



Mountain Tourism for Local Development

Training Manual for
Programme Designers and Implementers



International Centre for Integrated Mountain Development
and
Centre for Resource and Environmental Studies

Preface

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AND
BIKASH SHARMA**

**International Centre for Integrated Mountain Development (ICIMOD)
and
Centre for Resource and Environmental Studies (CREST)
1998**

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Cover Photos

Top: Machhapuchhre (6,993m) from Pokhara

Bottom: Terrace farming in the middle hills of Nepal - *P. Sharma*

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Preface

The present manual is part of a series of studies and manuals resulting from the second phase of the NORAD -funded Project entitled Mountain Tourism for Local Community Development. The major objective of the Project is to develop training modules and material on mountain tourism for local community development for policy makers, program managers, private sector agencies and local community based organizations and entrepreneurs and impart training to these audiences in participating countries on a pilot basis. As part of the Project a number of thematic studies and manuals have been prepared.

The present Manual comprises training modules for Programme Designers and Implementers of tourism and related activities. The emphasis is in providing the programme designers and implementers of tourism and related activities with an awareness of the major issues of programmatic concern in mountain tourism. The manual presents and elucidates the objectives and goals of sustainable tourism development in the mountains. It also presents and elucidates the key issues and approaches related to the environmental, economic, social, and cultural aspects of mountain tourism and the ways and means of enhancing linkages and the reduction of leakages associated with mountain tourism. The conceptual and operational aspects of the notion of carrying capacity and its relevance in the management of mountain tourism and the role of the different actors - government, non-governmental agencies, community organizations and the private sector - in the organization and management of sustainable tourism in the mountains has also been brought out. A major thrust is on the development of participatory institutions that would set in motion a process of participatory planning of tourism so that mountain tourism may contribute to the three cardinal concerns of mountain development in the Hindu Kush-Himalayas, namely, poverty alleviation, environmental care and empowerment of local communities.

These manuals build on the country overview studies, regional case studies and micro case studies undertaken during the earlier and the present phase of the NORAD supported Mountain Tourism for Local Development Project. The present manual is basically intended for the Nepali programme level audience in the government, non-governmental agencies as well as the private sector. Separate manuals have been developed for the Policy planners and Local Community Groups, Organizations and entrepreneurs in tourism and related areas in Nepal. Also, similar manuals have been developed for different target audiences in India and Pakistan. Pilot trainings through the use of these manuals have also been conducted in these countries in association with key institutions related to tourism and local development. We hope that these manuals will contribute in the process of institutionalizing the trainings in respective country contexts and facilitate the conceptual and operational integration of mountain tourism with local development.

We would like to thank the Centre for Resource and Environmental Studies (CREST) our collaborating institution in the Mountain Tourism for Local Community Development Project in Nepal, particularly Dr. Kamal Banskota and Bikash Sharma for developing these manuals.

On behalf of ICIMOD, Dr. Pitamber Sharma is the Project Coordinator as well as the technical editor of these manuals.

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Introduction

A majority of the people in the mountain areas of Nepal live in abject poverty. Development has not been able to reach many remote and inaccessible areas of the mountains and the people there continue to depend on natural and land resources for subsistence. The environment, in terms of renewable natural resources, is degrading, population is growing, and hardships increasing. Opportunities are not forthcoming either. In this apparently hopeless situation, tourism development in the mountain areas provides some hope for the alleviation of the situation faced by mountain people.

The history of mountain tourism in Nepal spans three decades. In some mountain areas, tourism has been able to bring benefits to some people. People realize higher standards of living in areas such as Namche Bazaar, parts of the Annapurna area, Langtang, and so on. However, tourism benefits have been confined to small pockets and only a small number of people have been able to reap benefits from tourism. Part of the problem lies in the way mountain tourism has developed - it is entirely demand led and the supply side section of development has been slack. The environmental resources which tourists come to enjoy have not been adequately appreciated in the host country. Without appreciation of these resources, their value cannot be realized. Neither have there been efforts to link mountain tourism development with mountain community development. Thus as a host country, Nepal has not been able to harness these resources to develop mountain tourism to benefit the mountain community. Policy weaknesses and failures have also been responsible for this poor performance. Serious concerns have been raised on the negative impacts of mountain tourism on the environment, although some of these cannot be attributed to tourism. Negative environmental impacts are even more serious since they bring more hardship to the mountain people who depend on natural resources. Besides, these provide the basis of mountain tourism in Nepal and their deterioration can have serious negative implications on mountain tourism itself. But there is no denying that despite the negative impacts, mountain tourism has had overall positive impacts on mountain communities.

The conventional thinking has been that tourism led development will occur simply by opening new areas and permitting tourists to visit them. A large body of evidence, however, contradicts this belief because nowhere in mountain areas has tourism development been spontaneous. Although many mountain areas are rich in natural resources that have high nonconsumptive use value essential for tourism development, such resources are not helping local people improve their quality of life. Where tourism is practiced, benefits have been limited and mountain tourism has not been able to stimulate community development despite the financial resources it generates. Mountain tourism development cannot be assumed to take care of itself and stimulate community development unless concerted efforts are made. Comparative advantages of the area have to be assessed and ways and means of linking tourism development with community development have to be explored. Proper planning is necessary. Ultimately, local people have to be able to manage their own development in a sustainable way. Efforts must start with a clear vision and encompass a broad spectrum of issues. The very fact that natural resources provide the basis for mountain tourism development and that the lives of the mountain people depend on natural resources makes its management an important exercise. Resources need to be conserved for everyone: visitors seek satisfaction, local people desire to improve their lives, entrepreneurs wish to make profits, and the government and local bodies need revenue. In this apparently complex situation where different individuals and institutions have different objectives, conflicts in interests are bound to arise.

