from tourism

Income status of the respondents is represented in the form of income per day, income in peak and off season. General per day minimum income in both RU is the same while it exceeds to Rs.4500.0 in Lete and Rs.500.0 only in Ghansa. In peak season the respondent's minimum income is Rs.1000 and exceeds to Rs.25000 in Lete while with minimum income Rs.300.0 of Ghansa respondents exceeds Rs.20000 in peak season. Off season minimum and maximum income is Rs.100 & Rs.1000 and Rs.50 & Rs.1200 in Lete and Ghansa respectively. However income is inflationary with season and tourist expenditure.

Table 14: Respondents' income per day in peak season and off season

Research unit	Per day income			Peak season			Off season		
	Min^m	Max^m	Mean	Min^m	Max^m	Mean	Min^m	Max^m	Mean
Lete	50.0	4500.0	995.5	1000.0	25000	5946.7	100.00	1000.0	600.0
Ghansa	50.0	500.00	327.8	300.00	20000	5135.7	50.000	1200.0	680.0

Figure below shows the inequality of different income source of the respondents in the past and the present. The curve shows that inequality in income between the respondents has slightly decreased in the present compared to the past and it's partly because of the adoption of tourism business. Amongst the interviewed respondents, 48% weren't involved in tourism business before while the remaining percentage had been involved in tourism business since past, the inequality decreased reveals positive impact of tourism in the area and also indicates equal benefit sharing of income from the tourism business.

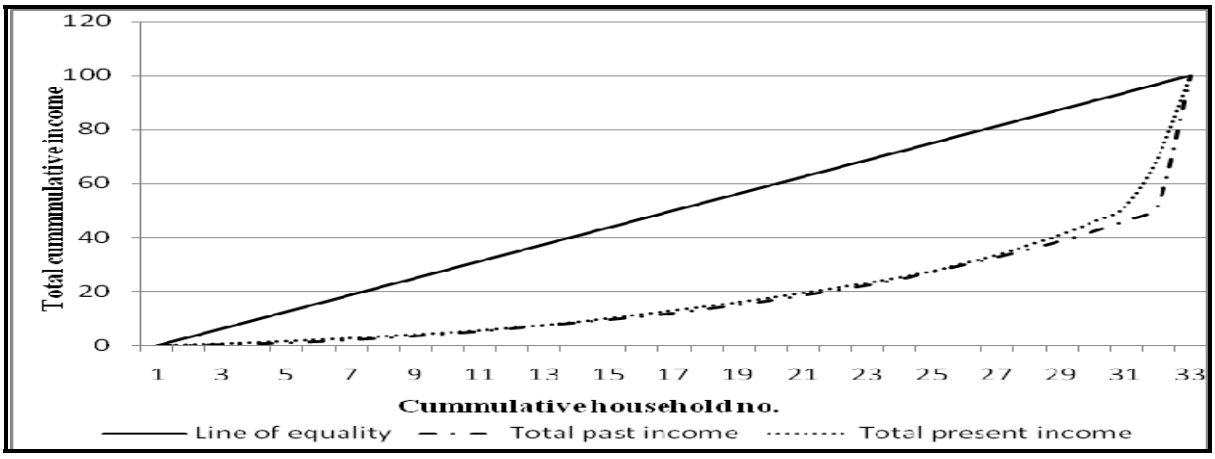


Figure 11: Different income source in the past and present

4.4.2 Employment generation through tourism

Tourism has emerged as an instrument for employment generation. Where tourism has flourished much of the local people have been benefited by this sector. It is an important segment for the country's economy, especially in terms of its contribution towards foreign exchange earnings, generation of additional income and creation of employment opportunities. Yet the seasonal character of the tourism industry creates economic problems for destinations that are heavily dependent on it. 62.5% of the surveyed population was involved in Hotel business followed by Agriculture. Hotels generate employments; the local people, potters, guides are highly benefited.

A large no. of these jobs are seasonal so that tourists overall contribution to full time employment is considerably less. However, the generation of employment opportunities for a large percentage (62.5%) of people is yet another positive contribution by tourism industry.

In conclusion tourism requires wide range of labour skilled and non-skilled, male and female, young and old. In general, tourism is labour intensive rather than capital intensive and hence is an expanding industry in terms of employment.

4.4.3 Adoption of tourism business

According to the table below, the respondent's of Ghansa weren't involved in tourism business since past, agriculture was their primitive dependency as said by 62.5% of the respondent's while 66.7% of the respondent's of Lete RU have been in tourism business since past. The living standard of Lete RU respondents has increased due to adoption of tourism business compared to respondents of Ghansa RU, majority of whose prime dependency is still agriculture.

