Impact of tourism in the foothills of Nepal: a case study on income generation occupational structure agriculture production and firewood consumption patterns along the Dhampus-Pothana trekking route in Kaski

Tek Bahadur Gurung
The University of Montana

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THE IMPACT OF TOURISM IN THE FOOTHILLS OF NEPAL: A CASE STUDY ON
INCOME GENERATION, OCCUPATIONAL STRUCTURE, AGRICULTURE
PRODUCTION AND FIREWOOD CONSUMPTION PATTERNS ALONG THE
DHAMPUS-POTHANA TREKKING ROUTE IN KASKI

By
Tek Bahadur Gurung
B.A. The Tribhuvan University, 1975
M.A. The Tribhuvan University, 1979
presented in partial fulfilment of the requirements
for the degree of
Master of Arts
The University of Montana
1998

Approved by:
Chairperson
Dean, Graduate School

Date
This thesis is a study of tourist impacts on incomes, farm production, occupational structure, and firewood consumption patterns along the Dhampus-Pothana Trekking Route in Nepal. The study is based on primary data collected from forty-three households who live on the 28 km long Dhampus-Pothana route established in 1970.

Between 1970 and 1996, these households moved from nearby villages to the route to establish hotels. On average, each hotel makes nearly Rs 203 per day from lodging services and Rs 1203 from restaurant services. This is in dramatic contrast to a normal day's wage in Nepal, which is Rs 30 to Rs 50.

Out of the 133 people along the trekking route in the workforce, 74 percent are involved in the hotel industry, 17 percent in farming, and only 9 percent in service jobs.

In farm production, vegetable production has increased while rice, corn, and potato production has declined to a large extent. Food grains are imported from Pokhara, and potatoes are bought from the neighboring villages. Processed foods come from India or the Terai plain.

Firewood is the main source of energy used to prepare meals and heat hotels. Before 1970, it took an average of forty minutes to collect a bundle of firewood (approximately 35-40 kg) and return back to the village. Now, it takes on average about 126 minutes to do the same job, although the households have moved into what were dense forests along the trekking route.

The data suggests that tourism has been positive on economic conditions, but negative on food grain production and forest conservation. For the economic benefit of people, tourism should flourish along the trekking route. However, its negative impact on forest resources should be mitigated by providing alternative sources of energy (hydroelectric power) in the near future.
ACKNOWLEDGMENTS

This study describes the role of tourism in a remote hilly area of Nepal. In the course of this study, many people have helped me in many different ways and to whom I am deeply indebted. I am grateful to Dr. Christiane von Reichert (Department of Geography, University of Montana) for her invaluable guidance from the beginning to the very end of undertaking this task. I express my sincere thanks to Dr. Darshan S. Kang, and Dr. Jeffrey A. Gritzner (Department of Geography, University of Montana) for their contributions and helpful suggestions. Dr. Fred W. Reed (Department of Sociology, University of Montana) deserves my sincere thanks for sharing his ideas and his comments on my thesis. I appreciate Dr. Paul Wilson (Chair, Department of Geography, University of Montana) for giving me his perpetual encouragement during my study at the University of Montana. I am grateful to Lecturer Krishana Gurung and Kali Das Sharma (Prithwi Narayan Campus, Pokhara, Nepal) for the field work they had conducted to collect primary data in Nepal. I would like to thank all the responding households along the Dhampus-Pothana trekking route for giving information on income, farm production, family occupation and firewood consumption patterns. I extend my sincere thank to Kris Soedal for thoroughly editing the text of this thesis. In addition, I wish to thank my wife Bibi for the moral support she offered.
TABLE OF CONTENTS

ABSTRACT .......................................................................................................................... ii
ACKNOWLEDGMENT .................................................................................................... iii
LIST OF FIGURES ............................................................................................................. vi
LIST OF TABLES ............................................................................................................. vii
LIST OF MAPS .................................................................................................................. viii

CHAPTER I. INTRODUCTION

1.1 Introduction .................................................................................................. 1
1.2 Statement of the Problem ............................................................................ 3
1.3 Objectives of the Study .............................................................................. 7
1.4 Methodology
   Study Area ........................................................................................................... 7
   Methods of Data Collection .............................................................................. 10
   Data Tabulation and Data Analysis Methods ................................................ 11
1.5 Limitations of the Study ............................................................................ 11
1.6 Justification of the Study .......................................................................... 12

CHAPTER II. A BRIEF ACCOUNT OF PHYSICAL SETTING, TOURISM CENTERS AND THE NUMBER OF TOURISTS (1984-1995) IN NEPAL

2.1 Physical Setting ............................................................................................. 14
2.2 Important Tourist Centers .......................................................................... 21
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 Number of Tourists in Nepal (1984-1993)</td>
<td>24</td>
</tr>
<tr>
<td>2.4 Advantages and Disadvantages of Tourism in Nepal</td>
<td>28</td>
</tr>
<tr>
<td>CHAPTER III. LITERATURE REVIEW AND RESEARCH QUESTIONS</td>
<td></td>
</tr>
<tr>
<td>3.1 Literature Review</td>
<td>29</td>
</tr>
<tr>
<td>Economic Impact of Tourism</td>
<td>30</td>
</tr>
<tr>
<td>Social Impact of Tourism</td>
<td>38</td>
</tr>
<tr>
<td>Environmental Impact of Tourism</td>
<td>48</td>
</tr>
<tr>
<td>Conclusion</td>
<td>55</td>
</tr>
<tr>
<td>3.2 Research Questions</td>
<td>57</td>
</tr>
<tr>
<td>CHAPTER IV. RESULTS OF THE STUDY</td>
<td></td>
</tr>
<tr>
<td>4.1 Tourist Hotels as a New Income Generator on the Dhampus-Pothana</td>
<td></td>
</tr>
<tr>
<td>Trekking Route</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>60</td>
</tr>
<tr>
<td>Establishment of Hotels (households) along the Trekking Route</td>
<td>60</td>
</tr>
<tr>
<td>Hotel Capacity and Seasonal Use of Hotels along the Trekking Route</td>
<td>61</td>
</tr>
<tr>
<td>Revenue Generated from the Bed Charge in the Hotels</td>
<td>64</td>
</tr>
<tr>
<td>Total Expenditure and Revenue Analysis for Meals</td>
<td>66</td>
</tr>
<tr>
<td>Conclusion</td>
<td>73</td>
</tr>
<tr>
<td>Total Lodge Revenue Versus Restaurant Profit in Hotels by Season</td>
<td>74</td>
</tr>
<tr>
<td>4.2 Occupational Structure of Households along the Dhampus-Pothana</td>
<td></td>
</tr>
<tr>
<td>Trekking Route</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>75</td>
</tr>
<tr>
<td>Male and Female Population along the Trekking Route</td>
<td>76</td>
</tr>
<tr>
<td>Age Structure of Population along the Trekking Route</td>
<td>77</td>
</tr>
<tr>
<td>Farming as a Major Occupation Prior to the Trekking Route</td>
<td>79</td>
</tr>
<tr>
<td>Population Occupational Structure along the Trekking Route in 1995</td>
<td>80</td>
</tr>
<tr>
<td>Conclusion</td>
<td>82</td>
</tr>
</tbody>
</table>
4.3 Production and Import of Vegetables and Food Grains along the Trekking Route

Introduction ............................................................... 82
Household Rice Production and Import of Rice before and after Opening the Trekking Route .......................... 83
Household Corn Production before and after Opening the Trekking .......................................................... 88
Household Potato Production and Import before and after Opening the Trekking Route .......................... 89
Household Vegetable Production and Import before and after Opening the Trekking Route .......................... 93
Conclusion ............................................................................................... 97

4.4 Firewood as a Source of Energy on the Dhampus-Pothana Trekking Route

Introduction ............................................................................................. 98
Firewood as a Major Source of Energy along the Trekking Route .......................... 99
Sources and Types of Firewood along the Trekking Route .......................... 101
Firewood Collection from the Government and Private Forest along the Trekking Route ........................................... 102
Firewood Collection Time in 1970 and 1995 .................................. 105
Conclusion ............................................................................................ 110

CHAPTER V. DISCUSSION

5.1 Summery ................................................................. 112
5.2 Conclusion ................................................................. 120
5.3 Suggestions ................................................................. 124

APPENDIX I. QUESTIONNAIRE ................................................................. 127

BIBLIOGRAPHY ................................................................. 135
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tourist Arrivals in Nepal by Mode of Travel 1984-1993</td>
<td>26</td>
</tr>
<tr>
<td>2.</td>
<td>Reasons for Visiting Nepal 1993</td>
<td>27</td>
</tr>
<tr>
<td>3.</td>
<td>Expenditure, Revenue, and Profit from Meals per Hotel and Day</td>
<td>71</td>
</tr>
<tr>
<td>4.</td>
<td>Expenditure, Revenue, and Profit from Meals per Community and Day</td>
<td>72</td>
</tr>
<tr>
<td>5.</td>
<td>Age Structure of the Population 1996 (Trekking Route and Nepal)</td>
<td>78</td>
</tr>
<tr>
<td>6.</td>
<td>Occupational Structure of the Population Along the Trekking Route</td>
<td>81</td>
</tr>
<tr>
<td>7.</td>
<td>Home Production and Purchases of Rice (in kilograms)</td>
<td>87</td>
</tr>
<tr>
<td>8.</td>
<td>Home Production and Purchases of Potatoes (in kilograms)</td>
<td>92</td>
</tr>
<tr>
<td>9.</td>
<td>Home Production and Purchases of Vegetables (in kilograms)</td>
<td>96</td>
</tr>
<tr>
<td>10.</td>
<td>Firewood Collection by Type of Wood and Forest Ownership</td>
<td>104</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bedrooms, Beds and Guests (per place and hotel)</td>
<td>62</td>
</tr>
<tr>
<td>2. Guests by Season (per day and percent of annual guests)</td>
<td>64</td>
</tr>
<tr>
<td>3. Revenue (in Rupees) per Day from Bed Charges (annual and by season)</td>
<td>66</td>
</tr>
<tr>
<td>4. Expenditure and Revenue per meal (daily average in Rupees)</td>
<td>68</td>
</tr>
<tr>
<td>5. Profits from Beds and Meals (per community and day in Rupees and percent)</td>
<td>75</td>
</tr>
<tr>
<td>6. Male, Female, and Total Population</td>
<td>76</td>
</tr>
<tr>
<td>7. Change in Rice Production between 1970 and 1995 (in kilograms)</td>
<td>84</td>
</tr>
<tr>
<td>8. Change in Corn Production between 1970 and 1995 (in kilograms)</td>
<td>88</td>
</tr>
<tr>
<td>11. Types of Energy Used by Hotels</td>
<td>100</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

1.1 Introduction

Nepal, the Himalayan kingdom, is a beautiful country lying between two large countries - China to the north and India to the south. The snow-clad mountains and the midland valleys surrounded by the hills are very scenic. The Himalayas are well known around the world, and the Terai plain, with its national parks, is a resort area. Today, the natural beauty of the mountains, hills, and the Terai plain attract a large number of international tourists. Each year, approximately 300,000 tourists visit Nepal. According to David M. Zurich: "Mountain trekking, nature tours into the lowland Terai jungles and white water river rafting are the main forms of adventure tourism in Nepal."\(^1\) Travelers visit the mountains, hills, and valleys as well as the national parks of the Terai. The fast flowing perennial rivers are also explored by adventurers. Mountain trekking is the most popular adventure for the visitors. Zurich says that:

Mountain trekking is the most important adventure activity in Nepal. Group treks are arranged and paid for abroad or in Kathmandu. Alternatively, individuals may trek without group services, relying instead on the villages en route for food and lodging.\(^2\)


\(^2\)Ibid., 612.
Tourists visit different parts of the country either in groups or individually. Different private companies organize group trekking. Similarly, those who want to travel independently on their own can visit different parts of the country easily.

Nepal's important tourist centers are centered around the capital city, Kathmandu. They include the Everest area in the east of Kathmandu, the Annapurna area to the west of Kathmandu, and Lumbini (the birthplace of Lord Buddha), and Janakpur (the birthplace of goddess Sita) to the south of the Kathmandu valley in the Terai. The historical town of Gorkha is an important tourist center, located northwest of Kathmandu. Similarly, Langtang, Dhorpatan, and Chitwan are other important wildlife areas which attract tourists to Nepal. Likewise, Pokhara, Tansen, and Jiri are important scenic and tourist resort centers in Nepal.

Before 1950, the Nepalese government kept the country closed to tourists. As soon as the government opened the borders to foreigners, the flow of tourists to Nepal began. According to Zurich, "Nepal opened its borders to foreigners in 1951, but not until the 1960s did many Westerners visit the country." Since the 1960's, the number of tourists steadily increased. In 1984, the total number of tourists was 178,634. This figure reached 334,353 in 1992. Today, the tourism industry has become one of the most important sources of foreign currency for the government of Nepal which earns more than $66,000,000 per year from tourism. Many tourist-based industries have flourished.

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3 Ibid., 612.

throughout the country. Carpet industries, basic and luxury hotels, and retail services are developing in Nepal for the first time in places impacted by tourism. Many people have found employment as guides and porters. Along the major tourist trails in the remote areas of Nepal, numerous locally owned and operated hotels have been established for travelers. These hotels have played a significant role in earning foreign currency for the nation. However, tourism has some negative impacts on the socioeconomic and environmental condition of the country. These problems include a food deficit, the inflated cost of food and other goods, and deforestation.

It is important to know the positive and negative impact of tourism on the country. In this study, an attempt has been made to examine tourist impacts on socioeconomic and environmental conditions along the Dhampus-Pothana trekking route.

1.2 Statement of the Problem

The Annapurna area, recently designated a national conservation area, is the most popular mountain destination in Nepal partly because of its easy accessibility from Pokhara, an important tourist gateway. From 1980-86, Annapurna increased its relative share of trekkers from 52 percent to 68 percent of the national totals as the number of trekkers in Nepal increased from 14,332 to 33,620. Nobody has yet studied the impact of tourism on farming, household economy, environmental deforestation, and occupational structure in this area. Therefore, I have undertaken to identify positive and negative impacts of tourism in this area.

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\(^5\)David N. Zurich, "Adventure Travel and Sustainable Tourism in the Peripheral Economy of Nepal," 615.
The Annapurna region lies west of the Kathmandu valley and is the most important region within the western development region of the country from the standpoint of tourism. Pokhara in the midland valley is a very important resort center for tourists. The fresh water lakes and the mountain ranges are only 56 kilometers away and are major valley attractions. In addition, the Annapurna range with its virgin peak Machhapuchray runs from west to east just a little north of this valley. The trekking routes to the Annapurna region begin from the northern part of this valley. Around this valley, there are many typical Gurung villages where people eke out a living on meager traditional farming. These people were pastoralist to begin with, but as time went on, they became farmers. The trekking routes pass through some of these villages. Since the opening of the trekking route, some of the villagers relocated from their nearby villages to the trekking route to establish and operate hotels. They have changed the shape of their houses from the traditional oval shape to rectangular in order to better accommodate their guests.

There are many villages, but only inhabitants of villages near the trekking routes have had the opportunity to open hotels. Among these villages, Dhampus, Tanchook and Landruk are on the way to the Annapurna Sanctuary. The route passes over the Dhampus-Pothana Ridge, and along this route these villagers operate the hotels. The impact of tourism along this route has been selected as the problem of this study. Little is known about the effect of tourism on the socio-economic and environmental conditions along the Dhampus-Pothana trekking route. Before 1970, there were no houses along the densely forested Dhampus-Pothana trekking route, but today, there are forty-three hotels
on that route. Lacking other sources of energy, the hotels use firewood to prepare meals and warm the houses. They collect firewood, fodder and timber from the dense forests nearby. Without detailed study, it is difficult to assess to what extent continuous firewood collection by the hotels as well as the local villagers has affected the forest resource of the Dhampus-Pothana ridge. However, it seems important to bring to the local people's attention the possibility that continuous firewood collection from the surrounding forest can have an adverse effect on the fragile environment of the Dhampus-Pothana ridge. The lack of alternative energy sources and the continuous firewood collection along the trekking route may pose problems to this area.

All the households along the trekking route lived in nearby villages before the opening of the trekking route in 1970. Farming was their major occupation. Rice, maize, millet, potatoes, and vegetables were important crops produced for home consumption. Production is so low that they cannot eat a sufficient amount of food everyday. Lacking surplus crops, subsistence farmers cannot generate cash to buy clothes, salt, sugar, kerosine oil and other materials from Pokhara. Farm work does not help them to bring in cash for the family. After the 1970s, the trekking route has given some households an opportunity to earn cash by providing restaurant and hotel services to hikers. Today, forty-three households have established hotels along the trekking route, and this represents a new type of economic activity. Households now import food stuff, kerosine, and other materials from Pokhara. These materials are not only expensive but also difficult to transport. In this situation, it is difficult to say whether this new business is a good source of income to the people. Without research, it is difficult to know the facts.
Therefore, I will study the profitability of the hotel industry to households along the trekking route.

Hills and mountains are food deficit areas in Nepal. Villages in the Dhampus-Ridge are not exceptional in this respect. Households along the trekking route provide meals to their guests, although they produce limited amounts of food grains for their own living. An increase in the number of tourists requires an increasing amount of food grains. It is interesting to find out how the households along the trekking route obtain the foods to feed their guests. There are two possible answers to this question: first, households may increase the production of food grains, and second, households purchase additional food grains from their neighbors and Pokhara. If they increase food grain production on their own, a positive impact of tourism on farming is indicated. Similarly, if food grain is imported from neighbors, a positive impact of tourism on local farming is indicated. However, if food grain is imported from Pokhara, there is either a negative impact or no impact of tourism on food grain production patterns in the households. I will examine the impact of tourism on farming in this study.

All the households along the trekking route had lived in nearby villages before the opening of the trekking route in 1970, and farming was their major occupation. Since, they have left their original villages, although the villages remain, and have opened hotels along the trekking route. Thus, each household along the trekking route also is a hotel. Although they have left their original villages, they have not gone far away from their villages and can use their farmland to produce crops. Questions arise about their present occupations, whether they are farmers or hotel keepers or both farmers and hotel keepers.
This question can be answered only after inquiring about the occupations of people who now live along the trekking route. In this research, I will look at the impact of tourism on household occupational structures.

1.3 Objectives of the Study

Tourism affects a wide range of activities within the socioeconomic and environmental spectrum. In this study I will consider only the following aspects of socioeconomic, and environmental conditions in the present study area.

1. The study will examine the extent to which the hotel industry has become a new source of income in the study area.

2. The study will describe the degree to which the occupational structure of household has changed after the opening of the trekking route.

3. The study will identify how agriculture production pattern has changed after the opening the trekking route.

4. The study will further examine to what extent tourism has affected the firewood collection time and consumption pattern along the trekking route.

1.4 Methodology

1.4.1 Study Area

The study area, shown on Map 1, lies between 28° 17' 54" N and 28° 23' 42" N and 83° 49' 42" E and 83° 52' 0" E. The route is approximately 28 km long from Deorali to the northwestern part of Landruk. The area is selected to include the
households along the Dhampus-Pothana trekking route. This trekking route extends from Dhampus Deorali in the southeast to Landruk village in the northwest on the Dhampus-Pothana Ridge. The elevation ranges from about 5,450 feet to about 8,000 feet. There are two river valleys on both sides of the ridge. The large valley in the northeast is the Mordi Phant and the valley in the southeast is called the Suikhet Phant. In the north and northwest are the Machhapuchray, Annapurna South, Annapurna I, and Annapurna II mountain peaks, and the Dhawalagiri mountain ranges. This ridge is actually the southern arm of the Machhapuchray mountain. The slopes of this ridge are steep. From the ridge, a number of hills along with a part of Phewa Lake can be seen in the south and southeast. Summers are warm and rainy, and winters are cold and dry with occasional snowfall. The higher part of the ridge is covered by dense forest, while the lower part consists of bush. Mixed deciduous forest is the major natural vegetation of the ridge.
Study Area and Topography of the Dhampus-Pothana Ridge

Legend

Roads & Main Trekking Routes

Foot Trails

Study Area

Contour Interval 500 mtrs


Map 1
1.4.2 Methods of Data Collection

The purpose of this study is to examine how tourism has affected household incomes, occupational structure, agricultural production, and firewood consumption along the Dhampus-Pothana Trekking Route. It is a case study based on micro level data which are not available through secondary sources such as personal, private, public, government and census records of this study area. Therefore, the data required for the study are collected from primary sources using the household survey method. The universe of the survey comprises forty-three households which are also hotels and these are the observational units of the survey. All the households in the study area are included in the survey conducted in the summer of 1996. By visiting door to door, the enumerators posed the designated questions to heads of households and the given information was recorded in the questionnaire. In the course of the survey, building types, drinking water taps, toilets, and their conditions were observed as well.