Objective

New ideas have evolved over time in the management of natural resources. New ideas like implementing programmes at the grassroots level by organizing beneficiaries, enhancing their capacities, and empowering them have already become mainstream ideas in rural development. This participatory approach, however, has not been utilized effectively in Nepal in the context of mountain tourism development. The concept of mountain tourism development has become complex. Understanding basic mountain tourism issues, sustainable development, carrying capacity of the environment, importance of energy technologies, the participatory approach, data base requirements, and monitoring and evaluation systems help facilitate the designing and implementation of sustainable mountain tourism development. The objective of this manual is therefore to introduce these concepts and generate awareness among programme implementors by providing practical examples.

This manual draws from the work on mountain tourism initiated by ICIMOD in the last three years. It also draws from the work of writers that have contributed to issues related to mountain tourism in the Nepalese context. Although not all studies have been specifically referenced to in this manual, they have been utilized in previous work undertaken by CREST and have been accredited in the earlier works. Most of the materials used are cited in the reading material section.

Organization

The manual is divided into nine sessions. Session 1 provides a general overview of Nepal's tourism sector. Session 2 introduces mountain tourism and various impacts reported (illustrated with facts based on a variety of sources as well as past studies commissioned by ICIMOD). Session 3 introduces trainees to the concept of sustainable mountain tourism development and how the concept is implemented. (Other important concepts introduced in this session is the carrying capacity of Himalayan Environmental Resources and the critical factor approach. Illustrations are provided for easy understanding of the concepts.) Session 4 is on Planning and Management of Sustainable Mountain Tourism Development. In this session, trainees are familiarized with knowledge essential in designing mountain tourism sites and destination plans. A brief introduction to Environmental Impact Assessment is also provided in this session. Technologies for Mountain Environment Management is the topic of Session 5. The objective of this session is to enhance the awareness of trainees on the different technologies that have proved to be useful in mountain areas and how the use of such technologies will help improve the mountain environment.

Sessions 6 through 9 deal with different aspects of the emerging participatory approach to development. In Session 6, project managers and implementors are introduced to the participatory approach. Session 7 familiarizes trainees with planning tools used by the participatory approach. In Session 8, trainees will be made familiar with information needs and participatory data tools required for planning and developing mountain tourism. The last session deals with monitoring and evaluation. (Sound monitoring is an essential attribute for project success and monitoring indicators in key areas are identified.)

The curriculum or reading materials for trainers are provided in the second half of the manual. The materials are mostly reports published by a variety of sources. Reading materials for trainers have been identified as "necessary" and "additional". All trainers must be thoroughly familiar with the main training materials. Additional materials will help trainers facilitate training sessions. A brief summary of the main reading materials are also provided.

Materials for training are provided in the main text as well. In addition, slides and video shows are recommended in appropriate sessions. A one day field visit is recommended after Session 5.

SCHEDULE AND TIMING

Day 1

- Session 1: Overview of Tourism**
Session 2: Mountain Tourism Impacts

09:00 - 09:30	Registration
09:30 - 10:30	Inauguration
10:30 - 11:00	Tea break
11:00 - 11:30	Introduction to the Workshop
11:30 - 12:00	Slide Show Presentation and Discussion
12:00 - 13:00	Session 1: Overview of Tourism
13:00 - 14:00	Lunch Break
14:00 - 15:30	Session 2: Mountain Tourism Impacts
15:30 - 16:00	Tea Break
16:00 - 17:00	Discussion

Day 2

Video Presentation

- Session 3: Sustainable Mountain Tourism Development**

09:00 - 10:00	Video Presentation and First Part of Session 3
10:30 - 10:45	Tea Break
11:15 - 13:00	Session 3: Sustainable Mountain Tourism Development:Part 1
13:00 - 14:00	Lunch
14:00 - 15:30	Session 3: Sustainable Mountain Tourism Development:Part2
15:30 - 15:45	Tea Break
15:45 - 17:00	Discussion

Day 3

- Session 4: Planning and Management of Sustainable Mountain Tourism Development**

- Session 5: Technologies for Mountain Environment Management**

09:00 - 11:00	Session 4: Planning and Management of Sustainable Mountain Tourism Development
11:00 - 11:15	Tea Break
11:15 - 13:00	Discussion on Session 4
13:00 - 14:00	Lunch
14:00 - 15:30	Session 5: Technologies for Mountain Environment Management
15:30 - 15:45	Tea Break
15:45 - 17:00	Discussion on Session 5

Day 4

- Session 6: Promoting Community Participation in Mountain Tourism Planning**

- Session 7: Participatory Planning**

- Session 8: Information Needs and Designing Surveys**

09:00 - 10:30	Promoting Community Participation in Mountain Tourism Planning
10:30 - 10:45	Tea Break
10:45 - 11:30	Discussion on Session 6
11:30 - 13:00	Presentation of Session 7
13:00 - 14:00	Lunch
14:00 - 15:30	Presentation of Session 8
15:30 - 15:45	Tea Break
15:45 - 17:00	Discussion on Session 7 and 8

Day 5

Field Visit: Leave early in the morning and return by evening

Day 6

Second Video Presentation

Session 9: Monitoring and Evaluation and Closing

09:00 - 10:00	Second Video Presentation
11:00 - 11:15	Tea Break
11:45 - 13:00	resentation of Session 9
13:00 - 14:00	Lunch
14:00 - 15:30	Discussion on Field Observation, second Video Presentation as well as other Observations
15:30 - 3:45	Tea Break
16:00 - 17:00	Discussions continued and Closing

Slide Show, Video Presentation, and Field Visits

First Slide Show

The first slide show will highlight mountain tourism in Nepal. Slides from several tourism related areas will be presented. This first slide show intends to orient trainees and should be shown before the first session.

Second Slide Show

The second slide show will be presented during the third session to illustrate different impacts of mountain tourism and environmental deterioration. Slides from Phewa Lake, Upper Mustang, Langtang, Annapurna, and Sagarmatha areas will be organized to demonstrate different aspects of mountain tourism, positive and negative impacts of such tourism, and the effects on carrying capacity and its promotion.