Table 15: Adoption of tourism business

Research unit	Mean	Responses %	
		Yes	No
Lete	1.33	66.7	33.3
Ghansa	1.63	37.5	62.5

4.4.4 Multiplier Effect

Most of the big hotels in the route area are owned by the locals but they are loaded with seasonal workers form outside. Most of the supplies to the hotels to fulfill the tourist demand are obtained on a contract or non contract basis by lower altitude residents. Other than vegetables and crops; only few such as potatoes, spinach, maize, barley and buckwheat, most of the goods are being imported. This indicates that there is a big leakage of money from Lete and Ghansa villages affecting the so called "multiplier effect". The income from tourism is deceptive. Only twenty cents out of three dollars spent by an average trekker every day remain in the community (ACAP-pamphlet 1987).

4.5 Attitude of Respondent's towards tourist activities

4.5.1 Smoking behavior of the tourist has negative effect in the local culture

Almost 81.3% respondents of the LRU and 80.0% of GRU agreed with the statement. Above case is similar to the responses of the status of respondent where 80.0% hoteliers and 81.8% Non-hoteliers agreed with the statement. Since the calculated chi-square value (.373) and (.313) in both cases is much less than the tabulated value (5.991), the difference in responses for the statement Smoking behavior of the tourist has negative effect" is insignificant.

Table 16: Smoking behavior of the tourist has negative effect in local culture

Statement	Category		Scale in % disagree←----→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Smoking behavior of the tourist has negative effect in the local culture	**Research unit**	Lete	12.5	6.3	81.3	2.69			
		Ghansa	6.7	13.3	80.0	2.73			
		Average	**9.6**	**9.8**	**80.65**	**2.71**	2	.373	**S**
	Respondent status	Hotelier	10.0	10.0	80.0	2.70			
		Non hotelier	9.1	9.1	81.8	2.73			
		Average	**9.55**	**9.55**	**80.9**	**2.715**	2	.313	**S**

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.2 Alcoholism has promoted your business

This statement bears contrast responses between the respondents' of Lete and Ghansa. About 62.5% respondents of LRU have disagreed with the statement while 75.0% respondents of GRU have taken this statement with affirmation. There is also varying perception of the statement between the respondents' status but the variation among the responses is not too wide. Since the calculated chi-square value (8.103) in case of research unit is much more than the tabulated value (5.991), the difference in responses for the statement "Alcoholism has promoted your business" is significant and among the hoteliers and non hoteliers, the calculated chi-square value (2.072) is much less than the tabulated value (5.991) so the difference in responses is insignificant.

Table 17: Alcoholism has promoted your business

Statement	Category		Scale in % disagree←---→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Alcoholism has promoted your business	Research unit	Lete	62.5	12.5	25.0	1.63	2	8.103	NS
		Ghansa	18.8	6.3	75.0	2.56			
		Average	**40.65**	**9.4**	**50.0**	**2.095**			
	Respondent status	Hotelier	40.0	15.0	45.0	2.05	2	2.072	S
		Non hotelier	41.7	8.3	50.0	2.08			
		Average	**40.85**	**11.65**	**47.5**	**2.065**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.3 Semi nudity has adverse effect in the local culture

78.15% of the average respondents from both RU are lenient with the statement that "Semi nudity has adverse effect in the local culture" and even the average hoteliers and non-hoteliers agree with the statement. Since the calculated chi-square value (.373) and (.356) is much less than the tabulated value, the difference in the response for the statement "Semi nudity has adverse effect in the local culture" is insignificant for both categories.

Table 18: Semi nudity has adverse effect in the local culture

Statement	Category		Scale in % disagree←-----→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Semi nudity has adverse effect in the local culture	Research unit	Lete	12.5	6.3	81.3	2.69	2	.373	S
		Ghansa	12.5	12.5	75.0	2.63			
		Average	**12.5**	**9.4**	**78.15**	**2.66**			
	Respondent status	Hotelier	15.0	10.0	75.0	2.60	2	.356	S
		Non hotelier	8.3	8.3	83.3	2.75			
		Average	**11.65**	**9.15**	**79.15**	**2.675**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.4 Drug abuse is increased through tourism

62.5% of the respondents from both RU are against the opinion that drug abuse is increased through tourism and since the calculated chi-square value is much less than the tabulated value, the difference in response among the respondents of both RU is insignificant while the difference in response for the statement "Drug abuse is increased through tourism" is significant among respondent status.