The household survey is a questionnaire with sixteen questions. Each question has its own target information. Question number one was designed to collect information on occupational structure of the households. Question number two to six were designed to collect information on revenues generated from lodging and meal services. Information about the seasonality of visitors, and about preferences for Western or Nepalese meals was also obtained. In order to identify changes in agricultural practices, questions seven through nine were designed to capture information on crop production before (in 1970) and after (in 1996) the opening of the trekking route. Questions number ten to twelve pertained to the collection of firewood by forest types, amount of firewood
thirteen to fifteen were about the respondents' communication medium with their guests
and their views on the advantages and disadvantages of tourism.

1.4.3 Data Tabulation and Data Analysis Methods

After the household survey, all the questionnaires and observation forms were
arranged according to their consecutive numbers, and recorded information was entered
into the SPSS (Statistical Package for Social Scientists) data editor. The SPSS data set
consists of forty-three cases and numerous variables for guests, meals, incomes,
population, crops, forest types and others. Prices, expenses, revenues and profits are
recorded in Rupees (Rs), quantities of crops produced and firewood collected in
kilograms (kg), and firewood collection time in minutes (min). Data were grouped in
tables showing data for the five different localities (Deorali, Thulakharka, Pothana, Tolka
and Pothana) as well as the trekking route.

1.5 Limitations of the Study

This is a case study identifying effects of tourism on income, occupational
structure, crop production and firewood consumption patterns of people along the
Dhampus-Pothana trekking route. There are some limitations of this study. The first
limitation is that it is a case study based only on those forty-three households which are
located along the Dhampus-Pothana trekking route. The findings of this study describe
only the tourism impact on socio-economic and environmental conditions along the
trekking route but not in the Dhampus-Pothana region as a whole. The other limitation is
the lack of sample data to employ the inferential technique of data analysis. Since the
descriptive technique has been employed to describe the data, it does not help to test the
significance level of the inferences which are drawn on the basis of the discussion. The
third limitation of this study is that the study describes only the effect of tourism on some
socio-economic and environmental aspects along the trekking route. For example, the
study is limited to looking at the increasing amount of time for firewood collection in
measuring the environmental impact of tourism in the area.

1.6 Justification of the Study

As a case study, it describes actual tourism impacts on socio-economic and
environmental conditions along the Dhampus-Pothana trekking route. Especially, the
conclusions drawn from the discussion identify the impact of tourism on household
occupational structure, crop production, and firewood consumption patterns along the
trekking route. The findings of this study help to examine the impact of tourism on the
hills of Nepal. Besides this, they can be instrumental while making plans for tourism
related projects of this area. Information collected from the field can be used by different
people for different purposes and the conclusions drawn on the basis of this discussion
can be used by the local people, organizations, planners and others for various purposes.
It is a case study in the hills of Nepal that may shed light on other areas with similar
situations. The conclusions drawn from this study can benefit the local people and others
in many different ways, such as the management of hotel industry according to the flow
of tourists in different seasons, and searches for alternative fuel sources to promote forest preservation.
CHAPTER II

A BRIEF ACCOUNT OF PHYSICAL SETTING, TOURIST CENTERS AND NUMBER OF TOURISTS (1984-1993) IN NEPAL

2.1 Physical Setting

Nepal lies between China in the north and India in the south. It is a small country with 23 million people and an area of 147,000 sq. km. It extends approximately from 26° 22' N to 30° 27' N and 80° 4' E to 88° 12' E. It is 885 km long and 187 km wide. The Mahakali River separates Nepal from India in the west and the Mechi River separates them in the east. The Himalayas separate Nepal from Tibet in the north and a ten yard no man’s land in the south from India. Although it is a landlocked mountainous country, it is renowned throughout the world for its wonderful natural beauty. The lofty mountains in the north, the tectonic (midland) valleys like Pokhara, Kathmandu, and Surkhet, and lakes like Phewa Lake, Rara Lake, Begnas Lake, and a small stretch of leveled plain which is only 100 meters above sea level in the south demonstrate that it is the land of great physical diversity. Like its topography, its climate, natural vegetation, people and culture also depict a great diversity. In this section, its three major physical regions, the Terai, the hills and the mountains (Map 2) are described in brief.
Map 2

NEPAL
Major Land Features

LEGEND

- Himalayan Range
- Mahabharat Mountain
- Churia Range (Siwalik)
- Inner Tarai (Dun)
- Tarai Plain
- Zone of Hills, Valleys and Elevated Flat Lands

The Terai Plain: - This is a leveled alluvial plain made by the River Ganges in ancient times. It slopes gently towards the southeast from the northwest. Therefore, the major Himalayan rivers like River Sapta Kosi, Sapta Gandaki and Sapta Kamali join the River Ganges and flow into the Bay of Bengal. It is about 195 km long and 20 km to 30 km wide with an average elevation of 100 m above sea level. The Churiya Range which is a branch of the Mahabharat Range, traverses over the plain in form of a crescent, and encloses parts of the plain in three different places. The parts of plain enclosed by the hills are called the Inner Terai (Doon Valley). The large rivers deposit boulders, cobbles, rocks, gravels and sand in this part of the plain. As the rivers advance further south, they deposit fine alluvium in the proper Terai.

The lowland Terai plain is a part of the tropical region of Nepal. Therefore, it is hot and wet in the summer, but dry and warm in the winter. Temperature is at its maximum in the beginning of the summer (between April and June). As the onshore monsoon blows from the Bay of Bengal at the end of June, it causes heavy rainfall in almost all parts of this plain. As opposed to summer days, the winter days are calm. The winter is dry except for a few inches (approximately 10") of cyclonic rainfall in its western part. The hot and humid tropical monsoon climate favors the dense tropical evergreen forest. Different tree species grow luxuriantly, however, Shorea-rebusta (Sal) is the most dominant one. It is evergreen in nature and yields hardwood for industries. Migration from the hills and mountains, and the adjoining parts of the Indian territory has greatly destroyed this forest. Vidya Bir Kansakar states that "internal migration in the country in the past was conditioned by the prevalence of malaria in the areas below 4.000'
above sea level. Internal migration was confined to the Midlands and migration usually spread east-west. The Terai and inner Terai of the country in the past was covered by dense sub-tropical forests and was highly malarial. He further states that

"the malaria eradication program conducted under the tripartite agreement of the government of Nepal, United States Operation Mission and WHO (World Health Organization) in the Chitwan Valley for the first time in 1956 and subsequent rehabilitation of the hill people marked the large scale migration of the hill people in the Inner Terai for the first time in the country was followed by concurrent migration of the hill people to these regions."

Once the dense forest of Terai is seen in a few places at present and it has an adverse effect on the wildlife habitat of this region. Especially, it has threatened the existence of tigers, rhinoceros, and wild elephants of this region. These wild animals and birds are now preserved in the Chitwan National Park, Royal Sukla Phant Wildlife Reserve, Bardiya National Park, and Kosi Toppu. The Royal Chitwan National Park is the most important tourist center for watching tigers and other wildlife in the Terai plain.

The Hills and Midland Valleys: - The Hills lie between the Himalayas and the Terai Plain in Nepal. They cover approximately 50 percent of the total area of the country and include the land between 600 m and 3,000 m above the sea level. The major ranges run parallel to the Himalayas from west to east. In the words of Shrestha:

The Hilly region of Nepal is very extensive and covers about 50 percent of the total area. Its elevation ranges from 600 m to 3,000 m. Its topography consists of Mahabharat Ranges, Churiya Hills, elevated flattish land and

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7 Ibid., 67.
river valleys. There are some isolated broad valleys between the Mahabharat and Churiya Ranges.  

Physically, it is divided into three sub regions which are the Churiya Range, the Mahabharat Range and the Midland valleys. The Churiya Range lies south of the Mahabharat Range. As stated earlier, this range runs southeast from the Mahabharat Range, extends over the northern Terai Plain and returns to the Mahabharat Range again. It consists of gravels and pebbles. The maximum height reaches 1,200 m. The crest looks like a hog’s back since trees do not grow here. Dhillon says:

> The Churiya range which is also known as the foot hills of the Mahabharat range in Nepal and the Sivalik Hills in Punjab is not suitable for cultivation since the gravels and pebbles crumble as the surface of the hills is exposed to weather.  

The Mahabharat Range parallels the Himalayas to the south. Several transverse hills run north to south. They consist of some low and some high hills. Some high hills are over 3,000 m high and they are called the Mahabharat Lekh. The Lekhs are covered by snow during the winter months. These mountains are made of sedimentary rocks. Between the Mahabharat Range and the Himalayas are some tectonic valleys in which the country’s important administrative and trade centers lie. Among these valleys, the Kathmandu Valley is the largest one. Pokhara and Surkhet are other important valleys of this region.

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Altitude plays a significant role in the hill climate of Nepal. It is warm and rainy in the summer and cool and dry in the winter. The valleys are hot in summer but cool in the winter. The onshore monsoon causes a heavy amount of rainfall during summer. On the whole, the climate is healthy in the hills of Nepal.

The seasonal variation in rainfall and temperature determines the type of hill vegetation in Nepal. The trees are mostly deciduous in nature and include chestnut, alder, and walnut. The higher parts of the hills have some pine species. They have many branches and are relatively shorter than the trees in the Terai. Economically these are less valuable than those of the Terai. Firewood collection, timber, fodder for livestock and encroachment of arable land over forest have depleted the forest resources of the hills.

The Mountains (the Himalayas): - The Himalayas are in the northern part of the country. This region includes the land above 3,000m. The part above 4,600m is under perennial snow. They are the youngest fold mountains of the world. This region comprises approximately 27 percent of the total area of the country. On the basis of its physical features, this region is divided into three subregions: the Greater or the Main Himalayas, the Nepal-Tibet Border Himalayas and the Inner Himalayas. The Greater Himalayas run from northwest to southeast, south of the Nepal-Tibet Border Himalayas. Most of the world’s high mountain peaks are in this part of the Himalayas, including Mount Everest. The major ranges are Api and Saipal Himal, the Dhawalagiri Himal, Annapurna Himal, Langtang Himal, Mahalangur Himal, Singalila Himal and others. The Border Himalayas lie along the Nepal-Tibet border. They run from northwest to southeast and join the Greater Himalayas in western part of Ganesh Himal. Some
Important ranges of the Border Himalayas are Jaskar Himal, Kanti Himal, Gautam Himal, Gorakh Himal and Mustang Himal. Between the Greater Himalayas and the Nepal-Tibet Border Himalayas lie some small valleys on the banks of the rivers. These valleys are called the Inner-Himalayas. Since these valleys are on the leeward side of the Greater Himalayas, they are dry almost all year round. These valleys are major areas of settlement in the central Himalayas of Nepal. Some of these valleys are Dana, Lete, Jomsom, Marpha, Kobang, and Kagbeni. The major trekking route of the Annapurna Circuit passes through these valleys.

The mountains are cold all year round. The lower part, between 3,000 m and 3,600 m, is cool in summer and cold in winter which is the characteristics of the cool temperate climate. The part which lies between 3,600 m and 4,800 m is cold for the whole year and the climate is alpine. The part above 4,800 m is always below freezing. It has the characteristics of the tundra climate. In the lower part of the Himalayas, the cool climate fosters the coniferous forest. The trees have needle leaves. They yield softwood and are useful from an industrial point of view. Spruce, fir and pines are some important plant species. In the cold alpine region, the alpine grasses grow during the summer. When winter begins, these grasses dry. Above the snow-line, no plants can grow but the lichen and mosses. These are food for musk deer, mountain goats, and deer in the winter.

The Terai plain is hot, humid, and monotonous. Therefore, in terms of scenery, this region does not seem as important as the hills and mountains of Nepal. Those who want to watch wildlife like tigers, elephants, rhinoceros and crocodiles visit the Chitwan National Park. In the hills, the Kathmandu, and Pokhara valleys are important tourist
centers. Kathmandu is a historic city, and is popular for its arts and crafts whereas Pokhara is known for its natural beauty. Both the hills and the Himalayas are important for their natural scenery. Therefore, tourists from different parts of the world visit these areas every year. Nepal has opened only the Everest, Langtang and Annapurna-Dhawalagiri regions for tourists. In the Terai, although the Kosi Toppu, Janakpur, Bardiaya, Lumbini and Chitwan National Park are tourists centers, only a limited number of tourists visit the Chitwan National Parks. As said earlier, the hot and humid climate and monotonous landscape of the Terai plain do not attract tourists in large numbers.

2.2 Important Tourist Centers

There are more than thirty tourist centers in Nepal. Among them, some are very important but some are not. The important centers are Kathmandu, Pokhara, Tansen, Gorkha, Lumbini, Jomsom, Ghandruk, Rara Lake, Namchebazaar, Helambu, Patan, Bhaktapur, Lu-manthang, and the Royal Chitwan Tiger Tops (Meghaulii). Like the tourist centers, there are some important trekking routes in the hills and mountains of Nepal. They are the Jiri-Namche-Synboche Trekking Route, the Sundarijal-Langtang Trekking Route, the Annapurna Circuit Trekking Route, the Pokhara-Annapurna Base Camp Trekking Route, the Pokhara-Jomsom-Lo-manthang Trekking Route, and the Banglung-Dhorpatan-Rara Trekking Route. The Jiri-Synboche Trekking Route is in the Eastern Development Region, and Sundarijal-Langtang Trekking Route is in the Central Development Region. The Annapurna-Circuit, the Annapurna-Base-Camp Trekking here
Route, and Pokhara-Jomsom Trekking Route are in Western Development Region. The Dhawalagiri-Dhorpatan-Rara Trekking Route is in the Mid-Western Development Region of Nepal.
Map 3

Nepal

Important Tourist Centers

2.3 Number of Tourists (1984 - 1993) in Nepal

Every year, a large number of tourists visit Nepal from different parts of the world. Prior to 1950, Nepal had not opened her doors to foreigners. If anyone from the European countries wished to visit Nepal, he or she had to get permission from both the Nepalese and British India, which was actually a difficult task. When India got independence in 1947 from the United Kingdom and Nepal from the Ranas in 1954, she has formally opened her door to tourists. Due to the inaccessibility problem, a very limited number of tourists used to visit Nepal. As the time passed, the number of tourists increased. In the 1970s, there were only a few thousand tourists in Nepal. Figure 1 shows that in 1984, the number of tourists reached to 176,634, of which 149,920 arrived by air and 26,714 by land. In 1992, this number increased to 300,496 arrivals by air and 33,857 by land for a total of 334,353. Because of political turmoil, the number of tourists declined to 293,567 in 1993. Since then, the number of tourist has been on the rise again. On the whole, there has been a significant increase in the number of tourists in Nepal.

Nepal is a landlocked country and the majority of tourists arrive by air rather than by land (Figure 1). In 1993, 87 percent had come by air and only 13 percent by land. The Tribhuvan International Airport in Kathmandu is connected with Hong Kong, Bangkok, Delhi, Islamabad, Frankfurt, and Lasha by air routes. The Royal Nepal Airline, Indian Airlines, Bangladesh Biman, Thai Airline and Pakistan Airlines operate their services daily. In addition, domestic (internal) airline companies like The Royal Nepal Airline and Nepal Air Ways connect the important tourists centers of the hills, mountains and Terai with Kathmandu and Pokhara. Air services between Kathmandu and Lukla (in
the Everest region), Kathmandu and Megahulie (the Terai plain), and Pokhara and Jomsom (the Annapurna region) are busy during the whole winter season.

Tourists visit Nepal for various reasons such as business, conferences, pilgrimages, pleasure, trekking and mountaineering (Figure 2). The Himalayas are the major attraction for the tourists. The other important tourist attraction is the rich cultural heritage of Nepal. A vast majority of tourists visit Nepal for pleasure, trekking and mountaineering. In 1993, 58 percent of tourists had come for pleasure, and 24 percent had come specifically for trekking and mountaineering. A very limited number had come for other purposes such as business, conferences, or pilgrimage. The data show that the tourists visit Nepal for recreation. They spend their time by taking in the beautiful scenery and culture.
Figure 1: Tourist Arrivals in Nepal by Mode of Travel 1984-1993

Source: Statistical Yearbook of Nepal 1995
Figure 2: Reasons for Visiting Nepal 1993

Source: Statistical Yearbook of Nepal 1995
2.4 Advantages and Disadvantages of Tourism in Nepal

Advantages of tourism: - Tourism is an important source of foreign exchange in Nepal. Approximately 23 percent of the total foreign exchange comes from tourism. Similarly, it creates employment. Some people have become tourist guides, and porters. Tourist hotels have given jobs to many people. Many Nepalese people have an opportunity to become familiar with foreign culture through tourism. It has made Nepal known to the world.

Disadvantages of tourism: - Nepal is a country of food deficit, and every year, food aid comes to Nepal from other countries. The increasing number of tourists has intensified the food problem in the nation. Tourism has increased commodity prices, which has negative impacts on the lives of Nepalese people who live below the poverty line. Many young people are found to be involved in illegal activities. They use drugs and have become smugglers. Problems of environmental degradation in the hills and mountains of Nepal have been intensified by tourism. Trail erosion, deforestation, and pollution are some of the examples of this.
CHAPTER III

LITERATURE REVIEW AND RESEARCH QUESTIONS

3.1 Literature Review

Tourism has wide ranging impacts on social and economic conditions as well as the environmental conditions of a country. It can improve the standard of living in some communities while at the same time threatening traditional cultures. Tourism can also be instrumental in creating national parks and wilderness areas, preserving the natural environment. However, the increased demands tourists put on natural resources sometimes can threaten the very environment people come to visit.

In the context of Nepal, tourism is, on one hand, a major source of foreign exchange to the government, U.S.$61,090,000 in 1992,\(^\text{10}\) and is an important source of livelihood for some who live in the remote hills and mountains in Nepal. On the other hand, increased demand for fuel is prone to cause deforestation. In addition to this, young people, who imitate Western lifestyles, have created a tear in the traditional social fabric of the country. In this section, relevant articles, text books, and government documents have been reviewed. The ideas on the impact of tourism from different authors have been described in brief under three major topics: economic, social and environmental impacts.

of tourism. Based on these ideas, information, and the field observation of the study area, research questions for this study also have been raised.

3.1.1 Economic Impact of Tourism

There is probably no other activity which transacts so many sectors, levels and intersects as tourism. These will range from hotel industry to National Parks’ authorities, from tourist boards to government’s departments, and tour operators to conservationist organizations.¹¹

Tourism is the term given to the activity that occurs when tourists travel. This encompasses everything from the planning of the trip, the travel to the place, the stay itself, the return, and the reminiscences about it afterwards. It includes the activity the traveler undertakes as a part of the trip, the purchases made, and the interactions that occur between host and guest. In sum, it is all of activities and impacts that occur when visitors travel.¹²

Excerpts given above indicate the relationship of tourism to different economic activities in the society. Hotels (both small, large and luxury) national parks, government offices, and private organizations are associated with tourism. In fact, all these activities flourish in those places where people come to visit with the intention to enjoy the cultural and natural landscapes. When tourists visit different places, it gives the local people an opportunity to start new economic activities. Besides this, it creates employment opportunities, develops various tourist-based industries and in some cases helps to boost agriculture as well. It supports commercial activities and gives an opportunity to earn income.