Video Shows

Two video shows will be presented. The first is an old presentation of the Annapurna Area. The second show is a more recent presentation of the Annapurna area and will be shown on the last day, after the field trip. Participants will then be asked to discuss their own observations on the changes they perceive. Finally after Session 9 is over, the rest of the day will be devoted to discussions.

Field Visit

The purpose of the field visit is to take trainees to a site where project implementation has been carried out through the participatory approach. This project need not necessarily be one that is related to mountain tourism. However, it has to be in a mountain environment where beneficiaries have demonstrated success in planning, designing, implementing, and managing rural development projects. Additionally, the site selected will also demonstrate the leading role played by women in some aspects of rural development. An opportunity will be provided to trainees to interact extensively with the local community. The spin offs (i.e., multiplier effects) resulting from the project will also be highlighted. In other words, "participatory framework" in action will be demonstrated.

SESSION 1

DURATION : ONE HOUR

Overview of Tourism

Objective

To provide an overview of tourism: focus on tourist flow, its origin, purpose, etc., and its contribution to the national economy

Contents

- Importance of Tourism in Nepal
- Tourism Development Objectives and Policies
- World Tourism
- Tourism in Nepal
- Understanding the Demand Side of Tourism
- Nature and Flow of Tourists
- Nationality
- Seasonality
- Purpose of Tourist Visit
- Supply Side of Tourism
- Areas of Mountain Tourism and Types of Mountain Tourists
- Contribution of Tourism to the Economy

Methodology

Short Presentations followed by Group Discussions

Objective

To provide an overview of tourism: focus on tourist flow, its origin, purpose, etc, and its contribution to the national and local economy

Importance of Tourism in Nepal

When tourism began in Nepal over three decades ago, the country was relatively inaccessible and constrained by international air transport services, as well as other facilities and services required by tourists. Tourist arrivals in the country have increased with an average growth of over 6% between 1976-1994. In the early years, a majority of the tourists visiting Nepal were from Western Europe, followed by Asia; primarily Indians visited the country. In more recent years, however, tourists from Asia have begun to account for the greater share of visitors. The growth of North American tourists is declining over the years. Tourist arrival peaks during October and March. The trend of tourists visiting Nepal indicates that the per centage share of pleasure groups is decreasing and the per centage share of trekking and mountaineering groups is increasing. Despite the increase in the overall number of tourists to Nepal, there has been virtually no growth in the length of stay per visitor, which has been roughly ten nights.

The average per capita daily expenditure of a tourist has remained low at about US\$13 (1988), of which 53 per cent is spent on food, beverages, and accommodation; 16 per cent on recreation; 15 per cent on shopping; and the remaining 16 per cent on miscellaneous items. Import leakages have been estimated to be fairly high in the tourism sector.

The gross earnings from tourism increased from Rs 636.8 million in 1980 to Rs 8,251 million in 1994, at current prices, with an average annual growth rate of about 17 per cent. The share of earnings from tourism in the total value of merchandise export has fluctuated between 35-55 per cent, and its share in total foreign exchange earnings has remained fairly constant. The average contribution of tourism earnings to GDP has increased from 2.3 per cent in 1980 to about 4.2 per cent in 1994.

From 1965 to 1970 about eight new hotels came into operation, and currently there are about 159 hotels of different categories in the country. About 80 per cent of the star hotels are concentrated in Kathmandu. The number of rooms and beds increased by over 11 per cent between 1971 to 1992. The number of airlines and travel and trekking agencies has also been increasing steadily. The number of international flights and destinations has shown little increase.

Nepal is a country rich in natural and cultural diversity and the country boasts of the highest mountain chain in the world. Given its small size (147,186 sq. km.) the biodiversity is also immense. In order to protect this biodiversity, 14 protected areas covering roughly 14 per cent of the country have been created. Trekking tourism is the most popular type of mountain tourism in Nepal, followed by mountaineering and rafting.

Studies suggest that protection has enhanced conservation. But since most of these areas were inhabited by people before protected areas (mostly national parks) were created in Nepal, it has also compelled people to bring changes to their traditional lifestyles. Conflicts between park authorities and local people have also emerged, as development and tourism have not been able to benefit the community that resides in protected areas.

Mountain tourism is popular in some of the national parks. There are at least a dozen areas in the mountains of Nepal that have been opened to tourists. Some of the most popular areas are the Annapurna Conservation Area (ACA), Sagarmatha National Park (SNP), and Langtang National Park (LNP). Over 50 per cent of the trekkers that come to Nepal visit the Annapurna Region. The Annapurna region is easily accessible from Pokhara Valley, located about 200 km west of Kathmandu. The Sagarmatha and Langtang National Parks are respectively the second and third most popular trekking regions. SNP contains the world's highest mountain (Mt. Everest, 8,884 m) and tourists come specifically to see it. LNP is easily accessible from Kathmandu and contains beautiful views of rich forests and the Himalayas. Although other national parks in the mountain areas are equally beautiful, they are not as popular as they are not easily accessible.

Tourism Development Objectives and Policies

Nepal formulated a 10-year Tourism Master Plan in 1972 with the objective of generating income and employment and increasing foreign exchange earnings through tourism. With this broad objective in mind, the plan proposed the development of different types of tourism in Nepal, namely organized sight-seeing, independent trekking, and recreational and pilgrimage tourism. The plan also emphasised the need for motivating the private sector in tourism development. The master plan was reviewed in 1984, and it was pointed out that the government had not fulfilled its target for promotional activities. The tourism sector was accorded priority only in the Seventh Plan (1985-90). HMG has set out the goal of poverty alleviation through rapid economic growth in the Eighth Five Year Plan (1992-1997). The current plan places emphasis on the promotion of environmental, historical, and cultural assets through tourism promotion and development of linkages between tourism and other sectors of the economy. A strategy envisaged to achieve this goal has been the partnership approach between the public and private sectors.

Twenty years after the first master plan was formulated, in 1995, an independent Tourism Development Board was formed with members from both the public and private sectors. It is hoped that this board will give tourism development in Nepal a new thrust.