Table 19: Drug abuse is increased through tourism

Statement	Category		Scale in % disagree←--→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Drug abuse is increased through tourism	Research unit	Lete	75.0	6.3	18.8	1.44	2	2.300	S
		Ghansa	50.0	18.8	31.3	1.81			
		Average	**62.5**	**12.55**	**25.05**	**1.625**			
	Respondent status	Hotelier	50.0	5.0	45.0	1.95	2	6.400	NS
		Non hotelier	75.0	16.7	8.3	1.33			
		Average	**62.5**	**10.85**	**26.65**	**1.64**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.5 Gambling is increased through tourism

71.9% of the respondents from both RU disagree with the opinion that gambling is increased through tourism and since the calculated chi-square value is much less than the tabulated value, the difference in response among the respondents of both RU is insignificant while the difference in response for the statement "Gambling is increased through tourism" is significant among hoteliers and non-hoteliers.

Table 20: Gambling is increased through tourism

Statement	Category		Scale in % disagree←----→ agree			Weighted mean	d.f	Value	sig
			1	2	3				
Gambling is increased through tourism	Research unit	Lete	75.0	12.5	12.5	1.38	2	1.043	S
		Ghansa	68.8	6.3	25.0	1.56			
		Average	**71.9**	**9.4**	**18.75**	**1.47**			
	Respondent status	Hotelier	75.0	5.0	20.0	1.45	2	6.184	NS
		Non hotelier	66.7	25.0	8.3	1.42			
		Average	**70.85**	**15.0**	**14.15**	**1.43**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.6 Prostitution is increased through tourism

The average weighted mean for both the categories are 1.59 and 1.64 respectively which states that the respondents from both RU and Respondent status disagree with the statement that "Prostitution is increased through tourism".

Table 21: Prostitution is increased through tourism

Statement	Category		Scale in % disagree←-----→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Prostitution is increased through tourism	Research unit	Lete	50.0	31.3	18.8	1.69	2	.533	S
		Ghansa	62.5	25.0	12.5	1.50			
		Average	**56.25**	**28.15**	**15.65**	**1.595**			
	Respondent status	Hotelier	55.0	20.0	25.0	1.70	2	4.267	S
		Non hotelier	50.0	41.7	8.3	1.58			
		Average	**52.5**	**30.85**	**16.65**	**1.64**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.7 Crime is increased through tourism

59.4% of the average respondents from both RU are lenient with the statement that "Crime is increased through tourism" and even the average hoteliers and non-hoteliers agree with the statement. Since the calculated chi-square value for both categories is less than the tabulated value, the difference in the response for the statement "Crime is increased through tourism" is insignificant.

Table 22: Crime is increased through tourism

Statement	Category		Scale in % disagree←----→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Crime is increased through tourism	Research unit	Lete	18.8	6.3	75.0	2.56	2	3.249	S
		Ghansa	43.8	12.5	43.8	2.00			
		Average	**31.3**	**9.4**	**59.4**	**2.28**			
	Respondent status	Hotelier	20.0	5.0	75.0	2.55	2	5.442	S
		Non hotelier	50.0	41.7	8.3	1.83			
		Average	**35.0**	**23.35**	**41.65**	**2.19**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.8 Social disintegration of the western family affects the local culture

78.15% of the average respondents from both RU are lenient with the statement that "Social disintegration of the western family affects the local culture" and even the average hoteliers and non-hoteliers i.e. 75.85%, too, agree with the statement. Since the calculated chi-square value for both categories is much less than the tabulated value, the difference in the response for the statement "Social disintegration of the western family affects the local culture" is insignificant.

Table 23: Social disintegration of the western family affects the local culture

Statement	Category		Scale in % disagree←--→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Social disintegration of the western family affects the local	Research unit	Lete	6.3	6.3	87.5	2.81	2	1.693	S
		Ghansa	18.8	12.5	68.8	2.50			
		Average	**12.55**	**9.4**	**78.15**	**2.655**			
	Respondent status	Hotelier	10.0	5.0	85.0	2.75	2	1.678	S
		Non hotelier	16.7	16.7	66.7	2.50			
		Average	**13.35**	**10.85**	**75.85**	**2.625**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.9 Tourist's respect to other values, culture and norms is worthy

Almost 81.3% respondents of the LRU and 75.0% of GRU agreed with the statement. Above case is similar to the responses of the status of respondent where 80.0% hoteliers and 66.7% Non-hoteliers agreed with the statement. Since the calculated chi-square value (.373) is much less than the tabulated value (5.991), the difference in responses for the statement Smoking behavior of the tourist has negative effect" is insignificant among the respondent of both units while the difference in response among hoteliers and non-hoteliers is significant since the calculated chi-square value is much more than the tabulated value.