The advent of modern means of transportation has made it possible for people to travel to distant places. Today, many people travel from place to place as tourists. According to Pearce, 275 million international tourists were recorded by the World Tourism Organization (WTO) in 1979. In the same year, tourism had become the second largest item of world trade after oil which signifies the importance of tourism in the world economy. Adele Hodgson has conducted a study on tourism. She has found tourism to be an important activity which earns cash without increasing the cost of services. She says that guests spend more in the hotels as services to high cash-generating businesses such as ethnic restaurants, same-day laundry service, chemists, cinemas, and sports facilities are made available there. The study describes tourism as a high yield industry in terms of direct cash earning from guests. The Australian economists Philip D. Adams and Brian R. Parmenter had studied the impact of tourism on the Australian economy. They had found that tourism had adversely affected some of the country’s industries like agriculture, forestry, fishing, mining, chemical, petroleum and coal products of the country. Some studies show the reverse relationship between agriculture and tourism. Robert W. McIntosh and Charles R. Goddner say:

In countries that primarily rely on a single industry, such as agriculture, the introduction of tourism has often led to a decrease in the agricultural base.

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of the country. Agriculture is an extremely low productivity industry in the developing countries. The price of such higher wages in the tourism industry draws people away from farming. Agricultural output declines as a result, just when the demand for food is increasing due to influx of tourists. This inflating pressure on food prices is further aggravated and can lead to considerable social upheaval.\textsuperscript{16}

The above statement describes the negative impact of tourism on the agricultural sector of a country. In Nepal, the impact of tourism on the national economy is quite remarkable. Harka Gurung has found positive effect of tourism on the traditional carpet industries of Nepal. He says:

It is one thing to live in tradition and another to view it from a distance; just as one may decry the disappearance of the horse drawn milk cart and yet enjoy the efficiency of modern milk vans. It is the compulsion of survival value in a fast changing world that erodes away traditional values. On other hand, it has been proved that tourism is a strong incentive for reviving lost art and culture. Indeed, the Nepalese and Tibetan handicrafts that had been languishing for lack of patronage during the Rana days of European culture fad, experienced a revival only after the influx of the tourist.\textsuperscript{17}

Today, both medium and small-scale carpet industries have flourished in Kathmandu, Pokhara and in the surrounding villages of these valleys due to the sole contribution of tourism. Carpet industries have become a major source of living for 63,120 people in the country.\textsuperscript{18}


Nepal had opened her door to foreigners in 1950. Soon after opening its border to foreigners, many tourists visited those newly opened places. In places where tourists were allowed to travel, the local people opened large and small hotels on the trekking routes to serve tourists and to earn a living. Tourism, therefore, seems beneficial to the people living in those remote areas of the hills and mountains of Nepal. In a study of tourism, Harka Gurung says:

Tibet has now opened its door to tourists and it is utterly irrelevant to restrict most of our northern border lands. These remote areas are very poor, without much agricultural resource, and should be opened to such economic benefits from tourism as are seen in Khumbu, Lower Mustang and Manang.¹⁹

Mustang, Manang and Khumbu lie in the Himalayan region of Nepal. The northern boundary of these districts are connected with Tibet. Some people of these districts are enjoying the economic benefits of tourism. They have opened hotels, and works as porters, cooks or guides. They earn their living from the tourist-based industries. Out of twelve districts connected with Tibet, only three have been opened to tourists. By opening the other districts to tourists, people of these places also can have an opportunity to enjoy the benefits of tourism as the people of Mustang, Manang and Khumbu have.

An interview taken with Lo-Gyalpo, the King of Lo-Manthang in Mustang depicts how he was impressed with the impact of tourism on the local economy of his village. Soon after the influx of tourists, villagers did not leave their village although it was a tradition to move down into the southern valleys in the winter. Instead, they have opened hotels to serve meals and lodging to tourists for their livelihood. The king seems happy

although the oldest statue of their monastery was stolen and sold to tourists. According to Myra Shackle, a total of seventy-seven trekking groups visited Lo during the period of March 1992 to early November 1992, with an average of 6.4 per day. Local people of Lo have established traditional inns, none of which meet the expected standards of the Western-style hotels. They sell Thankas, which are painted images of Lord Buddha, as well as carpets, rugs and metal castings. Although the Nepalese government has not legalized trade between local people and tourists, the laws are rarely enforced and tourism-based commerce thrives. The Annapurna Conservation Area Project (ACAP) has opened its office in Lo-Manthang to help local people in tourist based activities. In the words of Myra Shackley,

... a group of ten trekkers requires approximately ten to twelve porters plus ten mules and riding ponies in addition to staff. Assuming a rate of approximately Nepalese Rupees 250 per day for porters and an annual one thousand trekkers to Mustang staying for one week the total amount of cash paid by such groups for ponies and porters could well contribute nearly NR (Nepalese Rupees) 2 million per year directly into the Mustang economy. The terrain of Lo is favorable for riding, unlike some other Nepalese trekking routes such as Pokhara-Jomsom, and considerable potential exists for well-managed riding treks which would utilize Lo-Ba ponies and provide an excellent local income source. Additional revenue would be forthcoming from the provision of accommodations and/or campsites, purchase of goods or services and entrance fees/donations. Diversification of the Mustang economy into tourism will eventually replace the trading activities that are unlikely to be resumable in the present political climate.


James F. Fisher has studied the local benefit of tourism in the Sherpa community of Khumbu region in Nepal. In the study, he found tourism to be an important lucrative job in the Sherpa community of the Khumbu region. According to him, Sherpas have opened the trekking companies in Kathmandu and many of them have become Sardars (in charge of the Nepalese group), guides, porters and cooks. In a study of the impact of tourism on the Everest region of Nepal, Robinson and Twynam have found a good deal of change in the local economy after 1970. As mentioned by these scholars, the Sherpas were traditionally agropastoralists. They used to trade with Tibet. When the Chinese invaded Tibet in 1959, the trade between Sherpas and Tibet was totally abandoned. As the time went on and the Everest region was opened to the foreigners, the agropastoralist Sherpas became involved in tourist-based activities. They left their herding and farming activities. The young people were hired as porters, cooks and guides. Tourism proved to be an important and lucrative industry for the local people. The authors have mentioned that some hotels in Khumbu earn over $10,000 (Rs 600,000) per year whereas the gross national product per capita is only $202 per annum. Similarly, a kitchen boy earns over $25 (Rs1500) per month which is more than the salary of many government staff in Kathmandu. In the words of these authors, "over the past twenty-five years, due to an increasing dependency on tourism-generated income, the Khumbu has undergone a rapid

transformation from a subsistence agropastoralist economy to a cash economy. In his study of tourism in the Everest region, Stevens says that:

Tourism now links Khumbu with the global economy. Forty years of small scale international mountaineering and trekking tourism has made the majority of Khumbu Sherpas highly affluent by Nepalese standards without causing severe social fragmentation, serious cultural erosion, or massive environmental degradation.

The issues related to severe social fragmentation, cultural erosion, and massive environmental degradation are the subject of debate among different authors but the positive impact of tourism on the economic condition of the Sherpas in the Everest region is quite obvious. According to Vincanne Adams, “within thirty-nine of the fifty-four trekking and mountaineering agencies interviewed that were operating in 1987, ethnic Sherpas filled 45 percent of the cook positions, 86 percent of porter positions, and 89 percent of the Sardar positions.” In Kathmandu, the owners of Hotel Sherpa, Sherpa Trekking Company, and a number of hotels along the trekking route to Everest base camp are Sherpa’s proof of how important tourism is to the Sherpa economy.

Jug Suraiya had observed the problems of porters, guides, hotels and the travel companies when Nepal’s politics were in transition from a party less to a multi-party system. Because of political unrest and increased hazards of travel, the tourist number

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declined in Nepal in the early 1990s. The author said that the number of tourists in 1993 was less than that of 1992, which had a negative impact on the national economy of the country. Business was down in hotels and trekking companies, and the tourist guides and porters were out of jobs. It is obvious that tourists visit those places where they can safely and peacefully pass their time by observing natural and cultural attractions. They avoid visiting those places where life is dangerous. The tourist industry in destination localities depends on visitors from source regions. If no visitors from source regions visit the destination, tourist-based industries decline and the consequence is a downturn in the economy. In this context, McIntosh and Goddner refer to the economy of Hawaii. They say that "a 1 percent drop in the annual growth rate of tourist arrivals would have a significant economic impact on the island." Jug Suraiya has mentioned the problems of Indo-Nepal trade relations followed by a democratic movement in Nepal in the early 1990s as the cause of a reduction of tourists by 12.2 percent. The consequence of these events was a loss of jobs for tourist guides and porters, and business was down in hotels. There is no doubt that the lower number of tourists could have a severe negative economic effect in the present study area and could have a similar effect in the future.


3.1.2 Social Impact of Tourism

Culture differs from place to place as does the way of life. Actually, the way of life is shaped by the culture. Differences between the way of life in the Western and Asian cultures are the suitable examples in this context. In Nepal’s culture, although someone in the “untouchable” class may have a better economic situation than someone in the upper class, the two can never associate. Tourists are generally from affluent countries and their destinations are developing countries where they can see unusual physical as well as cultural landscapes. In this context, McIntosh and Goddner referring to the record of United States Travel Data Center say that:

Americans are prolific trekkers. On the average, each day of the year, the number of Americans traveling exceed the number of residents in New York City. According to the U.S. Travel Data Center, 14.8 million people per day are traveling on a trip that takes them 100 or more miles from home and requires an overnight stay.\(^{29}\)

The other example given by Jonathan Moore in this context is:

In 1988, countries in East Asia and the Pacific registered the arrival of 8.3 million Japanese travelers. By the year 2000, this number is expected to rise 17 to 19 million, making Japan by far the largest source of visitors.\(^{30}\)

These authors indicate Japan and the USA as a source region for tourists. Tourists from the European countries as well as USA visit Nepal every year. In 1992, there were 22,189 tourists from USA in Nepal. Since the European countries are also well developed, these countries should also be considered as source regions for tourists.


During the course of their journey, they meet different people and interact with them. The hosts try to satisfy their guests by providing the best services they can. The guests then enjoy their time by observing interesting physical and cultural phenomena on their way. In the course of their trip, the guests behave in their own way, as do the hosts receiving their guests. This process gives an opportunity for each to know the other’s way of life. Sometimes, they adopt aspects of the lifestyles of the other that interest them most.

Generally, the hosts are frequently in contact with their guests. Therefore, they know more about the lifestyle of their guests than the guests do to their hosts. The more the hosts are in contact with their guests, greater the opportunity they have to imitate and adopt the guests’ lifestyles. As the hosts adopt the lifestyle of their guests, their culture changes, becoming a potpourri of many different cultures. Such type of effect on an indigenous culture reflects the social impact of tourism. These impacts can be good as well as bad for a society. Drug abuse, prostitution, and sophisticated wants are a few examples of negative social impact. The up side of tourism can be seen in improvements to social and economic status, acculturation, bilingualism, preservation of ancient arts and crafts, and sanitation. The transformation from a resource-based economy to a service economy is another example of the positive impact of tourism.

Scholars have their own opinion on the negative and positive social impacts of tourism. In the cultural context, some scholars see tourism as a destructive force while others see it as a creative and positive force. Robert W. McIntosh and Charles R.
Goddner perceive tourism as a modifier of culture in the primitive and low income indigenous societies of developing countries. In their own words:

The presence of visitors in a country affects the living pattern of indigenous peoples. The way visitors conduct themselves and their personal relationship with citizens of the host country often have a profound effect on the mode of life and attitudes of local people. Probably, the most pronounced effects of this phenomenon are noted when visitors from North America or Western Europe travel in an emerging country that has a primitive culture or a culture characterized by a low (economic) standard of living and a sophisticated population.31

Generally, most of the scholars think that the impact of guests on the hosts is greater than the impact of hosts on the guests. In this context, the above statements given by McIntosh and Goddner fit well. In Nepal, many young boys are seen with long hair, wearing jeans with several patches on them is apparently imitation of Western lifestyle. To some extent, television and film are also responsible for changing the traditional lifestyle among the young in Nepal. McIntosh and Goddner further say that the tourists have their own culture and social system which they take wherever they go. Since the tourists have their own culture and stay only a short time in their destinations, they get little chance to imitate the social and cultural lifestyle of their hosts. Besides this, visitors from advanced countries are usually proud of their own culture and are not ready to adopt the cultural system of their hosts. In this connection, Walle cites the idea of Francis Parkman that:

On some occasions, such people (guests) feel they are superior to the indigenous people they meet. In an era when technical “progress” is often

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viewed as a yardstick of sophistication, it is understandable (although unfortunate) that many cultural tourists harbor such opinions.\textsuperscript{32}

This statement indicates that the guests are less susceptible to the traditional culture that they observe.

A study was conducted in twenty rural Colorado communities as a part of the University of Colorado’s ongoing Rural Recreation Development Project. It examined the peoples perceptions of tourism. The government had encouraged these local communities to move from their agro-base economy to a tourism base economy. According to the report, the local communities accepted the government plan as a means to improve the economic condition of their communities. But according the to survey, people realized that the development of tourism could have negative social impacts on local environmental and social conditions. The respondents associate the rising numbers of tourists with an increasing number of crimes, drug abuse, noise pollution, price increase and other pollution.\textsuperscript{33}

In a study “A Framework for Tourism Carrying Capacity Analysis,” Pitamber Sharma has explained some problems associated with the development of tourism in Nepal. He says that tourism can destroy the uniqueness of culture in some ethnic areas of Nepal. In his own words:


...over crowdedness, not only in terms of the impact on ecology, but also in a social sense, may be another important factor to be considered. In particularly unique cultural and ethnic areas, the uniqueness may be lost as a result of visitor overcrowding. Often the host population can be the better judge of visitor overcrowding and its impact on cultural systems.\textsuperscript{34}

He writes that the negative impact can be mitigated both by ensuring economic benefits to the concerned communities and by maintaining the authenticity of cultural traditions, rituals, crafts, and safeguarding valuable cultural artifacts.\textsuperscript{35}

Although the above scholars describe tourism as a modifier or a destroyer of traditional culture, some scholars disagree since tourism has a positive impact as well on traditional cultures. These scholars say that a mere discussion of negative impact alone cannot reveal the role of tourism in culture. Therefore, they argue that without detailed study on negative and positive impacts, it would be difficult to consider tourism as a destroyer of culture. Harka Gurung says that the present day scholars have not tried to understand the positive impact of tourism on indigenous culture, instead the negative impacts have been exaggerated. In the words of Gurung:

There is similarly a large lacuna in the study regarding the social and cultural impact of tourism. The new references extant believe conservatism and dramatized such themes as erosion of native culture, ecological deterioration, drug abuse, and intrusion of capitalism and inflation in remote areas. They relate to perception that views tourism as one way traffic. But mutual responses are inevitable in many interactions between tourists and hosts.\textsuperscript{36}

\textsuperscript{34}Pitamber Sharma, \textit{A Framework for Tourism Carrying Capacity Analysis}, (Kathmandu: International Center for Integrated Mountain Development, 1995), 11.

\textsuperscript{35}Ibid., 14.

\textsuperscript{36}Gurung, "Tourism Development in Nepal," 253.
This statement clearly refers to the scholars who have been exaggerating the negative impact of tourism without understanding the mutual responses between the hosts and guests. It is true in many cases that the hosts and guests are curious to know each other’s culture. Today, in Nepalese villages, people who are in frequent contact with the guests are curious to know more about their guests and their culture. They wish to speak the same languages that their guests use to speak. They use English to communicate with the guests. They wish to educate their children in a school where the medium of teaching is English. They keep their houses neat and clean, and wear Western clothes.

A study of the impact of tourism in the Everest region of Nepal was carried out by Robinson and Twynam. The study outlined social, economic and environmental impacts of tourism. The report says that the Sherpas in the Everest region used to grow crops and raise cattle prior to the advent of tourism. At present many of them have opened hotels and lodges. They hire people from other areas to cultivate their fields. In the cold winter, the elderly, females, and children used to remain in their original villages, and the young and adults used to migrate to the valleys in the south. Today, they do not leave their villages in the winter. Instead, they live there receiving the guests in their hotels and lodges. A majority of the people wear Western-style clothing, and men are absent from their home in the peak tourist season, while the women and elderly remain at home. Since the males are absent in the village for a long period of time during the year, birth rates
have declined.\textsuperscript{37} All these changes in the Sherpa community of the Everest region affect that tourism socially impacts this region.

Stanley F. Steven had carried out research on the impact of tourism in the Mt. Everest region of Nepal. He discovered significant change in socioeconomic patterns that accompanied the advent of tourism. He observed, for instance, that the importance of the “Mani Rendu” festival has changed at Thangboche. It was observed in a very simple way by the Sherpas before the advent of tourism in Nepal. But at present, it is celebrated in a very lavish way. Local people spend a lot on food, drinks and clothes on the occasion of this festival. He says:

\ldots tourism undoubtedly had other effect on local culture, values, attitudes and behaviors that are more subtle and more difficult to evaluate. These include the commercialization of art and changing attitudes and hospitality towards foreigners.\textsuperscript{38}

The Sherpas in the Everest region are under frequent contact with tourists. They have improved their economic condition through tourist-based industries that have ultimately affected their social way of life. They have seen how their guests behave towards each other. Many of them wear foreign clothes, try to speak English, shake hands and behave like foreigners do among themselves. Speaking frankly and politely, they receive, and accommodate their guests in their lodges. They sell thankas (typical Tibetan arts), carpets, and provide different types of services.


\textsuperscript{38} Stanley F. Steven, “Tourism, Change, and Continuity in the Mount Everest Region, Nepal,” 425.
The history of tourism in the Annapurna Region began only after 1956 when Col. James O.M. Robert traveled to the Machhapuchray Base Camp with some local people from Chomrung. According to Swift, the Annapurna Sanctuary was a place of gods and goddesses for local people (Ghandruk and Chomrung). Since the cow was regarded as an image of the goddess of wealth and beef was a Western food, the local people perceived beef-eating Westerners as unholy people who would contaminate the place of their gods and goddesses. In Nepal, there are still some shrines where Westerners are strictly prohibited from traveling, such as Pasupatinath in the capital city Kathmandu.

Col. O.M. Robert was assigned to reconnoiter that area for a forthcoming mountain expedition. He went to Chomrung and asked the local people for help. His request at first was turned down. He again requested the people who were once in his regiment for help. This time they accepted, though unwillingly. As a result, he became the first foreigner to travel to the sanctuary. The shortest trekking route to this base camp passes through the present study area. Ghandruk and Chomrung are both very important tourist destinations in this region. This region is famous for the Himalayan ranges and hills with its lacustrine and river valleys.

During the 1960s, Toni Hagen, a Swedish geographer traveled different parts of Nepal. He described this region as the midland (hinterland) and the heart of the country protected in the south by the Mahabharat Lekh and in the north by the loftiest high

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Himalayas. Offering some commentary on the social and cultural condition of the Annapurna Region, he described the inhabitants as poor with economies based on primitive farming. P.P Karan describes the physical geography of the area, calling it the Lesser Himalayas. In his own words, "The middle ranges (or Lesser Himalaya) consist of higher mountains (5000' - 15,000') cut into deep ravines and precipitous defiles." Armington has also traveled the trekking areas of Nepal and collected data from different places in his journey. He has published these facts to help the travelers in Nepal. According to Armington, the hotels range from bamboo huts to modern buildings in the hills and mountains of Nepal, and in some places, the same room is shared by the hosts and the guests. These writers give an idea of how the socioeconomic condition of local people has been affected by tourism.

Galen Rowell visited the Annapurna Sanctuary in 1977 and 1987. In his first visit, he saw the trekking route to Base Camp full of litter discarded by the trekkers and mountaineers. In his second visit to the Base Camp, he found the trekking route relatively clean. While he was on his way to Chomrung, he saw sign proclaiming "Clean up 1987." As he proceeded, he saw two groups of people, one from Ghandruk and Chomrung villages and the other from the office of the Annapurna Conservation Area


41 Ibid., 46.


This shows an important shift from the attitudes shown to Col. O.M. Roberts in 1956. Those groups who had once sought to keep foreigners from the Annapurna Sanctuary saw the benefits of tourism and instead began promoting travel to the region by cleaning the trails and providing food and lodging.