World Tourism

Tourism is considered to be the world's largest business sector. In 1988, it was estimated that about 399 million tourists travelled between different nations and contributed an estimated US\$233 to US\$388 billion to national economies.

Nepal's Share

Number: about 0.09 per cent. Income: about 0.023 per cent.

Tourism in Nepal

Understanding how tourism behaves in relation to changes in income and prices is an important aspect of the demand side of tourism. Tourism can be seen from the demand side as well as from the supply side.

Understanding the Demand Side of Tourism

It is necessary to understand the flow of tourists, their nationality, the main seasons they visit, and their motivation for visiting the country in order to understand the demand side of tourism.

Unless the demand side is adequately understood, developing supply components of tourism and their management are unlikely to be effective (Box 1.1).

Nature and Flow of Tourists: Numbers (Table 1.1 and Figure 1.1)

- Numbers have been steadily growing at about 6 per cent per annum.
- Between 1978 to 1985, the flow was almost steady.
- The numbers dropped in 1988.
- Since then the growth has been higher than 6 per cent.

Box 1.1: Tourism is an Economic Commodity

Tourism can be treated as an economic item: it gives satisfaction to the consumer. This means that, in tourism, some form of monetary payment has to be made. Tourism may be treated as a luxury item as its consumption requires a reasonable amount of income to pay for travel, accommodation, food, and other services. Hence, tourism depends on the prices of different services and the tourist's income among other things. As a result, there are more tourists from higher income countries than from lower income countries.

Table 1.1: Annual Flow of Tourists to Nepal

Year	1980	1985	1990	1991	1992	1993	1994
Number	162,897	180,989	254,885	292,995	334,353	293,567	326,531

Source: Nepal Tourism Statistics, Ministry of Tourism and Civil Aviation, Department of Tourism, HMG.

Figure 1.1: Trend in Visitors to Nepal



Nationality (Figure 1.2)

- Indian tourists are dominant and their number is constantly increasing.
- Visitors from Western Europe comprised the largest number until 1980.
- Currently, Asian tourists, including Indians, comprise the largest number.
- If Indian tourists are excluded Asian tourists comprise about only 15 per cent (1992) and tourists from Western Europe become dominant.
- The number of tourists from North America shows a steady decline in terms of per centage.
- The highest growth recorded is from Asian countries.

Figure 1.2: Trend in Visitors to Nepal

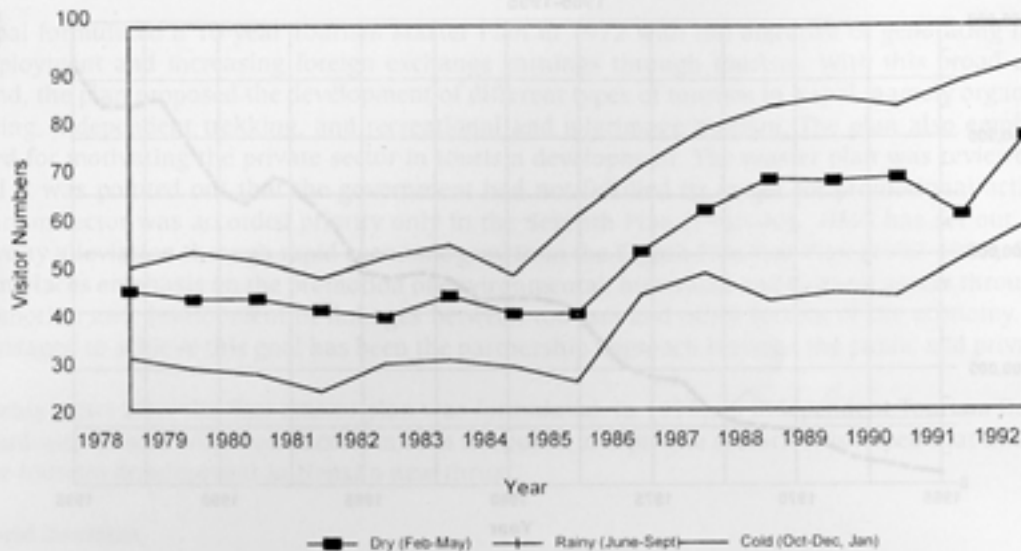
by Major Markets: 1978-1995



Seasonality (Figure 1.3)

- Tourist arrivals peak during the autumn and spring seasons (October to March).
- Seasonality has certain disadvantages such as its impact on income, employment, crowding, and congestion.

Figure 1.3: Tourist Arrivals by Seasons (1978-1992) Excluding Indian Tourists



- Seasonality also has advantages: tourism in Nepal peaks during the slack agricultural season and so labour does not compete with tourism. Travelling in remote areas is relatively safer than during the monsoon season. During the slack tourism season, vegetation growth is high due to the monsoon and hence the environment regenerates. The Indian tourist peak season coincides with this pattern.

Purpose of Tourist Visit

- Most (about 71%) visitors to Nepal come for pleasure and visit Kathmandu and Pokhara.
- Of all the international visitors, about 20 per cent go trekking in the mountain areas.
- Only about 10-12 per cent of Indian tourists visit the mountain areas.
- About 80 per cent of the tourists visit Nepal for pleasure and trekking. Although the number of pleasure tourists is increasing, their share is however declining. (Compare Figures 1.4 and 1.5.) The remaining 20 per cent visit Nepal with business, official, or other purposes.
- The trend in all these categories has been more or less constant.