Table 24: Tourist's respect to other values, culture and norms is worthy

Statement	Category		Scale in % disagree←-→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Tourist's respect to other values, cultures and norms is	Research unit	Lete	6.3	12.5	81.3	2.75	2	.373	S
		Ghansa	12.5	12.5	75.0	2.63			
		Average	**9.4**	**12.5**	**78.15**	**2.69**			
	Respondent status	Hotelier	15.0	5.0	80.0	2.65	2	8.789	NS
		Non hotelier	8.3	25.0	66.7	2.58			
		Average	**11.65**	**15.0**	**73.35**	**2.615**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.10 Mutual understanding of tourist and the local people is crucial

The average weighted mean for both the categories are 2.72 and 2.67 respectively which states that the respondents from both RU and Respondent status agree with the statement that "Mutual understanding of tourist and the local people is crucial".

Table 25: Mutual understanding of tourist and the local people is crucial

Statement	Category		Scale in % disagree←---→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Mutual understanding of tourist and the local people is crucial	Research unit	Lete	6.3	6.3	87.5	2.81	2	4.571	S
		Ghansa	12.5	12.5	75.0	2.63			
		Average	**9.4**	**9.4**	**81.25**	**2.72**			
	Respondent status	Hotelier	5.0	5.0	90.0	2.85	2	.305	S
		Non hotelier	16.7	16.7	66.7	2.50			
		Average	**10.85**	**10.85**	**78.35**	**2.675**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

4.5.11 Tourism generates employment

81.3% of the average respondents from both RU are lenient with the statement that "Tourism generates employment" and even the average hoteliers and non-hoteliers agree with the statement. Since the calculated chi-square value is much less than the tabulated value, the difference in the response for the statement "Tourism generates employment" is insignificant for both categories.

Table 26: Tourism generates employment

Statement	Category		Scale in % disagree←---→agree			Weighted mean	d.f	Value	sig
			1	2	3				
Tourism generates employment	Research unit	Lete	6.3	12.5	81.3	2.75	2	2.370	S
		Ghansa	12.5	6.3	81.3	2.69			
		Average	**9.4**	**9.4**	**81.3**	**2.72**			
	Respondent status	Hotelier	5.0	10.0	85.0	2.80	2	5.847	S
		Non hotelier	16.7	25.0	58.3	2.42			
		Average	**10.85**	**17.5**	**71.65**	**2.61**			

[S= significantly difference at 0.05 level, NS= not significantly difference at 0.05 level]

CHAPTER-FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Lete V.D.C is the entry point to major attractions of Mustang district. Majority of the domestic and Indian tourist visit the site for religious purpose while American and European visit for trekking. There is significant difference in the flow of Indian, American and European tourist before and after 2000 A.D. Tourist preferred to use the sites for short period.

Majority of the people have participated in conservation program and enthusiastically taken conservation related trainings. Improper LS rearing practice of the domesticated animals indicate pressure on natural resources esp. on grass land and forest land. Pollution due to tourism is higher on lands than in air; where major pollution are degradable as well as non-degradable solid materials like paper and cans respectively.

Fuel wood consumption is high in the study area which is creating pressure on natural resources.

Tourism has played remarkable role to increase the villager's income status. Among others, hoteliers are highly benefited. People's attitude towards tourist activities is positive in almost all pre determined statements. But views in the case of "alcoholism" and "tourist's respect to other culture" are significantly affected by users' category and research units respectively. The inequality within the respondents has slightly decreased down with the passage of time and adoption of tourism business.

5.2 Recommendations

Based on the findings of the findings of the study following recommendations are proposed:

- Income from tourism business is inflationary with season and tourist expenditure, so for sustainable tourism, domestic tourism ought to be promoted by exploring new attractions and side trips.
- Well managed rearing practices should be adopted to mitigate pressure on grass lands and forest lands.

- With the adoption of new technologies, the traditional uses of the resources have been deteriorated, thus leading in the degradation of the local culture. So without deteriorating the old knowledge and technologies, new technologies should be locally tested first and fitted later to suit the local environment.