Dibya Gurung has studied the impact of tourism on the socioeconomic life of women in Dhampus village. Prior to tourism, all males and females from this village used to grow crops in the field. They had to collect firewood and fodder from the forest. Apart from this, females had to bring drinking water from the springs for the family. They were responsible for preparing meals and grinding the grains for food. They were not allowed to wear those clothes which were used by Westerners. In the study, Dibya found some remarkable changes among those women who have opened hotels on the trekking route. She says that the women are the owners of the hotels, and they go to plant rice in the summer rainy season for only one to two weeks. They feel it is enjoyable to meet other women and chat with them while working in the field together. Generally, Nepalese women do all the household chores for the family, and go to the field with their husband for the farm work. But this is not the case among those households which have opened hotels and lodges along the trekking route. From the same report, a respondent's reaction to her clothes has been quoted as:


It has been many years since I started wearing gowns and salwarkurthas. I feel more comfortable and like wearing these dresses. These days the elderly men are so used to seeing us in these dresses that they never complain. Why should they complain either? We have earned the money ourselves and it is our wish to do as we please. Of course, one should respect society too and not dress outrageously."

This excerpt shows how women have been affected by the tourism in the traditional society of the mountains in Nepal. Females were once suppressed by the males in this village. Soon after the opening of the trekking route, the women began businesses that enabled them to free themselves from the domination of the males. It is one important social change that has emerged due to the tourism in the hills and mountains of Nepal.

3.1.3 Environmental Impact of Tourism

Many scholars are aware of the negative impact of tourism on the physical environment of a place or a region. Basically, increasing numbers of tourists raise the number of hotels as well as the number of other activities like shops and guides. In a country like Nepal where access to technology is limited, for instance, to the production and utilization of hydroelectric power, firewood is a major source of energy for heating houses and preparing meals for families and guests. As the number of guests increases, the number of hotels increases and so does the firewood consumption, which affects the forest eventually resulting in environmental degradation. Similarly, larger numbers of tourists cause trail erosion, water and air pollution. The Mt. Everest region of Nepal has been affected by the litter discarded by the mountaineers and trekkers. The same problems are common wherever trekking routes extend in the Annapurna Region of

46 Ibid., 32.
Nepal. Today, some scholars argue that tourism is the cause of environmental degradation in different parts of the world. Jonathan Moore has mentioned the environmental problems that could take place in Asia due to an increasing number of tourists each year. He says:

Asia’s travel and tourism industry is predicted to continue its fast growth throughout the 1990s, but it faces daunting challenges stemming from its own success, inadequate airports, shortages of hotel rooms, and in many of the region’s capitals, pollution and traffic snarl ups will be the main problems to be tackled.47

Kathmandu, the capital city of Nepal has serious air and water pollution problems. This is typically the first place tourists come when they visit Nepal. The crowded streets of Kathmandu are always occupied by tourists. Carpet factories in the valley have emerged in response to the great demand for carpets. Jean Tallantire has made a study on tourism and its effect on the environment. He found that adventure tourism is directed towards remote areas of the world. Mostly, it is directed towards the less developed countries where fragile economic and environmental conditions are easily affected by tourism. He gives an example of the Annapurna Region where trekkers gather nine months out of the year. He says, “predictably, the problems of erosion, forest clearance, denudation of natural vegetation, river pollution and mountain litter have had a deleterious effect on the Annapurna Region.”48 While this statement may broadly apply to the Annapurna Region, the efforts of the Annapurna Conservation Area Project

47 Moore, “Asia’s Booming Travel Trade Faces Challenges,” 42.

(ACAP) have reduced the impact of tourism, creating a more sustainable environment in some areas. However, as the present study area lies outside the ACAP boundaries, there are more serious environmental problems.

The present study area, the Dhampus-Pothana trekking route lies in the Annapurna Region. The trekking trail passes through the dense forest on the crest of the ridge where local people have established hotels. The dense forest with a beautiful view of the Annapurna Range in north of the Pokhara valley has made this area the most important place in terms of scenery. Firewood is collected free of cost from this forest by the innkeepers and villagers. Kerosene is expensive and difficult to transport so it is used generally in oil lamps to light the house. Sometimes, kerosene is used to prepare meals when a small number (one to three) of guests appear unexpectedly. Besides this, there is no power to use electric oven to cook meals. Trees have been felled from the forests along the trekking route to provide timber to build houses. Today, the narrow trail on the ridge is crowded by tourists and the result is trail erosion. All these factors are responsible for deteriorating the environmental condition of this place. Brain Goodall says:

Tourists are consumers of environment, and tourism is, therefore, an environment dependent industry reflecting the availability and quality of its primary and direct resource base, i.e., the physical environment (including both natural and built heritage elements).49

This statement says that tourism flourishes when the quality of environment is good. Therefore, environmental quality should be protected for the development of tourism, and at the same time it is essential to protect the environment from destructive forces as well. The research of Stanley F. Stevens in the Everest region of Nepal describes the demand for firewood by the tourist hotels. It is quite obvious that the amount of firewood used in the hotels is more than the firewood used in a house for cooking purposes. According to Stanley:

Trekking and mountaineering tourism have also influenced regional forest use. Tourism demand for fuel wood has been especially significant . . . A lodge can use up to four times as much fuel wood a day as does a Sherpa household.  

Alan Macfarlane has conducted a study on firewood consumption patterns of people in the Gurung village of Bijayapur which lies in the Annapurna Region of Nepal. He says that firewood is collected and stored for the summer monsoon season. Wood is also used for the framework of the houses, and is used to make some tools like hoes, ploughs, and baskets (bamboo). A resource person of the village told him that the distance to the forest was five minutes from the village in his time but is now three hours. The author says that the people from the village go to the forest early in the morning and return to the village in the evening with a bundle (approximately 35 kg) of firewood or fodder. The present study area also has a similar type of situation. Some members of


the family go to the forest in the morning (usually at 9:00 a.m.) for fodder or firewood collection and return home in the evening (around 5:00 p.m.).

David N. Zurich has conducted a study on tourism. He has described the traveling routes from the Terai plain to the Himalayas. He has traveled different parts of the world as well. On the basis of his observation, he has mentioned some environmental problems of these places associated with tourism. He says:

...negative environmental impacts of tourism commonly noted worldwide include litter and vandalism, trail erosion, habitat change, water pollution, poaching, loss of endangered plants and animal species, and resource depletion.\textsuperscript{52}

He has mentioned that the Annapurna Region is one of the important destinations for the tourists. David A. Messerschmidt has studied the community forest property of the upper Kali Gandaki region in Nepal. This area is located in the adjoining part of the Annapurna trekking region in Nepal. He has mentioned population growth, tourism and massive development activities as causes of deforestation in the Upper Kali Gandaki Valley of Nepal. In his own words:

In some (if not all) locales, the negative effects of exploitative behavior have been compounded by at least three other simultaneous events or circumstances. One is Nepal’s rapidly rising population, which places increasing pressure on the natural resource base. Another is the dramatic increase in tourism, especially since the 1970s; the demands that trekkers (and local entrepreneurs’ catering serve). The third came in the massive

\textsuperscript{52} Zurich, “Adventure and Sustainable Tourism in the Peripheral Economy of Nepal,” 913.
development aid beginning in the 1960s; much development is aimed at
the rural villages.\textsuperscript{53}

A study made by Shrestha on tourism and environmental problems in Nepal
indicates the use of porters, Sardars and guides on the trip to the Himalayas. They take
very limited amounts of kerosene to prepare meals on stoves for the tourists. The porters
cook their food on scattered chulos (fire places) and keep warm themselves by sitting and
lying by the "chulos" at night. In addition, Shrestha says that the hotels and restaurants
along the trekking routes use a lot of firewood to prepare meal and heat the home. In the
words of Shrestha:

The scenario of an organized trekkers' camp in a wilderness area consists
of a small kitchen with a few kerosene stoves and a large number of
"chulos" scattered here and there. If the camp happens to be at altitudes
higher than 3,000 m, a few camp fires will be let to keep the ill-clothed
porters warm. Some Sahibs\textsuperscript{*}\textsuperscript{54} will than hang around the fireplace. In
parts of high Himalayan valleys, trekking camps are largely determined by
availability of free forest firewood for the armies of porters.
... popular trek areas, such as the Annapurna Deothali sanctuary, Langtang,
and the Everest region, have developed district corridors of tourist
movement. They are characterized by chains of tea houses, hotels, and
lodges. There have been no assessments of energy requirements for these
installations. Over 90 percent of those tea shops, lodges, and hotels are
dependant on forest resources. Therefore, there have been significant
visual changes in the vegetation of these sites. One of the often quoted
cases is that of Goraypani Lekh on the Jomsom trail.\textsuperscript{55}

\textsuperscript{53} David A. Messerschmidt, "People and Resources in Nepal: Customary
Resource Management System of the Upper Kali Gandaki," in Proceedings of the
Conference on Common Property Resource Management by Panel of Common Property

\textsuperscript{54} Sahib* refers to a person of great fame in Nepal.

\textsuperscript{55} Tirtha Shrestha, Mountain Tourism and Environment in Nepal. (Kathmandu:
International Center for Integrated Mountain Development, 1995), 16.
In this connection, Sue Thompson transcribes the statement given by Nar Bahadur Pun, the lodge committee chairman at Ghoraypani. In the words of Pun:

We like the ACAP (Annapurna Conservation Area Project) programme. Before ACAP, we cut down many trees. When I came here twenty years ago, there were trees all around. Surveying the hillsides, I found this impossible to imagine. Fifteen years ago, trees were still in abundance only a 15-20 minute walk from Ghandruk: now villagers have to walk one to two hours to gather wood.56

Ghoraypani and Ghandruk are popular tourist centers. In these places, the distance between the forest and enclave is increasing although ACAP is doing its best effort to save the forest.

Some scholars are concerned with environmental degradation of the fragile mountains of Nepal. They think that the tourism and population pressure on forests are prone to cause environmental problems in the young fold mountains of Nepal. In the words of Peter B. Stone:

Forest resources in the vicinity of the tourist centers have been quickly destroyed. Pollution and littering have started even at the glacial sources of rivers. It is estimated that about fifty tons of garbage is spread over and around the Mount Everest area. Not with standing the appreciable environmental damage caused by the various activities which generate economic growth but which have caused special hardships to the poor, their economic returns are very skewed.57

A similar type of argument is given by John Gerrard. He says that:

In developing countries, pressure on land in the lowlands is leading to encroachment on increasingly marginal land in the uplands and mountains.

56 Sue Thompson, “Trekking to Save the Tree Line,” Geographical Magazine, August 1992, 32.

But tourism pressure is also becoming a problem in such areas. Thus, between the early 1970s and 1980s the annual number of tourists visiting Nepal’s Khumbu region rose from a few hundred to several thousand (Pawson et al., 1984). Damage to the region’s already denuded forests has only been avoided by requiring visitors to import their own fuel for cooking purposes. In general, land degradation, soil erosion and landsliding have increased and hazards, of one form or another, have become a major focus of study.  

3.1.4 Conclusion

These studies point to the positive economic impact of tourism at tourist destinations. Local people are able to provide their services to their guests and in turn they earn hard cash from the tourists, which is more than the amount of money they earn from their traditional economic activities like farming. But there are conflicting ideas about the social impact of tourism, including a body of work that shows negative impacts like erosion of traditional culture, arts and crafts, and social perversions at tourist destinations. But some studies prove the positive impact of tourism through the preservation of ancient art and craft along with improvements in social lifestyle. Revival of the carpet industry in Nepal after the advent of tourism is one example in this context. Most scholars are concerned with the negative impact of tourism on the natural environment, especially, in the fragile landscapes of the developing countries that tourist frequent. Nepal is one of these tourist destinations where its natural beauty attracts a large number of tourists every year. B.P. Shrestha says:

Nepal is often described as “peerless Nepal -- a Naturalist’s paradise” and a “Tourist Heaven.” It has already been a center of international

mountaineering and expedition. Since 1951, Nepal has been well known to the outside world.\(^5\)

The Annapurna Region and the Mount Everest Region are important destinations for tourists in Nepal. The present study area lies in the Annapurna Region. Although the study area is a part of the Annapurna Region, it is not included within the Annapurna Conservation Project Area. Therefore, it is deprived of all the privileges that the ACAP has given such places as Ghandruk and Chmorung villages. In Ghandruk, the local mini hydroelectric project provides power to prepare the meals and heat the houses. Kerosene is supplied for oil lamps in the hotels, lodges, and tea stalls at discount rate. Such types of privileges have helped the residents to use less firewood in meal preparation and heating house.

Because there is no outside assistance from such organizations as ACAP on the Dhampus-Pothana Ridge, it is an ideal laboratory to study the impacts of tourism. Without kerosene, firewood from the forest is the major source of fuel. The forests also provide timber for house construction. People there have not had formal English language learning opportunities, yet English is the medium of communication with their guests. Once farming was the principal source of livelihood for the people. Now, after the opening of the trekking route, the local people have opened hostels. But the actual social, economic, and environmental impact of tourism is not known. To more fully understand the nature of the impacts and formulate the relevant questions for the study.

the author has observed the present study area and reviewed the relevant literature on the impact of tourism.

3.2 Research Questions

The literature indicates both positive and negative impacts of tourism on the social, economic, and environmental conditions at local, regional, and national levels. In Nepal, these impacts are highly visible in the areas frequented by tourists. There are many indicators of these impacts on these Nepalese communities. Two of the most noticeable are the establishment of tourist hotels and the collection of firewood from the forests. Other impacts include shifting agricultural patterns, a changing occupational structure, as well as an increased use of English among the hotel keepers. While the villagers have experienced an elevated standard of living through tourism, there have been significant social and environmental costs.

One of the objectives of this study is to explore whether hotels are a new source of income for the households along the Dhampus-Pothana trekking route. Prior to the opening of the trekking route, farming was the principal source of income for the households in the study area. After opening the trekking route, some households seized the opportunity to establish a hotel. This is a new economic activity for the present study area and it is difficult to say whether the hotel industry is a major income generator for

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60 In this case tourist hotels are defined as the businesses operated by villages for the travelers using the Dhampus-Pothana Ridge trekking route. The services provided are very basic by Western standards, but include simple lodging and meals.
the households. With this research, I will identify the extent to which the hotel industry is a source of income for households along the trekking route.

The second objective is to explore the changing occupational structure, depicting the people involved in different economic and social activities of the Dhampus-Pothana Ridge community. Except the children and elderly, all the people were farmers prior to opening of hotels in the present study area. With the opening of hotels, occupations likely have shifted from farming to service occupations. By using survey data we can determine the occupational structure and identify the extent to which significant change in occupations has occurred.

The third objective is to explore changing agricultural patterns along the trekking route. People who have opened the hotels on the trekking route had lived in the nearby villages of the trekking route on Dhampus-Pothana Ridge. They were farmers and used to grow crops like rice, wheat, corn, potatoes and some vegetables. Tourism gave them an opportunity to start new businesses such as hotels and restaurants, and this may have affected the patterns of agricultural production. I will explore the degree to which changes in these patterns of production have occurred.

The fourth objective is to examine changing fuel consumption patterns on the Dhampus-Pothana Ridge. Deforestation causes environmental degradation in mountain regions. The present study area lies in the high hills of Nepal. It was once under dense forest with no trekking activities through the mountain ridge to the Annapurna Base Camp. At present, forty-three households have opened hotels and are serving a number of tourists during the fall, winter, and spring seasons of the year. Since the establishment
of the trekking route, demand for fuel likely increased. I will refer for responses from the survey to identify how the time needed to collect firewood has changed since the opening of the trekking route. Increasing time likely indicates that firewood from nearby stands have largely been depleted.
CHAPTER IV
RESULTS OF THE STUDY

4.1 Tourist Hotels as a New Income Generator on the Dhampus-Pothana Trekking Route

4.1.1 Introduction

Hotels provide meals and shelter to guests, and in turn guests pay for meals and lodging. The success of a hotel depends on the income generated by these two activities.

As mentioned in Chapter III by Douglas Pearce, Philip D. Adams, Harka Gurung and others, tourism has been found to be an excellent source of income. The Annapurna Region is one of the tourist destinations in Nepal and tourists access this region by way of the Dhampus-Pothana Trekking Route. Due to this, hotels are being constructed by local people along this route. No people lived on this ridge prior to 1970. Field observations have shown annual increases in the numbers of hotels. Hotels are generally family-run businesses. The families own the buildings and family members do all the work. Two hotels are foreign-owned and locally operated joint ventures. This section discusses how the hotel industry has created an opportunity to generate income along the trekking route.

4.1.2 Establishment of Hotels (households) along the Trekking Route

All together, there are forty-three households along the trekking route. Prior to 1970, these people lived in nearby villages, and farming was their major occupation. Some households saw the opportunity for the hotel business when they saw visitors using
this route to the Annapurna Base Camp. Gradually, some of these households left their villages, and established hotels in Deorali, Pothana, Thulakharka, Tolka, and Landruk, and began providing restaurant and lodging services to the guests. The first hotel was established some time between 1971 and 1975. Between 1976 and 1980, two more hotels were established. Between 1981 and 1985, ten more hotels were started. Eleven hotels were added in the period from 1986 to 1990. But the greatest increase happened between 1991 and 1995 when nineteen hotels sprang up beside the trail to Annapurna. Such trends indicate that tourism is a major force attracting villagers to the trekking route for better economic prospects.

4.1.3 Hotel Capacity and Seasonal Use of Hotels along the Trekking Route

The total number of rooms and beds indicates the number of guests that the hotels along the trekking route can accommodate per day. It also gives an idea of the average hotel size along the route. There are 301 bedrooms and 646 beds in 43 hotels (see Table 1). The average hotel has seven rooms and fifteen beds. These hotels accommodate approximately 371 guests per day which means there are approximately nine guests per hotel on an average day. The number of guests is generally lower than the number of beds, meaning that the hotels are not operating at full capacity. On a yearly average, hotels along the trekking route operate at 57 percent capacity.
Table 1
Bedrooms, Beds, and Guests
(per place and hotel)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Rooms Per Place</th>
<th>Beds Per Place</th>
<th>Guests per Day Per Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>56</td>
<td>131</td>
<td>72.25</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>16</td>
<td>32</td>
<td>17.75</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>89</td>
<td>194</td>
<td>109.00</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>53</td>
<td>109</td>
<td>65.00</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>87</td>
<td>180</td>
<td>106.75</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>301</td>
<td>646</td>
<td>370.75</td>
</tr>
</tbody>
</table>

*Hot* = Hotel

Looking only at the average daily number of tourists gives an incomplete picture of the seasonal flow of travelers along the trekking route. During the summer, very few tourists visit Nepal and the consequence is a limited number of guests in the hotels along the route. A larger number of tourists visit during the fall, winter, and spring seasons. On the Dhampus-Pothana trekking route, this seasonal variation of trekkers reflects the flux of tourists visiting Nepal.

The major geographical factor behind this phenomena is the effect of the monsoon climate. The summer lasts for three months, May to July. The days are very hot and dry during May, and hot and wet during June and July. It is strenuous to walk in the valleys and mountains. Torrents wash out the trekking routes and destroy bridges over the rivers. Floods and landslides are common everywhere en route. Leaches are the problem of the hills, while mosquitoes rule the valleys. The Himalayas frequently hide behind layers of clouds. The fall lasts from August to October. During this period, the days are warm and
dry. The sky is clear and the spectacular Himalayas are visible. The winter begins in November and lasts until the end of January. The mountains are cold and dry and so are the valleys and hills. Although the winter cyclones forms thick layers of clouds over the mountains, they do not last more than three or four days. Generally, the weather is cold in the Himalayas but cool and pleasant in the hills. The spring lasts from February to April. The days are warm and dry during this period. The weather is pleasant in the hills and mountains. There is no rain, and therefore there are neither floods nor landslides. Fall through spring is the tourist season in Nepal, and trekking routes and hotels are crowded. Very limited numbers of tourists visit Nepal during the summer and this is largely a result of poor weather.

The hotels accommodate the largest number of guests during the fall, followed by spring, and then, winter. Table 2 shows that the number of guests per day is 535 in the fall, 479 in the spring, and 452 in the winter. On an average summer day, only seventeen guests stay in the hotels along the trekking route. In terms of percentages, the hotels receive approximately 36 percent of their guests in the fall, 32 percent in the spring, and 30 percent in the winter. They receive only 1.15 percent of their guests in the summer, confirming that summer is a slack season.

The number of guests staying each day corresponds to the number of beds in use. The larger number of tourists during the fall, winter and spring days indicates that the hotels operate at a high level of capacity during these seasons. The lower number of tourists during the summer indicates less business. On a summer day, when seventeen beds are occupied by trekkers, the hotels operate at 2.63 percent of their capacity. On a
fall day, 535 beds occupied indicates operation at 82 percent of capacity. In the spring and winter, 74 percent and 70 percent of the beds earn the bed charge. The following discussion on monetary values gives an idea of the amount of money that the hotels generate from bed charges through the year.