Figure 1.4: Trend in Visitors to Nepal by Purpose of Visit: 1978-1995

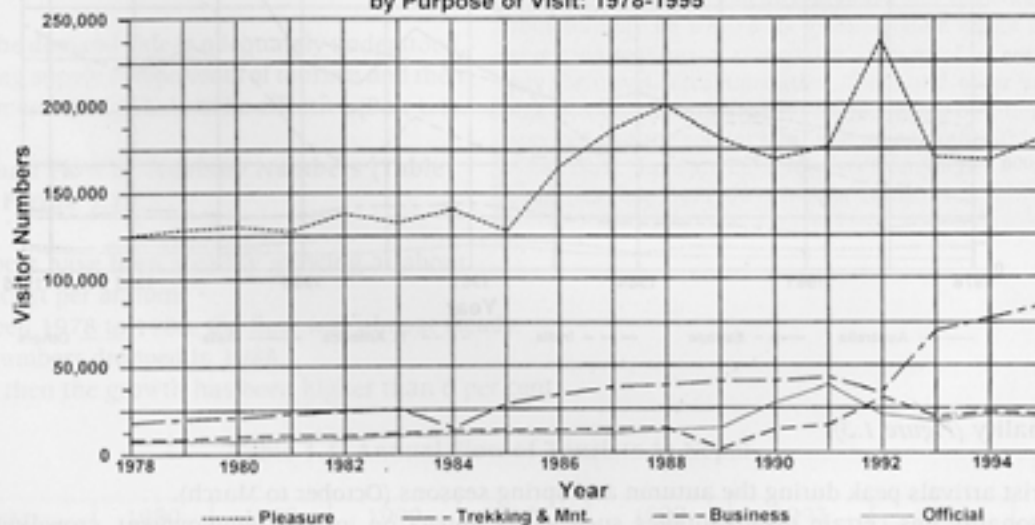
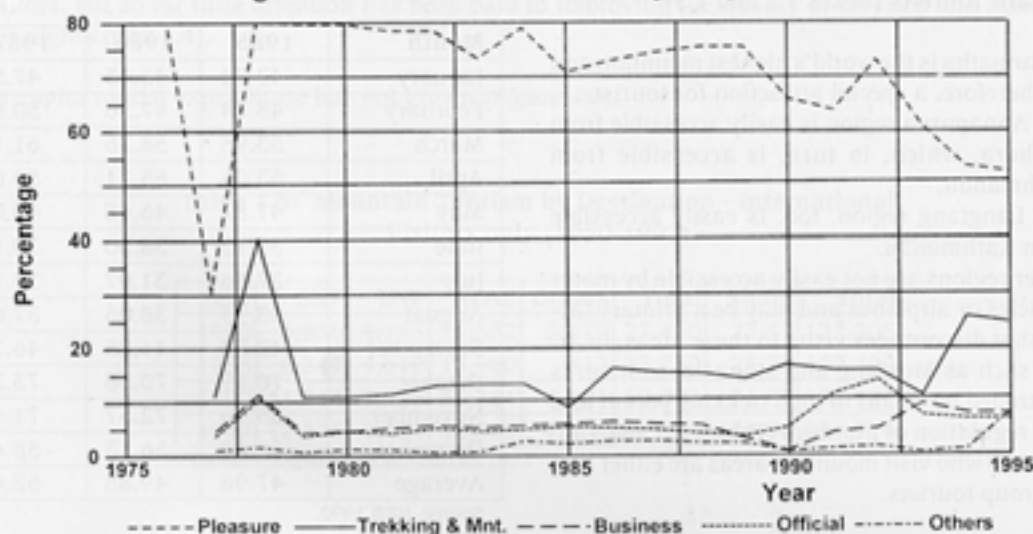


Figure 1.5: Share of Visitors by Purpose



Supply Side of Tourism

The supply side of tourism depends on the quantity and quality of goods and services provided by the host country. Thus, the goods and services provided by hotels, travel and trekking agencies, airlines, cargo agencies, restaurants, handicraft outlets, etc., determine the supply side of tourism.

Between 1965-1970, there were about eight hotels in Nepal. Since then there has been a steady growth in the number of hotels of different categories in the country (Table 1.2). About 80 per cent of the hotels are concentrated in Kathmandu, indicating the severe limitations in diversifying tourism to other parts of the country.

Table 1.2: Hotels, Rooms, and Beds Available at Hotels of Different Categories

Hotel Category	1971			1992		
	No.	Rooms	Beds	No.	Rooms	Beds
Kathmandu	8	339	644	116	4,412	8,703
5-Star	1	110	206	4	722	1,414
4-Star	-	-	-	5	468	965
3-Star	1	60	120	3	206	387
2-Star	3	110	205	19	729	1,421
1-Star	3	59	113	21	563	1,105
Tourist Standard	-	-	-	9	184	390
Others	0	0	0	55	1,540	304
Outside Kathmandu	3	32	84	87	1,580	3,069
3-Star	-	-	-	1	69	136
2-Star	-	-	2	2	80	164
1-Star	-	-	-	9	280	376
Tourist Standard	-	-	-	4	52	104
Others	3	32	84	71	1,099	2,289
All Total	11	371	728	203	5,992	11,772

Source: Department of Tourism 1992

Table 1.3: Bed Occupancy Rate at Hotels of Different Categories

Hotel Category	1985	1986	1987
5-Star	52.29	58.90	66.73
4-Star	44.18	47.96	55.82
3-Star	53.76	53.76	62.07
2-Star	46.31	50.73	50.13
1-Star	47.66	44.67	48.38
Tourist Standard	37.89	40.66	37.16
Others*	48.31	48.61	50.15

*Includes non-star hotels, lodges, and guest houses
Source: NRB, 1990

Bed occupancy has remained fairly low at about 53 per cent (1987). The highest bed occupancy rate is for five-star hotels (Table 1.3). Occupancy rates are generally highest in October (Table 1.4). The number of airlines and travel and trekking agencies has also increased along with the growth of hotels. (In 1987, there were about 57 travel agencies.)

Areas of Mountain Tourism and Types of Mountain Tourists (Boxes 1.2 and 1.3)

- Sagarmatha is the world's highest mountain and is, therefore, a special attraction for tourists.
- The Annapurna region is easily accessible from Pokhara, which, in turn, is accessible from Kathmandu.
- The Langtang region, too, is easily accessible from Kathmandu.
- Other regions are not easily accessible by motor vehicles or airplanes and may be a primary factor that discourages visits to these areas. In areas such as Mustang and Manaslu, tourism is controlled by means of high trekking permit fees and regulation of numbers (Tables 1.5 and 1.6).
- Tourists who visit mountain areas are either FITs or group tourists.