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Annex

Annex-1: Important tables of the study

Table 27: Trend of tourist visit before and after 2000 A.D

Types of tourist	Research unit	Trend of tourist's visit in percentage							
		Before 2000 A.D				After 2000 A.D			
		High	Medium	Low	Mean	High	Medium	Low	Mean
Domestic	Lete	31.3	68.8	0	1.69	68.8	31.3	0	1.31
	Ghansa	31.3	62.5	6.3	1.75	62.5	25	12.5	1.5
Indian	Lete	0	12.5	87.5	2.88	0	75	25	2.25
	Ghansa	6.3	37.5	56.3	2.5	18.8	62.5	18.8	2
American	Lete	68.8	31.3	0	1.31	12.5	75	12.5	2
	Ghansa	81.3	18.8	0	1.19	6.3	93.8	0	1.94
European	Lete	6.3	75	18.8	2.13	93.8	6.3	0	1.06
	Ghansa	18.8	62.5	18.8	2	81.3	18.8	0	1.19

Table 28: Basic service provided by host and their extent of consumption

Services	Research unit	Percentage			Mean
		High	Medium	Low	
Accommodation	Lete	53.3	33.3	13.3	1.60
	Ghansa	28.6	50.0	21.4	1.93
	Average	**40.95**	**41.65**	**17.35**	**1.765**
Food	Lete	53.3	46.7	0	1.47
	Ghansa	73.3	20.7	6.7	1.33
	Average	**63.3**	**33.7**	**3.35**	**1.4**
Health services	Lete	16.7	0	83.3	2.67
	Ghansa	11.1	33.3	55.6	2.44
	Average	**13.9**	**16.65**	**69.45**	**2.555**
Communication facilities	Lete	33.3	50.0	16.7	1.83
	Ghansa	50.0	12.5	37.5	1.88
	Average	**41.65**	**31.25**	**27.1**	**1.855**
Transportation facilities	Lete	25.0	37.5	37.5	2.13
	Ghansa	22.2	11.1	66.7	2.44
	Average	**23.6**	**24.3**	**52.1**	**2.285**
Sanitation facilities	Lete	57.1	35.7	7.1	1.50
	Ghansa	83.3	16.7	0	1.17
	Average	**70.2**	**26.2**	**3.55**	**1.335**

Table 29: Expenditure rate on demand service according to tourist types

Services	Tourist type	Res. unit	Mean	Minimum	Maximum
Accommodation	Domestic	Lete	25.0000	10.0000	30.0000
		Ghansa	65.0000	25.0000	100.000
	Indian	Lete	86.6600	80.0000	100.000
		Ghansa	120.000	80.0000	150.000
	American	Lete	96.1500	30.0000	200.000
		Ghansa	180.000	80.0000	300.000
	European	Lete	95.3800	30.0000	200.000
		Ghansa	180.000	80.0000	300.000
Food	Domestic	Lete	171.428	100.000	300.000
		Ghansa	163.076	70.0000	250.000
	Indian	Lete	296.666	140.000	500.000
		Ghansa	275.000	100.000	500.000
	American	Lete	426.923	200.000	800.000
		Ghansa	435.714	250.000	500.000
	European	Lete	426.923	200.000	800.000
		Ghansa	457.143	250.000	600.000
Communication	Domestic	Lete	38.7500	25.0000	50.0000
		Ghansa	74.0000	20.0000	200.000
	Indian	Lete	100.000	100.000	100.000
		Ghansa	200.000	100.000	300.000
	American	Lete	183.330	150.000	200.000
		Ghansa	180.000	50.0000	300.000
	European	Lete	183.330	150.000	200.000
		Ghansa	182.000	60.0000	300.000
Transportation	Domestic	Lete	1100.00	200.000	2000.00
		Ghansa	0.0000	0.00000	0.00000
	Indian	Lete	2000.00	2000.00	2000.00
		Ghansa	0.00000	0.00000	0.00000
	American	Lete	2466.66	2000.00	3200.00
		Ghansa	2000.00	1500.00	2500.00
	European	Lete	2466.66	2000.00	3200.00
		Ghansa	2000.00	1500.00	2500.00
Hygeinic product	Domestic	Lete	34.0000	20.0000	50.0000
		Ghansa	66.2500	35.0000	100.000
	Indian	Lete	100.000	100.000	100.000
		Ghansa	85.0000	70.0000	100.000
	American	Lete	105.000	50.0000	200.000
		Ghansa	112.500	70.0000	150.000
	European	Lete	106.500	60.0000	200.000
		Ghansa	115.830	70.0000	150.000