Table 2
Guests by Season
(per day and percent of annual guests)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Summer Daily</th>
<th>Summer Percent</th>
<th>Fall Daily</th>
<th>Fall Percent</th>
<th>Winter Daily</th>
<th>Winter Percent</th>
<th>Spring Daily</th>
<th>Spring Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>4</td>
<td>1%</td>
<td>104</td>
<td>36%</td>
<td>89</td>
<td>31%</td>
<td>92</td>
<td>32%</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>0</td>
<td>0%</td>
<td>28</td>
<td>39%</td>
<td>23</td>
<td>32%</td>
<td>20</td>
<td>28%</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>5</td>
<td>1%</td>
<td>157</td>
<td>36%</td>
<td>130</td>
<td>30%</td>
<td>144</td>
<td>33%</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>3</td>
<td>1%</td>
<td>91</td>
<td>35%</td>
<td>82</td>
<td>32%</td>
<td>84</td>
<td>32%</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>5</td>
<td>1%</td>
<td>155</td>
<td>36%</td>
<td>128</td>
<td>30%</td>
<td>139</td>
<td>33%</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>17</td>
<td>1%</td>
<td>535</td>
<td>36%</td>
<td>452</td>
<td>30%</td>
<td>479</td>
<td>32%</td>
</tr>
</tbody>
</table>

4.1.4 Revenue Generated from the Bed Charge in the Hotels

As mentioned earlier, the bed charge is an important source of revenue for the households in the present study area. The bed charges earned by two joint-venture hotels is separated in this study from the income earned by locally owned hotels for two reasons. The first is that the bed charge for the joint venture hotels, Rs 266.88 per bed, is ten times more than the bed charge rate of locally owned hotels. The second reason for separating the bed charge income is that tourists pay the bed charges for the joint venture hotels in
advance to foreign businesses, while the local operators are paid a salary. They, therefore, do not generate benefits in the local economy as locally owned hotels do.

On an average day, a local hotel earns Rs 203 in bed charges (Table 3). The average bed charge in Pothana and Thulakharka falls below the overall average of the study area, while the average of the other places is higher. One reason for the lower average income in these two places is the lower quality of the hotels. Besides this, Thulakharka lies a five to ten minute walk away from the major trekking route. As the volume of tourists depends on seasonal weather variation, so do daily revenues from bed charges. The daily revenues from bed charges for all hotels in the communities along the trekking route is Rs 8,312 (see Table 3). This amount varies from season to season. In the summer, the local hotels bring in only Rs 342 per day from bed charges. But in the fall, these hotels generate Rs 12,089 per day. On a winter and spring day, they make Rs 10,089 and Rs 10,717 from the bed charge.

Prior to the trekking route, all the hotel operators were farmers. They could subsist growing their own food. But to purchase such necessities as salt and clothes, they needed cash income. To earn this money, family members would often leave their villages for jobs in other countries. In areas yet untouched by tourism, this tradition continues today in Nepal. However, in areas like the Dhampus-Pothana Ridge, former farmers can now earn the cash without going abroad. Traditional subsistence farming does not generate cash revenues, so in such a society Rs 203 revenue per day is a considerable amount of money for a household. Working from dawn to dusk, a laborer can earn approximately Rs 30 or 50 per day for his family. Jobs in government and
nongovernment offices are not available. Pokhara, being a small and distant place, is not a viable option for employment. Since the local farmers do their work on their own, they do not hire others. Clearly, through the hotel industry, substantial revenues are generated in the region and for each household. One needs to keep in mind, however, that the hotel owners invest a large amount of money when building the hotels. Cement, sinks, bath tubs, hoses, mattress, cotton shawls, beds, furniture, utensils and builders are all imported from Pokhara. Mules transport sand from the river Seti (about 12 hours away from Pothana), which is expensive.

Table 3

Revenue (in Rupees) per Day from Bed Charges
(annual and by season)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Average Revenue Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Annual Per Hotel</td>
</tr>
<tr>
<td>Deorali*</td>
<td>6</td>
<td>225</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>133</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>194</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>205</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>211</td>
</tr>
<tr>
<td>ROUTE</td>
<td>41</td>
<td>203</td>
</tr>
</tbody>
</table>

*excluding two joint-venture hotels

4.1.5 Total Expenditure and Revenue Analysis for Meals

Most of the food stuffs which the hotels use to prepare meals (lunch, breakfast, and dinner) for their guests are imported from the Terai plain and India by trucks to
Pokhara. Products supplied by the Terai plain are rice, wheat, potatoes, cooking oil, cauliflower, cabbages, peas, pineapples, bananas, and lentils. India supplies eggs, oranges, apples, flour, and spices to Pokhara, and porters carry them to the hotels along the Dhampus-Pothana trekking route. Most of the canned food, alcohol, beer, soft drinks, jam, butter, peanuts, milk, and juice are supplied to Pokhara from different Indian industrial towns. Sometimes, the hotel owners send the local porters to Pokhara to carry these products to their hotels. Since most of the food stuffs are imported to the hotels from distant places, these stuffs as well as meals made from them are expensive. Local people cannot afford these foods. Therefore, only guests (tourists) eat these meals. Family members work together in the hotel and they do not get paid for their work. Instead, the head of the household collects all cash and uses the same wherever necessary for the family members.

The average hotel spends Rs 90 per lunch or dinner on ingredients (see Table 4). However, expenditures vary from place to place due to different geographical reasons. Hotels in Deorali spend the highest (Rs 121) average amount per dinner on ingredients. Similarly, the average expenditure per dinner in Thulakharka and Pothana exceeds the overall average dinner expense along the whole trekking route. In Tolka and Landruk, however, hotels spend less than average on ingredients per dinner. At Rs 31, the average outlays for breakfast are lower than outlays for lunch or dinner and they also vary by locality.

Revenues also vary from place to place. An average hotel on the route charges Rs 140 per dinner. Hotels in Deorali charge Rs 181 per dinner while hotels in Pothana,
Landruk, Thulakharka and Tolka charge their guests Rs 136, Rs 132, Rs 130, and Rs 124 per dinner respectively.

Table 4
Expenditure and Revenue per Meal
(daily average in Rupees)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Expenditure Per Meal</th>
<th>Revenue Per Meal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Breakfast</td>
<td>Lunch or Dinner</td>
</tr>
<tr>
<td>Deorali</td>
<td>8</td>
<td>63</td>
<td>121</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>35</td>
<td>95</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>26</td>
<td>94</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>21</td>
<td>77</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>20</td>
<td>73</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>31</td>
<td>90</td>
</tr>
</tbody>
</table>

The hotels charge Rs 66 per breakfast. Like the average price per dinner, it also varies from place to place ranging from Rs 54 to Rs 100 per breakfast. Variation on revenue per meal is due to various reasons. However, the quality of the hotel and the desirability of location are two important factors to determine the revenue per meal along the trekking route.

On an average day, each hotel spends approximately Rs 1,849 to prepare meals for their guests (see Figure 3). However, this amount varies per hotel from place to place. In Deorali, an average hotel spends approximately Rs 2,846 per day. Similarly, an average hotel in Thulakharka spends Rs 1,997 per day. In Pothana, Landruk, and Tolka, each hotel spends approximately Rs 1,811, Rs 1,478, and Rs 1,437 respectively per day on
meals. These figures show that the expenditure on meals is the highest in Deorali followed by the hotels of other places. Deorali hotels are better than the hotels in other places, which attracts a higher number of tourists. Also, the two joint-venture hotels in Deorali are able to charge a high meal price, thus increasing the average household revenue.

On average, each hotel has received Rs 3,053 per day by providing meals to their guests. This amount varies from place to place per hotel along the trekking route. The average hotel in Deorali makes Rs 4,314 per day by serving meals to the guests. An average hotel makes respectively Rs 2,896, Rs 2,884, Rs 2,802 and Rs 2,477 per day by serving food to their guests in Landruk, Thulakharka, Pothana, and Tolka.

The profit from meals is the difference between the revenue collected and the expenditure made by the hotels. Daily average profit shows that each household makes approximately Rs 1,203 per day by serving food to their guests. However, this amount varies per hotel from place to place. The daily average profit per hotel in Deorali exceeds the overall daily average profit per hotel along the trekking route. The average profit is Rs 1,468 per hotel in Deorali. Similarly, the daily average profit per hotel in Landruk is Rs 1,419 per day which is greater than the overall average meal profit along the trekking route. The high daily average profit per hotel in Deorali is mainly due to the high revenue level. Compared to hotels in other places, meals are expensive in Deorali even if the outlays are high per meal. The meal expenditure is low in Landruk, but the revenue is comparatively high. In addition, Landruk is an essential stop for trekkers between Ghandruk and Deorali. These two factors have kept the profit level high per day in
Landruk. In other places, the profit per day is less than the overall daily average along the trekking route. The average profit per day for meals is lowest per hotel in Thulakharka because of a comparatively lower revenue level, but a higher investment level per meal. Like Thulakharka, the daily average profit per hotel is less in Pothana because of the lower revenue per meal.

It is of interest to consider expenditures, revenues and profits per locality. This offers insight as to the cash flows and incomes generated through meal services in the study area. In total, the hotels spend Rs 79,524 per day for the meals to their guests (see Figure 4). Out of that, Rs 23,539, the largest amount, is spent by hotels in Pothana. The second largest amount, Rs 22,765, is spent by the hotels in Deorali. Landruk and Tolka also spend a considerable amount of money on meal preparation for their guests. Thulakharka, having the smallest number of hotels (only two), spends the smallest amount among all the places along the trekking route.

The combined revenue of all the hotels per day is Rs 131,274. Pothana, having thirteen lodges and the largest number of guests, makes Rs 36,420 per day. Landruk, an important essential stop between Ghandruk and Deorali with twelve hotels, makes Rs 34,755 per day. Deorali, with its eight hotels, makes almost the same amount of revenue as Landruk and Pothana. Tolka, with its eight hotels, makes Rs 19,818 per day. It is interesting that the daily revenue of Tolka is far below the daily revenue of Deorali although they have an equal number of hotels. This is because hotels in Deorali charge more for their meals than the hotels in Tolka. Thulakharka, having only two hotels, makes a revenue of Rs 5,769 per day.
Figure 3: Expenditure, Revenue and Profit from Meals per Hotel and Day (in Rupees)

<table>
<thead>
<tr>
<th></th>
<th>Landruk</th>
<th>Tolka</th>
<th>Pothana</th>
<th>Thulakharka</th>
<th>Deorali</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure</td>
<td>1849</td>
<td>2846</td>
<td>1997</td>
<td>1811</td>
<td>1437</td>
<td>1478</td>
</tr>
<tr>
<td>Revenue</td>
<td>3053</td>
<td>4314</td>
<td>2884</td>
<td>2802</td>
<td>2477</td>
<td>2896</td>
</tr>
<tr>
<td>Profit</td>
<td>1203</td>
<td>1468</td>
<td>888</td>
<td>991</td>
<td>1040</td>
<td>1419</td>
</tr>
</tbody>
</table>

Rupees
Figure 4: Expenditure, Revenue and Profit from Meals per Community and Day (in Rupees)

<table>
<thead>
<tr>
<th>Community</th>
<th>Expenditure</th>
<th>Revenue</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landruk</td>
<td>17748</td>
<td>34513</td>
<td>11748</td>
</tr>
<tr>
<td>Tolka</td>
<td>1775</td>
<td>5769</td>
<td>1775</td>
</tr>
<tr>
<td>Pothana</td>
<td>12881</td>
<td>36420</td>
<td>12881</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>11494</td>
<td>11494</td>
<td>11494</td>
</tr>
<tr>
<td>Deorali</td>
<td>17023</td>
<td>34755</td>
<td>17023</td>
</tr>
</tbody>
</table>
The hotels combined make a total of Rs 51,750 per day by serving meals along the trekking route. With a total profit of Rs 17,023, Landruk makes the largest profit. Pothana makes a profit of Rs 12,881 per day. These two places have a larger number of hotels and so, too, a larger number of guests. Deorali comes next. Because of the higher charge per meal, it also makes more revenue by serving meals to their guests. Tolka makes a profit of Rs 8,324 per day. Because of the low revenue rate per meal in Tolka, the total profit made by Tolka is less than the total profit made in Deorali even though there are an equal number of hotels there. Thulakharka makes the least profit because of the least number of hotels (two only).

4.1.6 Conclusion

Landruk, being an essential stop between Ghandruk and Deorali generates the highest profit per day. The number of hotels is greater and so is the level of revenue in Landruk. Pothana is located on the top of the Dhampus-Pothana ridge and is a vantage point to enjoy the spectacular mountains in the north and the hills and river valleys in the south. Its site has played an important role to attract tourists and the result is the increasing number of hotels. The profit per meal is lowest after Thulakharka yet the total profit is highest after Landruk because of the largest number of hotels. Tolka lies on the hillside between Pothana and Landruk and it does not occupy a scenic view. However, it gets a considerable number of guests. The meals are served at lower rate yet the hotels collect considerable amount of profit from their guests. Thulakharka serves meals at lower rate and collects lowest amount of profit from meals. Despite its scenic location, it
is about five to ten minutes off the trekking route. Due to the low number of hotels (only two), the hotel profit is lowest in Thulakharka.

4.1.7 Total Lodge Revenue Versus Restaurant Profit in Hotels by Season

Hotels provide lodging as well as restaurant services to guests along the trekking route. Both of these services play significant roles in generating incomes for the hotels. As seen in Table 5, the 43 hotels combined make approximately Rs 65,315 per day from both lodging and restaurant services. Between the two, the lodges earn Rs 13,565 (Rs 8312 + Rs 5253) and the restaurants Rs 51,750. In terms of percentages, the hotels earn nearly 21 percent of their total profit through lodging and 79 percent through the restaurant. This shows that restaurants generate the most profit for the households. For all places along the trekking route, except Deorali, there is a large difference between the profits generated by these two services. In Landruk and Thulakharka, the hotels earn approximately 87 percent of their profit through the restaurant and 13 percent through lodging. In Pothana and Tolka, 83 percent of the total profit is earned through the restaurant and 16 percent through lodging. In the case of Deorali, the high cost of lodging in the two joint venture hotels contribute to a smaller margin between the profit from restaurants and the profit from beds. The hotels make 64 percent of their profit through the restaurant and 36 percent through lodging. On the basis of these facts, it can be said that the households along the Dhampus-Pothana trekking route make their living through the hotel business. Although each of these services depends on each other for their existence, the restaurants generate more profit than the lodges which is actually reverse to the income made by Western hotels.
Table 5

Profits from Beds and Meals
(per community and day in Rupees and percent)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Total Profit</th>
<th>From Beds</th>
<th>From Meals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Profit</td>
<td>Percent</td>
</tr>
<tr>
<td>Deorali*</td>
<td>8</td>
<td>18355</td>
<td>6608</td>
<td>36%</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>2041</td>
<td>266</td>
<td>13%</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>15398</td>
<td>2516</td>
<td>16%</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>9967</td>
<td>1643</td>
<td>16%</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>19554</td>
<td>2531</td>
<td>13%</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>65315</td>
<td>13565</td>
<td>21%</td>
</tr>
</tbody>
</table>

*including joint-venture hotels

4.2 Occupational Structure of Households along the Dhampus-Pothana Trekking Route

4.2.1 Introduction

Occupational structure depends upon the economic activity of a community. In a rural community, the majority of the population depends on primary activities such as farming, fishing, cattle rearing, and logging. In the urban communities, secondary and tertiary activities are major occupational sources for the people. Levels of education and introduction of new economic activities affect the community occupational structure.

Similarly, changing occupational structure depicts the changing social fabric of a community. In Nepal, 90 percent of the total population lives in the rural areas and 93 percent are farmers. Agriculture is by far Nepal’s most dominant occupation. With agricultural traditions running strong in Nepal, it may seem unusual that there would be an occupational shift to the service-oriented hotel industry. The increasing number of
hotels along the trekking route shows the striking departure from traditional agrarian ways to a service economy.

4.2.2 Male and Female Population along the Trekking Route

Prior to the opening of the trekking route, none of these forty-three households lived in the present study area. Instead, all the families lived in nearby villages at a distance of one to four kilometers from the trekking route. Agriculture was their livelihood. Soon after the opening of the trekking route in 1970, these people started to leave their villages to settle on the trekking route in pursuit of economic prosperity. As seen in Table 6, in 1996 there were 254 people in these households with almost an equal number of male (128) and female (126) population. Of the total population, seventy-four live in Landruk, seventy-three live in Pothana, fifty-three live in Deorali, forty-five live in Tolka and ten live in Thulakharka.

Table 6
Male, Female, and Total Population

<table>
<thead>
<tr>
<th>Place</th>
<th>Households</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>23</td>
<td>30</td>
<td>53</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>39</td>
<td>34</td>
<td>73</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>24</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>35</td>
<td>38</td>
<td>73</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>126</td>
<td>128</td>
<td>254</td>
</tr>
</tbody>
</table>
4.2.3 Age structure of population along the trekking route

So far as the age structure of the population is concerned, fifty-nine (23 percent) are younger than ten years, another fifty-nine (23 percent) are between eleven and twenty years, forty-nine (19 percent) are between twenty-one and thirty years, thirty-three (13 percent) are between thirty-one and forty years, thirty-two (13 percent) are between forty-one and fifty years, fourteen (6 percent) are between fifty and sixty years and eight (3 percent) are over sixty-one years (see Figure 5). This data shows that the majority of people are below fifty years old along the trekking route.

Figure 5 also shows the age structure of Nepal. It becomes apparent that a relatively large share of people in their 30s and 40s live on the trekking route. For the standards of Nepal, people in their 40s are in the late stage of the family cycle. Their high share on the route coincides with the relatively low share of children under 10 on the Dampus-Pothana ridge.

The hotel industry is a new type of economic activity for the people. The shift from farming to a service economy is influencing the area’s traditional social and economic pattern. The extent to which tourism related activities have replaced traditional farming in the present study area is not known. Survey responses allow to identify how the occupational structure along the trekking route has been changed by tourism.
Figure 5: Age Structure of the Population 1996
(Trekking Route and Nepal)

<table>
<thead>
<tr>
<th>age cohort</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>30</td>
</tr>
<tr>
<td>10-19</td>
<td>24</td>
</tr>
<tr>
<td>20-29</td>
<td>17</td>
</tr>
<tr>
<td>30-39</td>
<td>12</td>
</tr>
<tr>
<td>40-49</td>
<td>8</td>
</tr>
<tr>
<td>50-59</td>
<td>6</td>
</tr>
<tr>
<td>60+</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trekking Route</th>
<th>Nepal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>23</td>
</tr>
<tr>
<td>10-19</td>
<td>23</td>
</tr>
<tr>
<td>20-29</td>
<td>19</td>
</tr>
<tr>
<td>30-39</td>
<td>16</td>
</tr>
<tr>
<td>40-49</td>
<td>13</td>
</tr>
<tr>
<td>50-59</td>
<td>6</td>
</tr>
<tr>
<td>60+</td>
<td>8</td>
</tr>
</tbody>
</table>
4.2.4 Farming as a Major Occupation Prior to the Opening of the Trekking Route

There is no doubt that the households which have established hotels along the trekking route were farmers prior to opening their businesses. This can be seen from the occupation of the people who live in the hotel owners' original villages. Out of these forty-three households, eight were in Dhampus, two were in Lumley, thirteen were in Tanchok and Vichok, eight were in Tolka, and twelve were in Landruk. As some families are still growing crops and vegetables, it seems that these households are continuing their agricultural traditions.

Before 1970, there were only a few limited other types of economic opportunity available. A few physically well built young men between the ages of sixteen and twenty-three would join the Indian or British armed forces. They could earn cash and import materials necessary for their families from foreign countries. An additional benefit of these jobs was the pension paid to soldiers who served longer than twenty years in their regiments. However, after the return of Hong Kong to China in 1997, the British government no longer recruits large numbers of Gurkha soldiers for the British Gurkha regiments. The Indian government also has limited the number of Gurkha soldiers in its regiment. Employment opportunities are very limited in Nepal. Therefore, many people older than seventeen have gone and continue to go to Indian cities for menial jobs. Today, the Arabian countries, Japan, Malaysia, Korea, Taiwan, Australia and America have become the destinations for the young adults of Nepal as well.
4.2.5 Population Occupational Structure along the Trekking Route

There are 254 people in the present study area. Of the total population, 133 or 52 percent are in the labor force and either involved in farming, the hotel business or other services. Of the remaining population, 111 are students, two are younger than two years, and nine are older than sixty. They are not considered to be part of the labor force, although they help their families with household work.