Box 1.2: Protected Areas in the Mountain Environment and Conflicts

Currently, there are 14 protected areas of different status in Nepal, covering roughly 15 per cent of the country's surface area. Of these, nine are in the hill and mountain areas. The creation of protected areas has brought changes to the traditional lifestyles of the people living in these areas. Local people have derived benefits from the protection of their environment, but, at the same time, conflicts have also arisen between park authorities and local people.

Conflicts in Protected Areas

The main areas of conflict between local people and park authorities are:

- 1) denial of access to resources for local people (these resources include firewood, leaf litter, seasonal grazing, timber, and other minor forest products);
- 2) crop and livestock depredation by the protected area's wildlife; and
- 3) the absence of local people's participation in the management of the area

Contribution of Tourism to the Economy

Foreign exchange is important because many things which Nepal has to buy cannot be bought with Nepalese currency. Because of its poor economy, the Nepalese currency is non-tradable in the international money market. Hence, foreign currency is required to import many development goods. Tourism is Nepal's main source of foreign exchange earnings and has been the leading foreign exchange earner for many years. The tourism industry also provides the largest number of jobs. The earnings of this sector can be improved in four different ways, namely, by increasing the number of visitors, by improving the quality of services, increasing the length of stay, and fulfilling all of the things mentioned above. In

Table 1.4: Bed Occupancy Rate per Month

Month	1985	1986	1987
January	42.74	43.13	47.52
February	45.94	47.56	50.83
March	53.95	58.36	61.13
April	53.05	55.71	59.01
May	47.82	46.48	49.09
June	37.12	38.30	39.18
July	27.66	31.07	33.18
August	33.93	38.05	37.61
September	42.52	41.85	46.74
October	70.19	70.58	73.25
November	65.46	72.57	71.96
December	53.68	56.13	58.40
Average	47.96	49.83	52.47

Source: NRB 1990.

Box 1.3: Type of Mountain Trekkers

FITs are 'free independent trekkers' who carry their own backpacks or hire a guide/porter to assist them and eat and sleep in local lodges or tea houses.

Group trekkers come on a scheduled trip, or join up with friends for a customized, self-contained trek, organized by an overseas' adventure travel company or with a Kathmandu-based trekking agency. The full service includes all camping equipment: sleeping bags, dining and toilet tents, cooking gear, three meals a day, guides, cooks, and porters.

Each group makes a different impact (income and employment generation, cultural and environmental) on the areas they visit. His Majesty's Government (HMG) currently has different regulations for each group, which have implications on the local economy. The information available indicates that the distribution of group tourists and FITs varies by region as well as over time. No clear trend can be discerned from the data on the future trend of FITs or group tourists. In Langtang National Park, the region most accessible from Kathmandu, FITs constitute a larger percentage than group trekkers. In other parks and areas less accessible, group trekkers constitute a majority.

Nepal, the emphasis has always been on increasing foreign exchange earnings by increasing the number of visitors, but so far little attention has been paid to improving the quality of services and extending visitor nights (Box 1.4).

- Per capita tourist expenditure has not grown (*Figure 1.6*).

Table 1.5: Mountain Tourism by Destination - International Visitors only (1980-1992)

Year	SNP	LNP	ACAP	Others	Total	Share	Total
1980	5,836	4,113	14,332	3,179	27,460	22.47	122,205
1985	8,347	4,610	18,960	813	32,730	25.75	127,109
1990	11,314	7,826	36,361	6,591	62,092	31.82	19,5121
1992	12,325	9,457	42,553	7,104	71,439	31.36	227,779

Source: Department of Tourism 1992

Table 1.6: Protected and other Areas opened for Tourism in Nepal

Name	Sq. Km	Gazetted/ Opened for Tourism	Type of Tourist Permitted	Required Fees	Management
Mountain Areas					
Rara National Park	106	1976	FITS & Group	Park & Trekking	DNPWC
Shey Phoksundo National Park	3,555	1984	FITS & Group	Park & Trekking	DNPWC
Annapurna Conservation Area	7,000	1986	FITS & Group	Park & Trekking	KMTNC
Langtang National Park	1,710	1972	FITS & Group	Park & Trekking	DNPWC
Sagarmatha National Park	1,148	1976	FITS & Group	Park & Trekking	DNPWC
Makalu Barun NP and Cons. Area	2,330	1992	FITS & Group	Park & Trekking	DNPWC
Dhorpatan Hunting Reserve	1,325		FITS & Group	Park & Trekking	DNPWC
Khaptad National Park	225		FITS & Group	Park & Trekking	DNPWC
Shivapuri Watershed Protected Area	144				
Teral and Inner Teral					
Royal Sukla Fata Wildlife Protected Area		1976	FITS & Group	Park & Trekking	DNPWC
Royal Bardiya National Park	968	1988	FITS & Group	Park & Trekking	DNPWC
Royal Chitwan National Park	932	1973	FITS & Group	Park & Trekking	DNPWC
Parsa Wildlife Reserve	499	1984	FITS & Group	Park & Trekking	DNPWC
Kosi Tappu Wildlife Reserve	175	1976	FITS & Group	Park & Trekking	DNPWC
Other Areas opened for Tourism					
Mustang			FITS & Group	Park & Trekking	KMTNC
Manaslu			FITS & Group	Park & Trekking	KMTNC
			FITS & Group	Park & Trekking	DNPWC
Dolpo Region					
Kanchenjunga			FITS & Group	Park & Trekking	??
<p>Note: DNPWC and KMTNC refers to Department of National Parks and Wildlife Conservation and King Mahendra Trust for Nature Conservation respectively. In addition, about 10-15 per cent of the area adjoining all national parks are declared as being under some form of protection, i.e., buffer zone. The proceed areas listed above account for about 14 per cent of the total land area of Nepal. If the buffer area is also taken into account, then roughly 20-25 per cent of the country is protected.</p>					
Source: Compiled by authors					