Table 30: Purpose of tourist's visit/rest in the area and their extent of visit

Purpose	Research unit	Extent of visit in %			Mean
		High	Medium	Low	2.31
Sight seeing	Lete	23.1	23.1	53.8	2.07
	Ghansa	33.3	26.7	40.0	2.83
Social and cultural study	Lete	0.0	16.7	83.3	2.93
	Ghansa	0.0	6.7	93.3	2.50
Nature study	Lete	0.0	50.0	50.0	2.40
	Ghansa	6.7	46.7	46.7	2.33
Jungle visit	Lete	0.0	66.7	33.3	2.20
	Ghansa	20.0	40.0	40.0	1.73
Photography	Lete	40.0	46.7	13.3	1.44
	Ghansa	56.3	43.8	0.0	2.13
Camping	Lete	18.8	50.0	31.3	1.81
	Ghansa	37.5	43.8	18.8	1.38
Tea break	Lete	68.8	25.0	6.3	1.44
	Ghansa	62.5	31.3	6.3	1.56
Lunch/dinner	Lete	43.8	56.3	0.0	1.69
	Ghansa	37.5	56.3	6.3	1.56
Accommodation	Lete	56.3	31.3	12.5	1.63
	Ghansa	56.3	25.0	18.8	2.31

Table 31: Extent of pollution

Pollution types	Research unit	Response in %			Mean
		High	Medium	Low	
Air	Lete	40.0	26.7	33.3	1.93
	Ghansa	23.1	7.7	69.2	2.46
	Average	**31.55**	**17.2**	**51.25**	**2.195**
Land	Lete	75.0	25.0	0.0	1.25
	Ghansa	53.3	33.3	13.3	1.60
	Average	**64.15**	**29.15**	**6.65**	**1.425**
Water quality	Lete	0.0	36.4	63.6	2.64
	Ghansa	33.3	13.3	53.3	2.20
	Average	**16.65**	**24.85**	**58.45**	**2.42**
Crowdedness	Lete	10.0	20.0	70.0	2.60
	Ghansa	0.0	53.8	46.2	2.46
	Average	**5.0**	**36.9**	**58.1**	**2.53**

Table 32: Forest product consumption

Forest product	Res. Unit	Response		
		High	Medium	Low
Firewood	Lete	25.0	62.5	12.5
	Ghansa	31.3	68.8	0.0
Fodder	Lete	0.0	0.0	0.0
	Ghansa	0.0	60.0	40.0
Timber	Lete	31.0	65.5	3.5
	Ghansa	40.5	55.5	4.0
NTFP	Lete	25.0	75.0	0.0
	Ghansa	25.0	68.8	6.2
Grasses	Lete	0.0	13.6	86.4
	Ghansa	20.0	40.0	40.0

Table 33: Extent of deforestation for the purpose of road construction

Research unit	Response			Mean
	High	Medium	Low	
Lete	18.8	68.8	12.5	1.94
Ghansa	37.5	56.3	6.3	1.69
Average	**28.15**	**62.55**	**9.4**	**1.815**

Table 34: Fuel wood consumption

Res. Unit	Response			Mean
	High	Medium	Low	
Lete	25.0	62.5	12.5	1.88
Ghansa	43.8	43.8	12.5	1.69
Average	**34.4**	**53.15**	**12.5**	**1.785**

Table 35: Introduction of alternative source of energy

Res. Unit	Responses in %	
	Yes	No
Lete	100.0	0.0
Ghansa	87.5	12.5
Average	**93.75**	**6.25**

Table 36: After introduction of alternative source of energy, fuel wood consumption has……..

Res. Unit	Response in %	
	Decreased	Same
Lete	75	25
Ghansa	71.4	28.6
Average	**73.2**	**26.8**

Table 37: Frequently used energy for cooking and heating purpose

Res. Unit	Energy used in %		
	Fuelwood	**Kerosene**	**LP Gas**
Lete	50	6.3	43.8
Ghansa	62.5	0	37.5
Average	**56.25**	**3.15**	**40.65**

Table 38: Investment from tourism business

Research unit	Productive investment	Response in %	Total productive investment in NRs. (mean)	Unproductive investment	Response in %	Total un-productive investment in NRs. (mean)
Lete	Education	41.7	19387.54	Building	57.1	2352857
	Education and Dhikuri	58.3		Repair and maintenance	28.6	
				Land	14.3	
Ghansa	Education	18.8	3333.33	Building	66.7	4080000
	Education and Dhikuri	81.3		Land	33.3	

Table 39: Per household consumption of fuel wood at different time intervals

Time of field survey	Mean consumption (kg/hh/week)	Mean consumption (kg/hh/day)	Standard deviation
Mid Dec 2005	109	15.57	46.1
Mid Mar 2006	119	17.0	41.2
Mid Jun 2006	98	14	36
Mid Sep 2006	128	18.28	45

(Source: S. Rayamanjhi, PHD Scholar)

Annex-II: Questionnaire format for Household Survey

1. General Information

Respondent's name: ……
Sex: M ( ) F ( )
Address
Name of VDC: …… Settlement: …….