There are three types of occupations in the present study area: farming, operation of lodges, and service workers\textsuperscript{61}. Farming employs twenty-two people, or 17 percent of the labor force (see Figure 6). The hotel and restaurant industry is the largest industry occupying ninety-nine people or 74 percent of the labor force. Service occupations provide work for twelve people, or 9 percent of the labor force. The percentage of the labor force involved in these three occupations varies from place to place. The highest percentage of the labor force involved in the hotel business is in Tolka and Pothana. In Landruk, 70 percent of the total labor force is involved in the hotel business. Deorali and Thulakharka have 60 percent of their labor force operating and managing hotels. In Tolka, none of the workers are involved in full-time farming. In Pothana, only 5 percent are involved in farming. Deorali, Thulakharka and Landruk have a considerable percentage of their labor force working in the fields. Overall, compared to those working in the hotel sector, the number of people in farming and service is low.

\textsuperscript{61} Service workers refer to those people who are employed in national and international government and nongovernment organizations.
Figure 6: Occupational Structure of the Population Along the Trekking Route

- Service: 9%
- Farm: 17%
- Hotel: 74%
4.2.6 Conclusion

The Dhampus-Pothana Trekking Route has created a new business opportunity for those people who live on the slopes of the Dhampus-Pothana Ridge. Forty-three households have used this opportunity and opened hotels along the trekking route. Once, farming was their major occupation and service in foreign countries was their means of earning cash. After opening the hotels along the trekking route, a large percentage of people left farming and made the hotel industry their new means of livelihood.

4.3 Production and Supply of Vegetables and Food Grains along the Trekking Route

4.3.1 Introduction

Prior to 1970, farming was the only type of economic activity for people in the villages. There was neither the present trekking route nor were there any hotels in the present study area. People used to grow food crops such as rice, corn, wheat, and potatoes, as well as vegetables like onions, radish, bok choy, beans, and tomatoes. When the trekking route was opened, some households established hotels along the trail, and family members began working in their hotels while the others remained working on the farm. The hotels are family-run, and family members typically perform the work. Through this process, there has been a shift in the work force from agriculture to tourism. But as occupational structure changed, demand for food crops, vegetables in particular, rose due to the increasing number of tourists. As will be shown, there has not only been a shift in man power from traditional farming to the hotel businesses, but also a shift within agriculture from the production of food grains to the production of vegetables.
Despite almost a two-fold increase in household vegetable production, it has not kept pace with demand. The likely explanation is that farming, being labor intensive, is exhaustive work, and at the same time, not as lucrative as operating the hotels. It is cheaper and easier to import food grains from the town than to grow them in their fields. One of the objectives of this study is to identify the tourism impact on grain and vegetable production pattern of households before and after opening the trekking route.

In 1970 crops such as rice, corn, and potatoes along with green vegetables such as radishes, cauliflower, cabbages, bok choy, eggplants, tomatoes, lentils, cucumbers and chilies were produced. All these crops were food crops and were grown by family members for family consumption. In 1995, these crops were produced by the households for the tourists, but present patterns of production of these crops differ greatly from those of 1970. First, the focus is on rice, the most important staple.

4.3.2 Household Production and Import of Rice before and after Opening the Trekking Route

Rice is the most important cereal for the Nepalese people. It is produced in the lower part of the ridge where water from the local streams can be channeled into the terraces during the rainy summer season. Rice is planted in the beginning of June and harvested in late August.

On the steep slopes of the Dhampus-Pothana Ridge, suitable land for rice cultivation is limited, yet crop production patterns show that the total production of rice exceeds the production of other crops. Table 7 shows that in 1970, the total rice production was 20,370 kg with an average of 474 kg per household. Thulakharka was the
leading producer of rice because the households in this place had their rice fields in the Terai plain. The owners of these rice fields leased them to local farmers, and they brought their share of the produced rice from there.

In 1995, the households produced only 13,090 kg of rice, which means that the rice production had declined by 7,280 kg or 36 percent from 1970 levels. By 1995, the average production had decreased to 304 kg per household. Pothana showed the largest decrease in average rice production from 382 kg in 1970 to 40 kg per household in 1995. In total, production had declined by 4,445 kg which was a 89 percent decline in rice production in Pothana.

Table 7
Change in Rice Production between 1970 and 1995 (in kilograms)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Average per Hotel</th>
<th>Total per Hotel</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>796</td>
<td>643</td>
<td>6370</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>1750</td>
<td>1750</td>
<td>3500</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>382</td>
<td>40</td>
<td>4970</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>162</td>
<td>162</td>
<td>1295</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>353</td>
<td>219</td>
<td>4235</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>474</td>
<td>304</td>
<td>20370</td>
</tr>
</tbody>
</table>

The major geographical reason behind this change is the distance to the rice fields. The households in Pothana originally lived in the Tanchok villages. These villages are two hours walking distance down the northwestern slope of the ridge, and the rice fields
are even further down from these villages. As a result of hotel construction on the Dhampus-Pothana trekking route, these villagers were drawn away from their rice fields, which consequently reduced production.

This is one example of how tourism has changed agricultural practices. Interestingly, where hotels are built nearby rice fields, such as in Tolka, production of rice remains unchanged between 1970 and 1995. The fields are nearby, and laborers are hired to cultivate the rice. In other places such as Deorali and Landruk, most of their lands are leased to other farmers. On the whole, however, it can be said that there is less emphasis on rice production due to tourism in the present study area.

With the increase in tourist travel and corresponding decrease in food grain production, there is a growing food deficit along the Dhampus-Pothana Ridge trekking route. Corn, a popular staple in the Nepalese diet, is not eaten by the travelers, and local production is sufficient to meet the needs of local households. However, such staples as rice and potatoes must be imported from outside the area. The households use approximately 40,740 kg of rice for themselves and their paying guests.

Locally, produced rice does not meet this demand. Therefore, local crops are supplemented with purchases from neighbors and Pokhara. Of the total consumption, 13,090 kg is locally produced rice, 560 kg is bought from neighbors and 27,090 kg is imported from Pokhara. In terms of percentages, 32 percent is self produced, 1 percent is bought from neighbors, and 66 percent from Pokhara. This shows the hotels' reliance on imported rice from town. Figure 7 shows that these figures vary greatly for the five places. Pothana imports the largest percentage of rice from Pokhara. It imports 95
percent of the staple (rice) both for their family and for their guests. Tolka, Landruk, and Deorali import, respectively, 81 percent, 71 percent, and 45 percent of rice from the town for their family and guests.

The households in Thulakharka bring in their rice from the share croppers in the Terai to use for their family and guests. The study shows that the households along the trekking route do not grow sufficient amounts of rice although there is a demand for it generated by their families and guests. It appears that much of their labor is devoted to the operation of lodges, leaving little time for family members to grow crops.
Figure 7: Home Production and Purchases of Rice (in kilograms)

<table>
<thead>
<tr>
<th>Village</th>
<th>Purchased in Pokhara</th>
<th>Purchased from Neighbors</th>
<th>Home Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>4480</td>
<td>420</td>
<td>5145</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>0</td>
<td>0</td>
<td>3500</td>
</tr>
<tr>
<td>Pothana</td>
<td>10080</td>
<td>0</td>
<td>525</td>
</tr>
<tr>
<td>Tolka</td>
<td>5950</td>
<td>140</td>
<td>1295</td>
</tr>
<tr>
<td>Landruk</td>
<td>3580</td>
<td>0</td>
<td>2625</td>
</tr>
</tbody>
</table>

kilograms
4.3.3 Household Corn Production before and after Opening the Trekking Route

Corn is another important food grain produced in the lower as well as the middle part of the Dhampus-Pothana Ridge around the villages. It is produced in the summer. People eat it as popcorn and dough (boiled and cooked).

Table 8 shows that in 1970, the total production of corn was 16,240 kg. Average household production was 378 kg. By 1995, the total production had dropped to 8,820 kg. The average production dropped to 205 kg per household. Total production declined by 7,420 kg, a 46% drop.

Table 8

Change in Corn Production between 1970 and 1995
(in kilograms)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Average Corn Per Hotel</th>
<th>Total Corn Per Hotel</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>438</td>
<td>298</td>
<td>3500</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>700</td>
<td>700</td>
<td>1400</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>334</td>
<td>43</td>
<td>4340</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>210</td>
<td>210</td>
<td>1680</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>443</td>
<td>233</td>
<td>5320</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>378</td>
<td>205</td>
<td>16240</td>
</tr>
</tbody>
</table>

The production remained the same in Tolka and Thulakharka. In Tolka the land is nearby and labor is available at all times. In the context of Thulakharka, some members of the family are farmers who take care of land in their village called Lumley. Pothana had the largest decline in corn production. By 1995, the production had decreased by
3,780 kg or 87 percent from 1970 levels. This is largely due to increased distance to the corn fields, and the fact that corn is not served to the guests. Corn production also declined in Landruk and Deorali. In these places, corn is grown only for home consumption. These trends in corn production suggest that tourism is a factor affecting the production of corn in the present study area.

4.3.4 Household Potato Production and Import before and after Opening the Trekking Route

Potatoes are an important crop used in curry with rice and other meals by the local people. Sometimes, they are boiled and eaten as a full meal with ground-up chili and salt. They are served to the guests as potato chips, fried potatoes, salad, and potato curry. They are grown twice a year. Planted first in November and harvested in March in the higher part of the hills, potatoes are also planted in April and harvested in July in the lower part of the hills. Generally, a larger proportion of potatoes are grown in the higher and middle parts of the ridge in winter. In terms of taste, potatoes grown in the winter are better than potatoes grown in the summer.

As is shown in Table 9, total potato production was 8,540 kg in 1970, with an average of 199 kg per household. In 1995, this total amount dropped to 5,670 kg and the per household production also dropped to 132 kg. The total production had declined by 2,870 kg or 34 percent from 1970 production levels.

The largest production decrease occurred in Pothana because farm land is far from this location. Prior to the hotel establishment, all the households in Pothana lived
Table 9
Change in Potato Production between 1970 and 1995
(in kilograms)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotel</th>
<th>Average Per Hotel</th>
<th>Total Per Hotel</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>254</td>
<td>333</td>
<td>2660</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>525</td>
<td>525</td>
<td>1050</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>22</td>
<td>156</td>
<td>2030</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>79</td>
<td>79</td>
<td>630</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>140</td>
<td>181</td>
<td>2170</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>132</td>
<td>199</td>
<td>8540</td>
</tr>
</tbody>
</table>

in Tanchok and Patlaykhet villages. They used to produce potatoes for home
consumption. The average 1970 production was 156 kg per household. It had dropped to
22 kg per household by 1995. The total production declined by 1,750 kg or 86 percent
less than the 1970's production level.

A considerable amount of production also declined in Landruk and Deorali. But
the production remained the same in Tolka and Thulakharka. Mostly, the households in
these places are using the same part of the land they had used for potato production in the
past near their villages. Besides this, they hire labor to cultivate and harvest the potatoes.

On the whole, it can be said that potato production declined in the present study
area because of the hotel business. Another result of this manpower shift to the hotel
industry from farming is that households in Tolka and Thulakharka now hire laborers
from neighboring villages and grow potatoes for the hotels.
Because local potato production does not meet the demand, the remainder is imported by households from neighboring villages and Pokhara. In total, the households use 10,465 kg of potatoes for their family and guests per year (see Figure 8). They produce 5,670 kg themselves. The remaining 2,765 kg are purchased from their neighbors, and 2,030 kg are imported from Pokhara. In terms of percentages, they produce 54 percent of their supply on their own, import 26 percent from the local villages, and 19 percent from Pokhara.

Looking at each individual location (Figure 8), households in Thulakharka are self-sufficient in potato production. Households in Deorali produce 68 percent of their total supply by themselves and purchase 27 percent from their neighbors. Households in Landruk produce 63 percent of their supply on their own and import 37 percent from their neighbors. In Tolka, 47 percent of their total supply are home produced potatoes, 47 percent are from the local villages, and the remaining 5 percent are from Pokhara. Pothana, being away from the cultivated land, supplies only 11 percent of its total demand on its own but imports 74 percent from Pokhara and 14 percent from the nearby villages.

While all locales (except for Thulakharka) import some potatoes either from the nearby villages or from Pokhara or from both places, Pothana, with its farm land far from the trekking route, is the biggest importer from Pokhara, bringing in 74 percent of its supply. Here, too, the effects of tourism can be seen through the decreasing percentage of home produced potatoes as opposed to the increasing import from neighbors and town.
Figure 8: Home Production and Purchases of Potatoes (in kilograms)

<table>
<thead>
<tr>
<th>Location</th>
<th>Deorali</th>
<th>Thulakharka</th>
<th>Pothana</th>
<th>Tolka</th>
<th>Landruk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased in Pokhara</td>
<td>140</td>
<td>0</td>
<td>1820</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Purchased from Neighbors</td>
<td>805</td>
<td>0</td>
<td>350</td>
<td>630</td>
<td>980</td>
</tr>
<tr>
<td>Home Production</td>
<td>2030</td>
<td>1050</td>
<td>280</td>
<td>630</td>
<td>1680</td>
</tr>
</tbody>
</table>
4.3.5 Household Vegetable Production and Import before and after Opening the Trekking Route

The households produced vegetables prior to the opening of the trekking route and continue to do so now. Overall, the only major difference in vegetables between 1970 and 1995 is the quantity of vegetables grown. With the advent of the trekking route, vegetable production increased. Traditional vegetables such as radishes, pumpkins, bok choy, cucumbers, chilies, onions, and garlic remained in high demand. But with the oncoming of the trekkers, demand for cauliflower and cabbages increased, leading to the introduction of these vegetables into the household kitchen gardens. Cucumbers, pumpkins and beans are summer crops, while radishes and bok choy are winter crops.

Table 10 shows that before opening the trekking route, the households used to produce 3,225 kg of vegetables for home consumption. The average annual production was 75 kg per household per year. In 1995, the total production of vegetables went up to 6,250 kg with an average production of 145 kg per household. This shows that by 1995, production had increased by 3,025 kg. Average production per household had increased by 70 kg, which shows that vegetable production increased by 94 percent over twenty-five years.

The increase in production is highest in Landruk, Thulakharka, Deorali and Tolka, while production in Pothana has decreased greatly. The availability of cultivated land around the households has played an important role in the production of vegetables in these places. In the case of Deorali, Thulakharka, Tolka and Landruk, the cultivated uplands are nearby and the households are able to make use of them for vegetable
Table 10
Change in Vegetable Production between 1970 and 1995
(in kilograms)

<table>
<thead>
<tr>
<th>Place</th>
<th>Hotels</th>
<th>Average Per Hotel 1970</th>
<th>Average Per Hotel 1995</th>
<th>Total Per Hotel 1970</th>
<th>Total Per Hotel 1995</th>
<th>Change Total</th>
<th>Change Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>8</td>
<td>66</td>
<td>194</td>
<td>530</td>
<td>1550</td>
<td>1020</td>
<td>192%</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>2</td>
<td>100</td>
<td>275</td>
<td>200</td>
<td>550</td>
<td>350</td>
<td>175%</td>
</tr>
<tr>
<td>Pothana</td>
<td>13</td>
<td>89</td>
<td>46</td>
<td>1160</td>
<td>600</td>
<td>-560</td>
<td>-48%</td>
</tr>
<tr>
<td>Tolka</td>
<td>8</td>
<td>50</td>
<td>113</td>
<td>400</td>
<td>900</td>
<td>500</td>
<td>125%</td>
</tr>
<tr>
<td>Landruk</td>
<td>12</td>
<td>78</td>
<td>221</td>
<td>935</td>
<td>2650</td>
<td>1715</td>
<td>183%</td>
</tr>
<tr>
<td>ROUTE</td>
<td>43</td>
<td>75</td>
<td>145</td>
<td>3225</td>
<td>6250</td>
<td>3025</td>
<td>94%</td>
</tr>
</tbody>
</table>

production. In the case of Pothana, the cultivated land lies at least two hours walking distance down in Tanchok. In addition, clearing land is not an option as people are afraid that the government would force them to leave if they clear forest to grow vegetables around their houses in Pothana.

Overall, there has been a large increase in green vegetable production between 1970 and 1995. It is mainly due to the tourists' food preferences for vegetables.

Despite this 94 percent increase between 1970 and 1995, the households must purchase vegetables from their neighbors as well as Pokhara town to keep up with the demand. They use 14,780 kg of vegetables per year for themselves and their guests (see Figure 8). Out of that, 6,250 kg is produced by themselves at home, 4,165 kg is imported from Pokhara and 4,365 kg is bought from the local villages. In terms of percentages, 42 percent is home produced vegetables, 28 percent is imported from Pokhara, and 30 percent is bought from nearby villages.
Increasing rates of vegetable production in the households indicate another effect of the growing tourism industry on agriculture. With 28 percent of the vegetables imported from Pokhara at a higher price, there is plenty of opportunity for local villagers to expand their vegetable sales to the hotels. Each location produces vegetables both for hotels and family.

Figure 9 shows the production and purchases of vegetables by locality. Households in Thulakharka and Landruk produce 64 percent and 61 percent of their vegetables on their own. Deorali and Tolka also produce 44 percent and 33 percent of their vegetables on their own. Pothana produces the lowest amount of vegetables, relying on imports for 82 percent of its needs. To make up for the shortfalls in production, each locale purchases vegetables both from nearby villages and Pokhara. Tolka imports 43 percent of its vegetables from nearby villages. Deorali and Landruk import 29 percent and 28 percent of their vegetables from the villages. Thulakharka and Pothana import 23 percent from the local villages.

While each locale imports some vegetables from Pokhara, Pothana is by far the largest importer from there, bringing in 59 percent. This is due to a shortage of arable land near the homes, and the longer distance to their former farm lands. The effects of tourism go beyond the trekking route and affect agricultural production in the surrounding villages, as well. The trekkers have improved opportunities for farmers to earn cash by selling their vegetables to the hotels.
Figure 9: Home Production and Purchases of Vegetables (in kilograms)

<table>
<thead>
<tr>
<th>Village</th>
<th>Purchased in Pokhara</th>
<th>Purchased from Neighbors</th>
<th>Home Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>925</td>
<td>1020</td>
<td>1550</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>110</td>
<td>200</td>
<td>550</td>
</tr>
<tr>
<td>Pothana</td>
<td>1990</td>
<td>780</td>
<td>600</td>
</tr>
<tr>
<td>Tolka</td>
<td>650</td>
<td>1150</td>
<td>900</td>
</tr>
<tr>
<td>Landruk</td>
<td>490</td>
<td>1215</td>
<td>2650</td>
</tr>
</tbody>
</table>
4.3.6 Conclusion

All the households along the trekking route were farmers before the trekking route opened, and they lived in villages away from the trekking route. At present, those households which have opened the hotels have diverted their manpower from farming to the hotel business. The study shows that while the households grow fewer grain crops in 1995 than they did in 1970, they have increased their green vegetable production greatly. In addition, since the home produced vegetables do not meet the household vegetable demand, imported green vegetables supplement the home produced vegetables in the hotels.

Vegetables were not popular prior to the opening of the hotels in the Dhampus-Pothana ridge because they play a minor role in the Nepalese diet. After the opening of the hotels, the local farmers have gotten an opportunity to supply the hotels with green vegetables as cash crops. Potatoes are imported from neighbors and only a small amount of potatoes are bought from Pokhara.

Cereals like rice and corn were produced less by the hotels in 1990 than in 1970. These crops were bought from Pokhara. Only a small quantity of these crops were bought from their neighbors. Declining production of these crops and the increasing amount of vegetable production show that the changing patterns of crop production are responses to the new tourist economy along the trekking route.