Box 1.4: Sources of Benefit to Local Mountain Communities from Tourism

Monetary

Accommodation Expenditure

- Lodge, camping, and paying guest

Food Expenditure (Meals)

Other Local Expenditure

- Tea, soft drinks, fruit, handicrafts, etc

Porters Hired and Wages Paid

- Free Independent Trekkers (FITs) and Group Trekkers hire different numbers of porters and pay different wages to them

Conservation Area and Other Fees

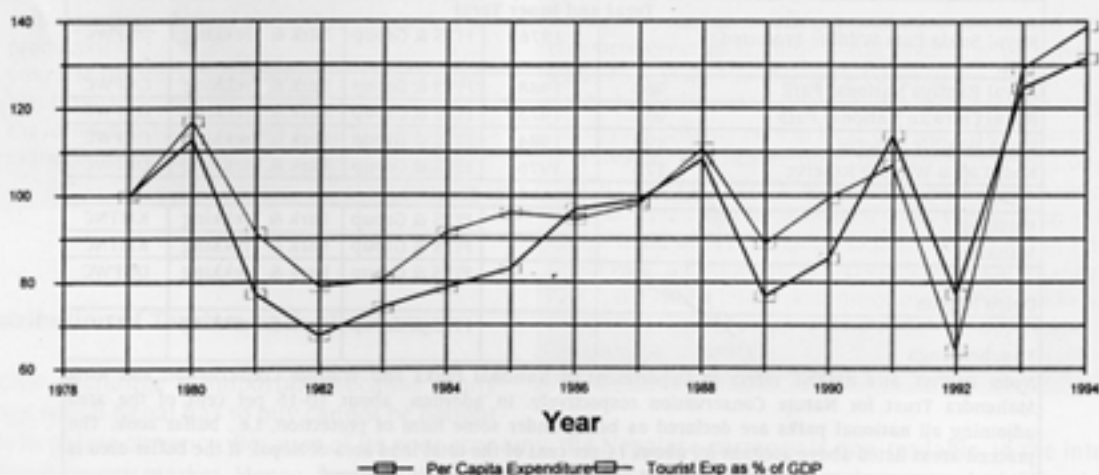
- All visitors have to pay the conservation area fee of Rs 650 (now Rs 1,000) in the Annapurna region. A recent policy permits channelling trekking fees (30-50%) to local areas. Also, in some places, fees have to be paid to visit museums, monasteries, special sites, etc

Employment

- Support staff (sirdars, guides, cooks, kitchen helpers, and porters)
- Employment in lodges and tea houses as well as through operating 'paying guest services'

Other Benefits (discussed in Session 2 under Tourism Impacts)

Figure 1.6: Trend in Per Capita Tourist Expenditure and Shares as % of GDP 1979-1995



SESSION 2

DURATION: ONE AND A HALF HOURS

Mountain Tourism Impacts

Objective

To highlight the main impacts of mountain tourism

Contents

Mountain Tourism

Main Impacts

Environmental

Land Use

Litter, Garbage, and Pollution-

Forests

Economic

Employment

Income

Linkages and Leakages

Sociocultural

Impact on Women

Poverty Alleviation

Awareness Generation

Infrastructural Development

Research

International Publicity

Methodology

Short presentations followed by group discussions

Objective

To highlight the main impacts of mountain tourism

Mountain Tourism

The mountain people's daily needs are met through resources found in the Himalayas. Local demand for these resources is growing at a fast rate and thus leading to gradual over harvesting and environmental deterioration. Local people have no option but to continue to use the resources because development has not been able to mitigate poverty and generate new employment opportunities in remote mountain areas. Poverty mitigation in the mountain region requires accelerated use of the resources and this has led to rapid environmental deterioration. The search for sustainable livelihood options under these conditions lies in harnessing natural comparative advantages. Tourism in the Himalayas has been gaining in popularity, and it has provided new opportunities and challenges. It has been able to provide income and employment opportunities to remote and relatively inaccessible areas. Mountain tourism has both positive and negative impacts.

Tourism has affected traditional land-use practices and brought about changes in crop cultivation and cropping patterns. Conversion of land from forest to agricultural use, conversion of agricultural land to build lodges or tea stalls, leaving land fallow to rent out as camp grounds, etc are some of the changes brought about by mountain tourism. In some places, agriculture has become a second occupation to tourism-related activities. The main impacts of mountain tourism are changes in land use, garbage collection, littering, pollution, and increased demand for firewood. HMG has restricted firewood use among trekkers in most national parks and mountain protected areas, but, due to the lack of law enforcement and monitoring as well as unavailability of cheap alternative sources of fuel, the practise has not stopped. The mandatory use of kerosene in protected areas by group tourists has helped, but effective enforcement still remains to be carried out.

Mountain tourism creates jobs to mountain people annually in the form of porters and other staff. Also, many women are employed in lodges and tea houses. The jobs created by tourism in mountain areas, however, are seasonal.

Wages paid to the porter accrue as income. But all income may not be retained within mountain areas as porters may come from other regions where tourism is not active. In the lodges, income accrues from accommodation and food payments. Income leakage occurs as many items have to be imported to supply food and fulfill the needs of visitors.

Sociocultural impacts have also been reported. However, it is difficult to ascertain whether all impacts reported are due to mountain tourism or other factors such as education, travel, etc. Tourism has generated a great deal of publicity for Nepal, and some may have been negative. Additionally, a great deal of research conducted in Nepal by foreigners has directly or indirectly been the offshoot of tourism.

Main Impacts

The impacts of mountain tourism may be grouped into three main headings. The impacts may be either positive or negative. It is not always possible to discern whether the impact is positive or negative, since its true manifestation may take many years. Also, tourism may not alone be responsible for the impact as many other factors may be inducing changes in the mountain environment, economy, and sociocultural practices of the mountain people. The main impacts witnessed in the case of the mountain areas of Nepal are briefly highlighted.