1.1. a. Age of the respondent:
- a) 18 to 35 [ ]
- b) 36 to 55 [ ]
- c) over 56 [ ]

1.1. b. Caste/Ethnic group of the respondent
- a) Janajati [ ]
- b) Dalit [ ]
- c) BCN [ ]
- d) Others [ ]

1.1. c. Educational level of the respondent
- a) Illiterate [ ]
- b) 1 to 5 class [ ]
- c) 6 to S.L.C [ ]
- d) Campus degree [ ]

1.1. d. Occupation of the respondent
- a) Agriculture [ ]
- b) Business [ ]
- c) Pvt/Govt. job [ ]
- d) Others [ ]

Source of income

Source	**Income (NRs)**	**Past**	**Present**
On farm source			
a) Grains			
b) Vegetables			
c) Livestock			
d) Milk			
e) Others			
Non farm source			
a) Pvt / govt. service			
b) Business			
c) Pension			
d) Foreign employment			
e) Others			
Off farm source			
a) Grains			
b) Vegetables			
c) Livestock			
d) Milk			
e) Others			

1.2. b. Do you have taken loan? Yes: [ ] No: [ ]

If yes, for what purpose

A. Agriculture
B. Livestock
C. IGA related to forest
D. Poultry
E. Education
F. Purchase of food
G. Treatment
H. Tourism related business
I. Small industry
J. Alt. energy

1.2. c. What sort of business have you started with..

A. Hotel [ ]
B. Restaurants [ ]
C. Grocery [ ]
D. Souvenir shops [ ]
E. Others [ ]

2. Activities performed by tourist in the area.

2.1. What types of tourist visit in the area, by most in first/use this area according to season and activities concerned?

Given in brackets below

Season- Summer, winter, monsoon and autumn.
Activities- trekking, religious purpose, sight seeing, mountaineering and others.

S.N	Types of tourist	Season (s/w/m/a)	Activities (t/r/s/m/o)
1	Domestic		
2	Indian		
3	American		
4	European		
5	Others		

2.2. What are the trends of visit? (By year in no. and most in first)

S.N	Types of tourist	Before 2000 A.D			After 2000 A.D		
		High	Medium	Low	High	Medium	Low
1	Domestic						
2	Indian						
3	American						
4	European						
5	others						

2.3. What are the basic services provided by host (Hoteliers) and their extent of consumption?

S.N	Services	Consumption rate		
		High	Medium	Low
1	Accommodation			
2	Food			
3	Health facilities			
4	Communication facilities			
5	Transportation			
6	Good sanitation facilities			
7	Others			

2.4. What are the quality things that tourist demand in the route (site) and their rate of expenditure according to tourist types?

S. N.	Services	Expenditure (in NRs)/day				
		Domestic	Indian	American	European	Others
1	Accommodation					
2	Food					
3	Health facilities					
4	Communication facilities					
5	Transportation facilities					
6	Hygienic product					
7	Others					

2.5. Purpose of tourist's visit/rest in the area and their extent of visit.

S.N	Purpose	Extent of visit		
		High	Medium	Low
1	Sight seeing/nature observation			
2	Social and cultural study			
3	Nature study			
4	Jungle visit/ safari			
5	Photography			
6	Camping			
7	Tea break			
8	lunch/ dinner			
9	Accommodation			
10	Others			

2.6. What are the major tourist attractions in the area? (By most in first)

A. Pine forest
B. Climate
C. Monastery
D. Mountain
E. Gorge
F. Others

3. Environmental impact.

3.1. a. Have u participated in any conservation programs?
Yes [ ] No [ ]

3.1. b. What is your level of participation?
High [ ] Medium [ ] Low [ ]

3.1. c. How is the tourist's conservation awareness level?
High [ ] Medium [ ] Low [ ]

3.1. d. Do they follow the minimum impact code as guided by ACAP strictly?
Yes [ ] No [ ] don't know [ ]

3.1. e. What are the innovation/ initiations/ activities that you have carried out to conserve environment?

. ……

3.1. f. Have you received any training on conservation?
Yes [ ] No [ ]
If yes…….

Types of training	**Effectiveness of training**		
	High	**Medium**	**Low**
Empowerment			
Awareness			
IGA			
Conservation			
Others			

3.2.a. What are the raring practice and forage consumption of domesticated animals?