One of the questions of this study is to identify whether tourism has affected the crop production patterns since opening the Dhampus-Pothana Trekking Route in the present study area. This data shows that tourism accounts for declining food grain
production and increasing vegetable production along the trekking route. Additionally, tourism has encouraged increases in vegetable production in nearby villages where the hotel owners along the trekking route once resided.

4.4 Firewood as a Source of Energy along the Dhampus-Pothana Trekking Route

4.4.1 Introduction

Firewood is the major source of energy for heating houses and preparing meals in the hills, mountains and the Terai plain of Nepal. Annual incomes are so low that rural people cannot buy commercial energy. Kerosene and gas along with firewood are used in the major cities of the Kathmandu valley. Electricity is available in some towns of the country to light houses. It is a source of energy to operate the machines, but is not a source of energy to prepare meals and heat homes. The high price for electric power has limited its use.

The process of electrification in rural areas is very slow. Villages in Nepal can get electric power only after a long waiting period. In addition, the power supply is so limited that some parts of towns get power every third day, and many are still awaiting the arrival of electric power. Therefore, for meal preparation and heating purposes, the only source of energy available in these villages is firewood collected from the nearby forests.

An exception to this rule is Ghandruk, the last village on the way to the Annapurna Base Camp which is adjacent to the study area. In this village, a mini-hydroelectric power station built by the Annapurna Conservation Area Project supplies
power to local households. Although the study area lies approximately 30 km northwest of the regional town Pokhara and is close to the Ghandruk village, the power lines have not been extended to this area. Therefore, people use the firewood collected from the nearby forests as a major source of energy for meal preparation and home heating.

One of the objectives of this study is to describe firewood consumption patterns and changing firewood collection distances to the forests between 1970 and 1995. It is expected that the continuous collection of firewood has not only thinned the forests, and increased the scarcity of firewood, but also increased the time needed to collect firewood.

4.4.2 Firewood as a Major Source of Energy along the Trekking Route

As said earlier, the households along the trekking route are not connected to a power grid. Because of the lack of electric power, people use firewood as a major source of energy to prepare meals and heat their houses. Because of the high price, difficulty of transportation, and short supply, kerosene and gas are used in limited amounts. Kerosene is used in oil lamps, and is also used as a means to start fires. Sometimes, it is used in a stove to cook meals when one to three guests arrive in the hotels unexpectedly. Gas is used in the joint-ventured hotels in Deorali. A hotel in Tolka uses a small generator to light the house in the evening until 10:00 P.M.

Out of forty-three households, ten use only firewood, thirty use firewood and kerosene, and two use firewood and gas (see Table 11). In terms of percentages, 70 percent use firewood and kerosene, 23 percent use only firewood, 5 percent use gas and wood, and only 2 percent use wood and a small generator. This shows that all the households use firewood as a source of energy along the trekking route.
The type of fuel that households use varies from place to place. In Deorali, four households use only firewood, two households use firewood and kerosene, and two others use firewood and gas. In Landruk, four households use firewood and eight households use firewood and kerosene. In Tolka, only one household uses firewood but six of them use firewood with kerosene. In Pothana, twelve households use firewood with kerosene and one uses only firewood. In Thulakharka, both households use firewood and kerosene. Excluding Deorali, the number as well as the percentage of firewood-and-kerosene-using households is high in all places. In each place, more than 67 percent of the households use firewood and kerosene. On the whole, firewood seems indispensable for preparing meals and heating homes in the study area.

Table 11

Types of Energy Used by Hotels

<table>
<thead>
<tr>
<th>Place</th>
<th>Wood Hotels</th>
<th>Wood Percent</th>
<th>Wood &amp; Kerosene Hotels</th>
<th>Wood &amp; Kerosene Percent</th>
<th>Wood &amp; Gas Hotels</th>
<th>Wood &amp; Gas Perc*</th>
<th>Wood &amp; Generator Hotels</th>
<th>Wood &amp; Generator Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deorali</td>
<td>4</td>
<td>50%</td>
<td>2</td>
<td>25%</td>
<td>2</td>
<td>25%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>100%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Pothana</td>
<td>1</td>
<td>8%</td>
<td>12</td>
<td>92%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Tolka</td>
<td>1</td>
<td>13%</td>
<td>6</td>
<td>75%</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>13%</td>
</tr>
<tr>
<td>Landruk</td>
<td>4</td>
<td>33%</td>
<td>8</td>
<td>67%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>ROUTE</td>
<td>10</td>
<td>23%</td>
<td>30</td>
<td>70%</td>
<td>2</td>
<td>5%</td>
<td>1</td>
<td>2%</td>
</tr>
</tbody>
</table>

Perc* = Percent
4.4.3 Sources and Types of Firewood along the Trekking Route

There are two types of firewood, dry firewood and the green firewood. Dry firewood is dead wood. Green firewood comes from felling live trees. Like firewood, forests are of two types, the private forest and the government forest. The government owns the government forest. Local people have the right to collect dry firewood from the government forest anytime, but they need a license from the district forest office to fell green trees for timber and green firewood.

The dense forest on the Dhampus-Pothana ridge is a government forest, and is the major source of timber and firewood for all the households along the trekking route, and the villages nearby. Although the government is the owner of this forest, by convention, local people of Dhampus, Tanchok, Tolka, Landruk, and the Dhampus-Pothana trekking route protect it from those people who do not belong to these villages. In addition, the local village development committees also protect the forest from illegal green tree felling by their own people. In the event that someone is caught felling trees without a license from the district forest office, the violator is formally reported to the district forest office for necessary action. The consequence is the imposition of a heavy fine.

Although the village development committees take care of the forests, at the beginning of summer local people are allowed to fell a very limited number of live trees to make tools like a plow to till the farmland, and poles to tie the cattle. They can collect fodder and graze their animals there for free any time. Usually, private forests are owned by families and communities. The family can use the trees from the forest for timber and firewood without restrictions.
Generally, trees in the private forest are a source of fodder. Such types of forests occupy parts of private lands where farming is not possible. Since the households have been able to collect firewood, timber, and fodder free of cost from the government forest, people have not seen a need to keep the private forests. Besides this, it is a common practice to collect firewood from the forest even if it is scarce in the forest.

Despite the government's restriction on felling the live trees for green firewood collection, many people collect it from the government forests illegally at night or other suitable times. This is a known secret practice to collect the firewood this way not only in the Dhampus-Pothana ridge but also in all parts of the hills, mountains, and the Terai plain of Nepal. People do not wish to disclose this fact to others and in course of the field survey of this study, respondents were reluctant to talk about the firewood collection and deforestation problem in the Dhampus-Pothana ridge.

4.4.4 Firewood Collection from the Government and Private Forests along the Trekking Route

Households collect green as well as dry firewood from private and government forests along the trekking route. In total, they collect approximately 396,180 kg of firewood per year. Of the total amount, dry firewood collection is 256,950 kg and green wood is 18,000 kg from the government forest. These represent approximately 65 percent and 5 percent of the total firewood used per year by the households (see Figure 10). They also collect approximately 111,150 kg of green wood and 10,080 kg of dry wood from the private forest. These figures represent nearly 28 percent and 2 percent of the total firewood collection per year. On the whole, it can be said that the dry firewood
collection is more than the green firewood in the present study area. It also shows that as opposed to the private forest, the government forest is the major source of firewood, especially dry firewood for the households along the trekking route.

The percentage of firewood collected from government and private forests differs from place to place. In Thulakharka, the households collect only dry firewood from the government forest. In Pothana, dry firewood represents 96 percent and green firewood represents 4 percent. Dry firewood is collected from the government forest and green firewood from the private forest. In Landruk, 92 percent of the total firewood collection is dry firewood from the government forest and 8 percent is green firewood from the private forest. The firewood collection situation seems different from other places in Tolka. Despite its location in the forest, the green firewood collection represents 71 percent of the total firewood (44 percent from private forests and 27 percent from government forests). The dry firewood represents only 29 percent of the total. It shows that the dry firewood yielding capacity of the government forest in Tolka is limited and has caused people to fell the live trees from private and government forests. After Tolka, Deorali is the next place where the percentage of green firewood collection is highest. Of the total firewood, 66 percent is green firewood and 44 percent is dry firewood. All green firewood is collected from the private forests in Deorali.
Figure 10: Firewood Collection by Type of Wood and Forest Ownership

- Dry Wood (private) 3%
- Green Wood (government) 5%
- Dry Wood (government) 64%
- Green Wood (private) 28%
The discussion reveals that as opposed to Thulakharka, Pothana and Landruk, households in Tolka and Deorali use more green firewood than dry. Because of scarcity of dry wood, Deorali and Tolka have started green firewood collection both from the government and private forests in the present study area. This process indicates that live trees are being depleted in private as well as government forests of the Dhampus-Pothana ridge.

Some villages have a higher annual average of firewood collection per hotel than others based on the availability of firewood. On average, each hotel uses approximately 9,213 kg of firewood per year. However, the average firewood consumption per hotel varies from place to place. In Thulakharka, each hotel uses an average of 13,500 kg of firewood per year. In Deorali, the average firewood consumption is 13,331 kg per hotel. In Pothana and Tolka, the average firewood consumption are 8,512 kg and 8,325 kg per hotel per year. Among these places, household firewood consumption is the lowest (7,106 kg per household) in Landruk. This shows that the household firewood consumption in Thulakharka, Pothana, and Deorali is more than the household firewood consumption of other places. Two hotels of Thulakharka lie in the dense government forest and there is no doubt that they can collect firewood easily. In Deorali, people have private, community and government forests in which to collect firewood.

4.4.5 Firewood Collection Time in 1970 and 1995

Of these five locations on the Dhampus-Pothana Trekking route, Pothana, Tolka, and Thulakharka are located in the dense forest. Deorali and Landruk are also in proximity to the forest. In 1970, there were no houses in these places. Instead, eight were
in Dhampus, two were in Lumley, thirteen were in Tanchok, eight were in the original Tolka, and twelve were in the original Landruk. These villages are also in proximity to the Dhampus-Pothana Ridge forest. This forest has been the principal source of firewood, timber and fodder for all the households for many years. In order to open the hotels, some households moved to the trekking route. Since they built hotels along the trekking route, they had an easy access to the forest for firewood collection.

It is interesting to study the effect of continuous firewood collection on the forest resources of the Dhampus-Pothana ridge by villagers as well as households along the trekking route. Comparisons of the round trip travel times for firewood collection in 1970 and in 1995 show the effects of continuous firewood collection in the forest. It is quite obvious that the distance to the forest for firewood collection increases as the forest thins out and recedes.

Figure 11 shows that in 1970, the average time was about 40 minutes to collect a bundle of firewood and bring it back home from the forest. For the households who live in Thulakharka and Deorali, it would take approximately twenty-five minutes to collect a bundle of firewood in the forest while they were in their original villages. Households who live in Pothana and Tolka could collect the firewood from thirty-two minutes to thirty-six minutes from their original village. In Landruk, it took about sixty minutes to collect a bundle of firewood and return to their home.

Despite having moved from their villages higher onto the mountain into the thicker forests in the interim twenty-five years, the average firewood collection time for the households rose to 126 minutes in 1995. Firewood collection time increased by 86
minutes, or 217 percent. Firewood collection time increased in all five places but to a
different degree. The average firewood collection time was 220 minutes in Landruk, 135
minutes in Tolka, 90 minutes in Pothana, and 53 minutes in Thulakharka and Deorali.
These show that the firewood collection time had increased by 160 minutes in Landruk,
103 minutes in Tolka, 54 minutes in Pothana, 28 minutes in Thulakharka and 26 minutes
in Deorali.
Figure 11: Firewood Collection Time in 1970 and 1995
(in minutes)

<table>
<thead>
<tr>
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<th>1970</th>
<th>1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>40</td>
<td>126</td>
</tr>
<tr>
<td>Deorali</td>
<td>26</td>
<td>53</td>
</tr>
<tr>
<td>Thulakharka</td>
<td>25</td>
<td>53</td>
</tr>
<tr>
<td>Pothana</td>
<td>36</td>
<td>90</td>
</tr>
<tr>
<td>Tolka</td>
<td>32</td>
<td>135</td>
</tr>
<tr>
<td>Landruk</td>
<td>60</td>
<td>220</td>
</tr>
</tbody>
</table>
In terms of percentages, the average firewood collection time increased by 267 percent in Landruk, 319 percent in Tolka, 148 percent in Pothana, 111 percent in Thulakharka and 100 percent in Deorali. Firewood collection time increased greatly from 1970 to 1995 even though by moving to the trekking route, the households had actually moved closer to once dense forests. This increase in firewood collection time is an indication of the levels of deforestation on the Dhampus-Pothana Ridge. On the whole, although the percentage of firewood collection time has increased greatly in all the places, the largest percentage has increased in Tolka and Landruk.

The increase in average firewood collection time corresponds inversely to the average amount of firewood used per household. The greater the collected firewood amount, the less the increase in firewood collection time and vice versa. The individual situation explains this phenomena. Because of the increased dry firewood collection time in the government forest, people have instead started collecting green firewood from nearby private forests. A dense government forest yields dry firewood for two households in Thulakharka, but shortage of dry firewood in the government forest near Tolka has increased firewood collection time. After purchasing a license from the district forest office, people can fell green trees in the forest near their houses. In Landruk, scarcity of dry firewood in nearby government forests has not only limited the amount of firewood collection, but also increased the firewood collection time to the forest. Although Pothana is lying in the forest, dry firewood is limited, and the result is an increase in dry firewood collection time, but a decrease in the average amount of firewood collected per household.
On the whole, it can be said that the firewood collection time in the forest has increased greatly between the 1970 and 1995. Day by day, the forest of the Dhampus-Pothana ridge is becoming thinner and thinner. A likely reason for the increasing firewood collection time in the forest is the scarcity of firewood due to over exploitation of forest by households along the trekking route.

4.4.6 Conclusion

Forests are the major source of firewood for the households in the present study area. For the three tourist seasons (fall through spring), the households use firewood as a source of energy to prepare meals and to heat the lodges. Due to the higher prices and difficulty of transport, the households do not prefer kerosene or gas for this purpose. Dry firewood is collected free of cost from the government forest and so is the fodder. The increasing demand for firewood has depleted the forests, requiring people to travel longer distance and spend longer time to collect the firewood they need.

The forest was very dense in 1970s, but by 1996, it has been thinned out to a great extent. This situation in the present study area depicts that the forest resources has been used intensively by those who have lived on the trekking route and in the nearby villages. On the steep, fragile slopes of the Dhampus-Pothana ridge, land slides are often seen in different places. The rivers which flow on both sides of this ridge transport a lot of sediments and rocks to the valleys. The construction companies collect the rocks, gravels, and sand for roadway and building construction. These activities have intensified stream bed erosion and landslides have already affected the Dhampus and Tanchok
villages of this ridge. The prospects for greater landslide hazards seem high if the local
people continue to use forest resources at the same level as they do at present.
CHAPTER V
DISCUSSION

5.1 Summary

The Dhampus-Pothana Ridge lies in the remote hills of the Kaski district. It is a foot hill of the Macchapuchray range. Before the 1970s, the upper part of the ridge was covered by the dense forest and the middle and lower parts were occupied by people. People from the villages used to collect firewood, fodder, and timber from this forest.

A trekking route to the Annapurna Base Camp was opened on the ridge in 1970. Before the opening of the route, farming was a major source of livelihood for villagers of that area. After opening the trekking route, some households from the nearby villages left their original homes and established hotels along the trekking route. They began to earn their living by providing meals and lodging to tourists. At present, forty-three households have opened hotels. Of these hotels, eight are located in Deorali, two in Thulakharka, eight in Tolka, thirteen in Pothana and twelve in Landruk. There are 301 bedrooms and 646 beds in these hotels.
Different authors have described the economic, social and physical impacts of tourism at the local, national and regional levels. Some of them have described the negative and some have described the positive impacts of tourism. A majority of them have mentioned that one positive impact is economic. An example in this context is the Sherpa economy in the Everest region of Nepal. Concerning the social impacts, many scholars think that tourism changes traditional culture. An example of this is the increasing gap between the social status of people in Kathmandu, Nepal. As far as the environmental impact of tourism is concerned, tourism contributes to environmental degradation in many different ways. In this context, some authors have mentioned the problems of litter, deforestation, and soil erosion in the Everest and Annapurna regions of Nepal.

In this study, I have made an attempt to assess the impact of tourism on income, occupational structure, food crop production and firewood consumption patterns of the study area. In order to describe all these phenomena, a set of questions was prepared and each household head was interviewed. Questionnaires were recorded, processed, tabulated and analyzed to describe the impacts of tourism on income, occupational structure, food crop production and firewood collection time along the trekking route.

On average the households serve approximately 371 guests per day. However, the average number of guests per day differs from season to season. The households receive approximately 17 guests per day in summer, 535 per day in autumn, 452 per day in winter, and 479 per day in the spring. Such variations in the flow of guests in the present study area is due mainly to the effect of weather conditions.
The households generate income by providing meals and lodging to guests. They make a considerable amount of money from bed charges. Excluding the two joint venture hotels, the communities earn Rs 8,311 in bed charges per day with an average of Rs 203 per hotel. However, depending upon the number of guests, the total daily revenue from the bed charge varies from season to season. The average seasonal revenue of the entire study area is Rs 12,097 per day in the fall, Rs 10,089 per day in the winter and Rs 10,717 per day in the spring. They make only Rs 342 per day in the summer. The two joint venture hotels earn Rs 6,837 per day in the fall, winter, and spring seasons and Rs 500 per day in the summer. This data shows that bed charges are an important source of revenue for the households.

Like bed charge, meals are also an important source of revenue for the households. On average, each household spends approximately Rs 1,849 per day for meal preparation. Since the average number of guests per day differs from season to season, this amount varies accordingly. With fewer numbers of tourists in the summer, the average amount spent for meal preparation is less. But in other seasons, the number of guests is higher and the amount of money spent on meal preparation changes accordingly. The daily total expenditure of meals indicates the total amount of money all households spend on meal preparation. On an average day, all hotels along the trekking route spend approximately Rs 79,523 per day, which is a considerable amount injected into the local economy. In the spring, fall and winter, the total amount of money spent on daily meal preparation is higher than the average, but it is lower during the summer.
Each community (place) spends money to prepare meals for their guests. Pothana having the largest number of hotels as well as the guests, spends the largest amount (Rs 23,539) on meal preparation per day. Deorali invests the second largest amount (Rs 22,765) on meal preparation for their guests. Landruk and Tolka also spend a considerable amount on meal preparation. Having the smallest number of hotels, Tulakharka spends only Rs 1,994 on meal per day.

The households make money by providing meals to the guests. On average, each household earns Rs 3,052 per day from the meals. In the summer, this amount drops to Rs 144 per day. On fall, winter, and spring days, this amount rises to Rs 4,398, Rs 3,941 and Rs 3,926 per household. All hotels combined receive Rs 131,273 per day from serving meals. This amount drops to Rs 6,230 on a summer day. In the fall, winter, and spring, this profit is Rs 189,150, Rs 160,885, and Rs 168,830 per day. This fluctuation is mainly due to seasonal variation in the number of guests.

The total revenue from meals by community varies from place to place along the trekking route. Pothana having the largest number of hotels earns the largest amount of revenue (Rs 36,420) from meals per day. Landruk and Deorali make more than Rs 34,000 per day. Although Tolka and Deorali have an equal number of hotels, Tolka falls behind on the total amount of revenue collected. It is due mainly to the lower price of meals in Tolka.

The profit is the difference between revenue and cost per meal. This is an indicator of whether the hotel industry along the trekking route is a new income generator. The data show that by providing meals to the guests, each hotel earns an
average profit of Rs 1,203 per day. The average daily profit per hotel drops to Rs 56 in the summer. But in the fall, winter and spring, the average daily profit per hotel rises to Rs 1,730, Rs 1,476, and Rs 1,550. In terms of total daily profit, the hotel average Rs 51,750 per day. However, this figure also varies greatly depending on the season. They make a total profit of Rs 2,430 per day in summer. In the fall, it is Rs 74,420 per day. In winter and spring, it is Rs 63,475 and Rs 66,675 per day.

The total daily profit differs from place to place along the trekking route. Landruk makes the largest amount of profit (approximately Rs 17,000) among all the places. Pothana makes the second largest amount of profit from the meals. Deorali also makes a considerable amount of profit. Compared to these places, Tolka and Thulakharka make a smaller amount of profit per day.

Prior to 1970, all the households of the study area were farmers living in villages near the trekking route. A few young men between 16 and 23 years would join the Indian or British armed forces. Sometimes, those who could not join the armed forces would go to Indian cities to find menial jobs. The advent of the trekking route in 1970 brought new economic prospects to the local villagers. Gradually, some households left their villages to open hotels and take advantage of this new opportunity. At present, there are 254 people living in forty-three households along the trekking route. Of this 254 people, 133 are in labor force. Ninety-nine work in their own hotels, twenty-two are farmers and twelve are employees in different places. The largest number of workers in the hotel industry shows that occupational structure has clearly shifted from farming to the service-oriented hotel industry along the trekking route.
Crops produced in the 1970s were rice, corn, potatoes, and vegetables. Wheat was also produced in winter. By 1995, wheat production had been almost stopped. Other crops like rice, corn, potatoes and vegetables are produced by the households. Before the opening of the trekking route, all the households annually produced 20,370 kg rice with an average production of 474 kg per household. In 1995, rice production had declined to 13,090 kg with an average production of 304 kg per household. Production in 1995 declined by 36 percent from the production levels of 1970. Production level declined greatly in Pothana, while remaining the same in Thulakharka and Tolka. On the whole, the decrease in rice production occurred at a time where the demand for rice increased along the trekking route. To meet this demand, 66 percent is imported from Pokhara, and 1 percent is brought from nearby villages. Pothana, being far away from cultivated land, imports the largest percentage of rice from Pokhara. Although Tolka produces the same amount of rice now as in 1970, it makes up for the shortfall by importing from Pokhara. Landruk and Deorali also meet their demand by importing rice from Pokhara, while Thulakharka is self-sufficient in rice production.

The total corn production was 16,240 kg prior to opening of the hotels, with an average production of 378 kg per household. By 1995 corn production had declined to 8,820 kg, with an average household production of 205 kg. It shows that the corn production dropped by 46 percent by 1995. The largest decline occurred in Pothana, but production was unchanged in Thulakharka and Tolka between 1970 and 1995. Because of its limited demand, the households do not produce more of it, nor do they import it from town.
With an average production of 199 kg per household, the total potato production was 8,540 kg in 1970. In 1995, the total production declined to 5,670 kg. The average household potato production declined to 132 kg. This shows that the potato production in 1995 was 34 percent less than that of production levels of 1970. Despite this overall decline, potato production remained unchanged in Tulakharka and Tolka between 1970 and 1995. Production declined greatly in Pothana. Similarly, its production had declined in Landruk as well as Deorali. But while production declined, the trekking route created an increase in potato demand. The household potato production had met 54 percent of their total demand, 26 percent was purchased from their neighbors and the rest (19 percent) was brought in from Pokhara town.

In 1970, green vegetables were produced for home consumption. The total production was 3,225 kg with an average of 75 kg per household. In 1995, the total production increased to 6,250 kg with an average production of 145 kg per household. On the whole, vegetable production had increased by 94 percent. Despite this tremendous increase, production declined by 48 percent in Pothana. The study shows that the home produced vegetables fulfill only 42 percent of the total demand for green vegetables. The rest is purchased from neighbors (30 percent) and Pokhara town (28 percent). On the whole, vegetable production increase (except in Pothana) along the trekking route, purchase from their neighbors, and its import from Pokhara are due to increasing number of tourists and their preference for green vegetables to be part of their meal.

Firewood is used as a source of energy to warm houses and to prepare meals for guests as well as family members. Of the forty-three households, eleven use solely
firewood as the source of energy to prepare meals and heat their homes. Thirty use firewood as well as kerosene for this purpose, two use firewood and bottled gas, and one uses firewood and a generator. Since kerosene is expensive, in short supply, and difficult to transport, the households prefer to use firewood. In total, they use 396.180 kg of firewood per year. It is collected from the government as well as private forests. They collect 69 percent of their firewood from the government forest and the rest from private forests. Dry firewood collection from the government forest alone represents 64.85 percent (256,950 kg) and the green firewood from the private forest represents 28.06 percent (111,150 kg) of the total. Only a small percentage of dry firewood is collected from the private forest and, correspondingly, a small percentage of green firewood is collected from the government forest. Thulakharka, Pothana and Landruk collect the largest percentage of dry firewood from the government forest. Deorali collects the largest percentage of green firewood from the private forest. The government forest is the main source of dry firewood. The percentage of dry firewood and green firewood collection varies greatly from place to place.

The round-trip from house to forest was 40 minutes in the 1970s while the households were in their original villages. At present, the average round-trip has risen to 126 minutes although the households are on the trekking route surrounded by dense forest. It shows a more than threefold increase in time distance from the residence to the forest and back to the residence. The average time distance to the forest has increased in all places.
The average amount of firewood collection indicates its inverse relationship with the average firewood collection time of different places, i.e., shorter the firewood collection time, greater the firewood collection amount and vice versa. The short firewood collection times in Thulakharka and Deorali corresponds to their large firewood collection amounts. In other places, the situation is just reverse. The average amount of firewood collection is less in other places whereas the firewood collection time is longer. Households in Landruk collect the smallest amount of firewood with the longest amount of firewood collection time.

5.2 Conclusion

Nepal, one of the poorest countries in the world, is an agricultural country where 93 percent of the total population are farmers. In spite of its large percentage of farmers, this country is not self-sufficient in food production. Limited cultivatable land, soil erosion, unscientific farming methods, frequent hailstones, uncertain monsoon rains, and inefficient use of land due to division of land holdings have seriously constrained the agricultural sector of the country. The situation is similar in the country’s manufacturing sector. Industrial development is not gaining momentum, because of lack of capital, technicians, raw-materials, and transportation infrastructure. In addition, political instability has compounded the development problem further. The government cannot run without foreign aid in Nepal. Despite these serious problems, it is bestowed with wonderful natural beauty. The Himalayas, where more than 200 peaks are over 6,000 m high, are world renowned. These mountain ranges are the focus of trekkers and
mountaineers. At the present time, only parts of the eastern and central Himalayas are opened to them. The Dhampus-Pothana Trekking route is an important trekking route for visitors of the Annapurna Base Camp in western Nepal. One of the findings of this study is that there is a positive impact of tourism on income level of the households along the trekking route. The average daily income from housing trekkers is Rs 203 per household (excluding the two joint venture hotels) and the average daily profit from meals is Rs 1,203. This shows that the impact of tourism is positive on income level. This amount is much higher than the range of wages (Rs 30 to Rs 50) which a laborer gets by working from dawn to dusk for a day. The tourist-based hotel industry is quite clearly a new income generator for households along the Dhampus-Pothana trekking route. High profits in tourism and low or no cash incomes outside the tourist economy raise concern, however, that tourism contributes to the formation of a dual society.

The second finding of this study is about the impact of tourism on the occupational structure of households along the trekking route. Farming was the single dominant occupation of all the households before the opening of the trekking route in 1970. By opening the trekking route through the dense forest of Dhampus-Pothana Ridge from Pokhara to the Annapurna Base Camp, the villagers had opened a new employment opportunity for themselves. As the trekkers and mountaineers poured into the area, some households moved from their villages to build hotels along the trekking route in order to earn a livelihood. This study finds that there is a new population occupational structure along the trekking route which is completely different from the occupational structure of the villages. Of the total 133 labor force along the trekking route, 74 percent are hotel
owners and operators, only 17 percent are farmers, and 9 percent are employed in the service sector by national and international governmental or nongovernmental agencies. In the remote hills of Nepal, a 74 percent labor force employed in a sector other than agriculture demonstrates that tourism is the major cause of occupational change along the trekking route.

One of the findings of this study is about the impact of tourism on household crop production between 1970 and 1995. For those households which are along the trekking route, farming was the major source of living before the route was opened. They had produced the same crops which they are producing at present. But the comparison of crop production patterns between 1970 and 1995 shows that staple production has declined greatly in 1995 while there has been a 94 percent increase in vegetable production. On the whole, there was a 36 percent decline in production of rice, 45 percent in corn, and 34 percent in potatoes. Interestingly, green vegetable production increased tremendously. Grain crops such as rice and corn, are not as important in the Western diet as vegetables.

Such a decline in staple production is due mainly to a shift of manpower from the exhaustive and labor intensive farming to the lucrative tourist-based hotel industry on the trekking route. As people left farming, the supply of rice and potatoes was no longer enough to meet the needs of the people. By purchasing crops from their neighbors and Pokhara, the households make up for the shortfall. They must import green vegetables even if the production level of 1995 is much higher than the production level of 1970.
This shows that as opposed to the positive tourism impact on green vegetable production, it is negative on grain production.

The discussion shows that all the households use firewood to prepare meals and heat homes. Kerosene is used as a supplement. The study also shows that the dry firewood, which is approximately 65 percent of the total, is the major source of energy. People collect firewood free of cost from the government forest. For this reason, dry firewood is becoming more and more scarce. The average time spent collecting a bundle of firewood increased from 40 minutes in 1970 to 126 minutes in 1995. This shortage of dry firewood in the government forest has made people fell the green trees from their private forests and the government forest. Plus, they have imported kerosene from town. Of the total green firewood, that from the private forests represents 28 percent and from the government forests 5 percent. The private forest of Dhampus is widely used for this purpose. The small percentage of green firewood collection from the government forest indicates the beginning of fresh tree felling in the government forest. Fresh firewood collection has begun in Tolka. Since the government forest’s dry wood yielding capacity is being exhausted day by day, the chances of people felling the fresh trees both in the government and private forests in the present study area has increased. If this phenomenon is not given due consideration in time both by the local people and concerned authorities, it can soon lead to a serious problem of soil erosion and landslides on the fragile Dhampus-Pothana Ridge.
5.3 Suggestions

In addition to discussing the impact of tourism on income, occupational structure, food grain and vegetable production, and firewood collection in the present study area, I would like to suggest the following suggestions to improve the social, economic and environmental conditions of this area.

The first suggestion for improvement is forest preservation by extending the hydroelectric power lines from Ghandruk village. This line can be extended to the present study area by talking with the Annapurna Conservation Project and the Ghandruk Village Development Committee. Power supply is regular from this power station and per unit charge is cheap. Supplying electric power to the present study area from the Ghandruk village could reduce firewood collection from the forests which could eventually help to protect forest. This process not only saves forests but also the environment. This alone will not completely protect the environment since the rocks, gravel and sand collected from the Mordi and Suikhet rivers on both sides of the forest ridge are intensifying the stream erosion on the slopes. This fact should also be given due consideration by the authorities.

There should be more local food grain and vegetable production in local villages. The households produce part of the vegetables on their own for their guests, buy some from neighbors, and import 28 percent from town. Likewise, they import 19 percent of the potatoes from town. Being of mountainous terrain, rice production is difficult, but not vegetable and potato production. By encouraging local villagers to produce more vegetable and potatoes, and supplying the same to the hotels, import from town should be
reduced. It stops cash outflow to town and enables farmers to save money to buy their basic needs like salt, sugar, clothes, and medicine.

Community cottage industries should be established. Summer is a slack season for tourists. Therefore, there is not much restaurant and lodging business during this season. People spend their time by visiting towns and helping their friends on their farm work. Some members from the family work in the field. They are good at weaving woolen garments like rugs, blankets, carpets, bags, shawls, sweaters, socks and gloves. These skills are disappearing from this locality for good. Therefore, to revive these disappearing skills and crafts, it is suggested to establish a community cottage industry where people can work during the summer slack season and prepare garments for sale.

There is a need for environmental protection programs. Local people in villages and people along the trekking route use forests, water, and land free of cost but it does not seem that they are taking care of these elements in their surrounding. Until now, there are not any local environmental protection groups in this area. Therefore, to protect the environment, it is suggested to form an organization of local communities to protect the forest, land, and water from over exploitation. It is the beauty of the landscape that brings several hundred thousand tourists per year to Nepal. If the quality of the environment is allowed to deteriorate, tourists may seek out other, more pristine countries.

Further research work is necessary. This research describes whether or not tourism has a negative or positive impact on household economy, occupational structure, farm produce and firewood consumption. The study shows that the households along the trekking route make substantial profits from the restaurant and lodging services, but it
does not explain how the profits are being spent. Without further research in this area, it is difficult to identify the nature of expenditure. It is not clear to what extent households use the generous profits derived from tourism to further invest or to increase their consumption. Therefore, the author suggests further research on how profits from tourism are used in this study area.
APPENDIX I: QUESTIONNAIRE

QUESTIONNAIRE
IMPACT OF TOURISM IN THE HILLS OF NEPAL: A CASE STUDY OF DHAMPUS-POTHANA RIDGE IN KASKI DISTRICT, NEPAL

SR.NO. NAME;——— AGE.— SEX.— PLACE——-
HOTEL ESTABLISHED YEAR ---

1. INSERT THE INFORMATION ON AGE, SEX AND OCCUPATIONAL STRUCTURE OF THE FAMILY IN THE TABLE GIVEN BELOW

<table>
<thead>
<tr>
<th>S.N</th>
<th>SEX</th>
<th>AGE</th>
<th>FARM</th>
<th>HOTEL</th>
<th>SERV</th>
<th>S/T.</th>
<th>DPND.</th>
<th>RMK.</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

ABBREVIATION; FARM—FARMER, SERV—SERVICE, S/T.—STUDENT, DPND—DEPENDANT, AND RMK.—REMARKS

2. INSERT THE NUMBER OF ROOMS, BEDS AND THE BED CHARGES IN THE TABLE GIVEN BELOW

<table>
<thead>
<tr>
<th>NOS. ROOMS</th>
<th>BEDS</th>
<th>BED-CHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE BED</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Insert the nos. of guests (night stop) per day in your lodge in different seasons of a year in the table given below.

<table>
<thead>
<tr>
<th>SEASONS</th>
<th>NOS. OF GUESTS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER (MAY, JUN, JULY)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL (AUG, SEP, OCT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WINTER (NOV, DEC, JAN)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRING (FEB, MRH, APR)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Insert the nos. of lunch takers in a day in different seasons of a year in your hotel (lodge).

<table>
<thead>
<tr>
<th>SEASONS</th>
<th>NOS. OF GUESTS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER (MAY, JUNE, JULY)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL (AUG, SEPT, OCT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WINTER (NOV, DEC, JAN)</td>
<td></td>
<td></td>
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</tbody>
</table>
5. INSERT INFORMATION ON TYPES OF FOOD (IN ASCENDING ORDER OF HIGH TO LOW SALE), COST AND PRICE PER MEAL IN THE TABLE GIVEN BELOW

<table>
<thead>
<tr>
<th></th>
<th>TYPES OF FOOD</th>
<th>COST</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DINNER</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>LUNCH</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>BREAKFAST</td>
<td></td>
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</tbody>
</table>

WRITE DOWN THE NAMES OF THE FOOD BASED ON DEMAND OF THE TOURISTS

1. NEPALI FOOD
2. WESTERN FOOD

6. INSERT THE PROPORTION (PERCENTAGE) OF NEPALI AND WESTERN FOOD TAKERS.
   a. NEPALI FOOD TAKERS -------
   b. WESTERN FOOD TAKERS -------

7. INSERT INFORMATION ON PRODUCTION OF CROPS (IN MURIES AND PATHI) BEFORE AND AFTER THE HOTEL ESTABLISHMENT

<table>
<thead>
<tr>
<th>RICE</th>
<th>WHEAT</th>
<th>CORN</th>
<th>POTATO</th>
<th>GR. VG</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEFORE</td>
<td></td>
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</tbody>
</table>
QUESTIONNAIRE
IMPACT OF TOURISM IN THE HILLS OF NEPAL; A CASE STUDY
OF DHAMPUS–POTHANA RIDGE IN KASKI, NEPAL

<table>
<thead>
<tr>
<th>AFT</th>
<th></th>
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</thead>
</table>

GR.VG–GREEN VEGETABLE IN kg.

8. IF ANY CHANGE IN PRODUCTION, ASK THE REASON FOR IT.

9. IN THE TABLE GIVEN BELOW, INSERT THE AMOUNT OF FOOD GRAIN (IN MURIES AND PATHI) FROM YOUR HOME AND THE AMOUNT OF FOOD GRAIN YOU HAVE TO BUY FROM OTHER PLACES TO PREPARE MEAL FOR THE TOURISTS.

<table>
<thead>
<tr>
<th></th>
<th>RICE</th>
<th>WHEAT</th>
<th>POTATOES</th>
<th>VEGE (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOME</td>
<td></td>
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<td></td>
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<tr>
<td>NBOR.</td>
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<tr>
<td>POKHARA</td>
<td></td>
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</tbody>
</table>
10. INSERT THE AMOUNT OF FIREWOOD (IN BUNDLES) COLLECTED FROM THE GIVEN SOURCES IN THE TABLE BELOW

<table>
<thead>
<tr>
<th></th>
<th>DEADWOOD</th>
<th>DEADWOOD</th>
<th>GREENWOOD</th>
<th>GREENWOOD</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>BEF TREK. AFT.TREK. BFR.TREK AFT.TREK</td>
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<tr>
<td>PRIVATE FOREST</td>
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<tr>
<td>GVT. FOREST</td>
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BEF=BEFORE AFT=AFER

11. WHAT IS THE SITUATION OF FIREWOOD COLLECTION BEFORE AND AFTER THE OPENING OF TREKKING ROUTE IN THIS AREA? SAME— B. LESS DIFFICULT---- C. MORE DIFFICULT------ IF MORE DIFFICULT, WHY?

12. WRITE DOWN THE NAME OF THE PLACES AND TRAVEL DISTANCES (IN TERMS OF HOURS AND PHYSICAL DIST.) FOR FIREWOOD COLLECTION BEFORE AND AFTER THE OPENING OF THE TREKKING ROUTE?
# QUESTIONNAIRE

**IMPACT OF TOURISM IN THE HILLS OF NEPAL; A CASE STUDY OF DHAMPUS-POTHANA RIDGE IN KASKI, NEPAL**

<table>
<thead>
<tr>
<th>PLACE</th>
<th>PH.D.B.T</th>
<th>PH.D.A.T</th>
<th>TM.D.B.T.</th>
<th>TM.D.AF.T</th>
<th>RMK.</th>
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</table>

**PH.D.B.T.** - PHYSICAL DISTANCE BEFORE OPENING OF THE TREK ROUTE

**PH.D.A.T.** - PHYSICAL DIST. AFTER THE OPENING OF TREK. ROUTE

**TM.D.B.T.** - TIME DIST. BEFORE THE TREK ROUTE

**TM.D.AF.T.** - TIME DIST. AFTER THE TREK ROUTE OPENING

13. **INSERT A CHECK MARK BESIDE THE LANGUAGE THAT SHOWS THE MEDIUM OF YOUR COMMUNICATION WITH THE GUEST**

- --- ENGLISH
- ----- ENG. AND GESTURE
- ----- GESTURE ONLY
- -------- ASK SOMEONE TO SPEAK FOR ME

14. **WHAT DISADVANTAGES HAVE YOU MARKED WITH THE OPENING OF TREKKING ROUTE IN THIS AREA?**

a.

b.

c.

d.
15. WHAT ARE THE ADVANTAGES OF THIS TREKKING ROUTE IN THIS AREA?
   a.
   b.
   c.
   d.

16. WHAT DO YOU DO IN YOUR ORIGINAL (OLD) HOUSE IF IT IS IN USE AT PRESENT?

17. INFORMATION BASED ON OBSERVATION

1. TYPE OF THE HOTEL  a. ONE STORY----  b. TWO STORY ----
   c. TRADITIONAL HOUSE----  d. MODERN HOUSE --- e. SEPARATE FAMILY HOUSE ---
   f. SEPARATE KITCHEN AND DINING ROOM ------
   g. TEA-SHOP ---  h. NOS. OF FIREPLACES----
   i. PIPED WATER ----  j. TOILETS IN GOOD CONDITION -----
QUESTIONNAIRE
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k. TOTAL COST OF THE LODGE IN RS.--------- 1. TIDINESS; GOOD----
FAIR---- POOR----- m. ORIGINAL VILLAGE -----

INTERVIEWER'S COMMENTS

INTERVIEWER ---- DATE----
BIBLIOGRAPHY

Books and Public Documents


**JOURNALS AND MAGAZINES**