Numbers	**Stall feeding**	**Free grazing**	**Forage consumption**

3.2.b. What type of products do you collect from the forest and what is their extent of demand and consumption?

- *Demand and consumption are measured as high (H), Medium (M) and low (L) in both seasons.*

S.N	Forest products	Demand		Consumption	
		Peak season	Off season	Peak season	Off season
1	Firewood				
2	Fodder				
3	Timber				
4	NTFP				
5	Grasses				
6	Others				

3.3. What is the trend of infrastructures established/built for tourism purpose?

High [ ] Medium [ ] Low [ ]

3.4.a Has tourism led to increase in level of pollution?

Yes [ ] No [ ]

3.4.b If tourist activities has led to pollution then, what kind ……

S.N	Pollution	High	Medium	Low
1.	Air			
2.	Land (garbage)			
3.	Water quality			
4.	Crowdedness			
5.	Others			

3.4.c. Solid waste is major source of pollution in your area……..

Yes [ ] No [ ]

3.4.d. What is their pollution level……..

Solid waste type	High	Medium	Low
a) Degradable			
b) Non degradable			

3.5.a Has trail improvement / road construction led to decrease in forest area?

Yes [ ] No [ ]

3.5.b What is the extent of deforestation for the purpose of road construction?

High [ ] Medium [ ] Low [ ]

3.6.a. What is your consumption rate of fuel wood?

High [ ] Medium [ ] Low [ ]

3.6.b. Have you introduced any alternatives source of energy?

A. Bio-gas [ ]
B. Solar power [ ]
C. LPG-gas [ ]
D. Kerosene [ ]
E. Electricity [ ]
F. Others [ ]

3.6.c. After introduction of these alternatives has your fuel wood consumption trend ….

Decreased [ ] Increased [ ] Same [ ]

3.6.d. What kind of energy do you use frequently?

A. Fuel wood [ ]
B. Kerosene [ ]
C. Electricity [ ]
D. Bio-gas [ ]
E. Others [ ]

3.6.e. Average daily consumption rate of energy according to season……..

Energy	**Tourist season(peak season)**	**Non tourist season(off season)**
Fuel wood		
Bio-gas		
Kerosene		
Electricity		
LP Gas		
Others		

3.6.f. Has tourism led to change in pattern of energy (fuel wood) use?

Yes [ ] No [ ]

If yes…....How?

A. Fuel wood scarcity [ ]
B. Ease of using other energy [ ]
C. Others [ ]

4. Economical impact

4.1.What is your income from tourism business?

Per day	**Seasonal**	
	Peak season	**Off season**

4.2. Employment generated due to tourism business……..

Business	**Employee**	**Number**		**Expense**	
		Male	**female**	**Salary**	**Rent**

4.3. Investment from tourism business…….

Productive investment	**In NRs**	**Unproductive investment**	**In NRs**

4.4.a. Have you been in tourism business since past?

Yes [ ] No [ ]

4.4.b. If no, then what were you involved in…….

A. Agriculture [ ]
B. Livestock rearing [ ]
C. Abroad [ ]
D. Govt. employment[ ]
E. Others [ ]

4.4. c. Has tourism led significant role to uplift your living standard?

Yes [ ] No [ ]

If yes, how……..

4.4. d.What was your yearly income before getting involved in tourism business?

……..

4.5. a Is there any provision of package tourism?

Yes [ ] No [ ]

4.5. b. If yes, from where

A. Kathmandu [ ]
B. Pokhara [ ]
C. Chitwan [ ]
D. Others [ ]

4.6.a Is there any provision of equal benefit sharing of the income?

Yes [ ] No [ ]

If yes, how ……

5. Attitude of local people towards tourist activities

Statements	**I**	**II**	**III**	**IV**	**V**
Smoking has negative effect.					
Alcoholism has promoted your business.					
Semi nudity has adverse effect in the local culture.					
Drug abuse is increased through tourism.					
Gambling is increased through tourism.					
Prostitution					
Crime					
Begging					
Social disintegration of the western family….					
Friendly environment creates better communication.					
Tourist's respect to other values, culture and norms is worthy.					
Mutual understanding of tourist and the local people is crucial.					
Communication between tourist and the local people help					
Tourism generates employment.					
Increased awareness of tourist is very important.					
Feeling of pride.					
Others					

I-Strongly disagree, II- Disagree, III-Neutral, IV- Agree, V-Strongly agree

Photo plates

Focus group discussion with CAMC members

House hold survey

Focus group discussion with ACAP representatives and CAMC