- Environmental
- Economic
- Sociocultural

Environmental

Land Use

- Changes in cropping pattern. Cash crops bring quick cash returns to households, thus motivating change. Potato, fruit, and vegetable cultivation has increased replacing traditional staple crops such as buckwheat or barley.
- Changes in forest encroachment are mixed. Within SNP no changes have been observed, and this may be due to land zoning and creation of the park. In the Ghorepani area of the Annapurna region, large patches of thick rhododendron forests have been completely wiped out within the last 10-15 years to build lodges (due to demands for land and timber).
- Land is also left fallow to provide camp grounds replacing cultivation of traditional staple crops such as buckwheat or barley.
- In some areas, pack animals have been substituted for mulch animals, as they bring in higher cash returns to households by carrying tourist loads. This may have result in added demands for fodder and grazing demand.
- Also, lodge owners have purchased buffaloes for milk, and this has put pressure on surrounding forests for fodder supplies.

Litter, Garbage, and Pollution

- Estimates indicate that an average trekking group of 15 people generate about 15 kg of non-biodegradable, non-burnable garbage in ten trekking days. With about 70,000 trekkers visiting the mountain areas, this problem appears to be serious (Table 2.1).
- The problem is not only the generation of garbage, but also the type of garbage generated and the method of disposal. Appropriate facilities for garbage disposal are lacking in many places (Table 2.2).
- Siting toilets too close to or over streams or drinking water sources and use of chemical soaps for bathing or washing dishes and clothes in streams or too close to water sources have been reported as some of the sources of pollution.

Forests

Three factors increase the demand for firewood.

- Tourists outnumber local people in some mountain areas where tourism is active.
- Although group tourists are expected to use alternative sources of energy, FITs depend on lodges who continue to use firewood and porters who accompany both types of tourists have to rely on firewood (Table 2.3).
- Growing seasons in the mountains are extremely short.

Economic

Economic impacts of mountain tourism can be viewed in terms of how different aspects of the mountain economy are affected by tourism expenditure and tourism development. The full impact of mountain tourism on mountain areas will depend on how strongly the tourism sector is linked to the mountain economy, i.e., linkages (see Box 2.1).

The major economic impacts depend upon seasonal employment and income earned through mountain tourism. Porters and jobs provided by lodges are the main forms of employment. These jobs may, how-

Table 2.1: Litter Deposit in some Selected Mountain Tourism Areas of Nepal, 1988 (in kg)

Area	Number of Trekkers	Average Deposited	Total Deposited
Annapurna	37,902	15	56,853
Khumbu	11,366	15	17,049
Langtang	8,423	15	12,635
Cumulative total (1976 to 1993)			640 mt

Source: Lama and Sherpa 1994

Table 2.2: Trekkers' Opinion on Sanitation and Garbage Disposal Facilities in LNP

	Sanitation Facilities		Garbage Facilities	
	Adequate	Inadequate	Adequate	Inadequate
Lodge	26 (33)	53 (67)	47 (59)	33 (41)
Campsites	17 (35)	31 (65)	31 (65)	29 (63)
Private Homes	5 (24)	16 (76)	9 (39)	14 (61)
Trekking Routes	25 (34)	49 (66)	49 (66)	62 (79)

Figures in parentheses are in percentages. Source: Banskota and Upadhyay 1989

ever, accrue to people from outside the area due to their comparative advantage in mountain tourism (Table 2.4).

Groups and individual trekkers hire different numbers of support staff. An average group size (group tourists) ranges from six to ten trekkers, with one trekker requiring two to four support staff. On the other hand, FITs hire between 0.5 to 1.5 per trekker (Table 2.5).

Employment

- Altogether 11,172 people were directly employed in the tourism sector; 53 per cent of these were employed in hotels and the rest in travel and trekking agencies and airlines.
- Most of them are employed in the Kathmandu Valley.
- One tourist bed in Nepal creates less than two jobs, which is fairly low compared to other developing countries because most of the tourists (67%) who come to Nepal are low budget tourists.
- Mountain tourism generates employment in the form of porters, sirdars, guides, cooks, and jobs in mountain lodges and tea houses.

Income

Income accrues when FITs pay for food and accommodation and through small purchases made by group tourists.

Table 2.3: Estimate of Firewood consumed by Tourists in Selected Protected Areas (mt)

Area	Trekker	1976	1977	1980	1981	1982	1987	1988
SNP	Group	619	692	858	747	917	1,323	1,671
	FITs	165	184	229	199	245	353	446
LNP	Group	217	293	466	577	514	693	955
	FITs	27	36	58	71	63	85	118
ACA	Group	229	294	456	543	628	985	1,204
	FITs	131	168	261	310	359	563	688
Others	Group	102	110	748	507	436	295	863
	FITs	9	9	62	42	36	25	72
Total	Group	1,168	1,390	2,528	2,374	2,495	3,295	4,693
	FITs	331	398	610	623	703	1,025	1,324
Total		1,499	1,788	3,138	2,997	3,198	4,321	6,017
Fresh Total		2,497	2,979	5,228	4,993	5,329	7,198	10,024

Notes: The estimates have been derived based on the per capita consumption figures provided in ERL 1989. The estimates made by Gurung have also been used.

Source: ERL 1989; Gurung 1990

Box 2.1: Concept of Tourism Multiplier and Leakage

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

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

Leakage

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

Table 2.4: Estimated Direct Days of Employment Generated by Mountain Tourism

Year	Group Tourists			FITS			Total Employment Generated	
	Total	High	Low	Total	High	Low	High	Low
1986	19,829	793,160	396,580	13,780	206,700	68,900	999,860	465,480
1987	21,337	853,480	426,740	14,827	222,405	74,135	1075,885	500,875
1988	22,873	914,920	457,460	15,895	238,425	79,475	1115,345	536,935

Note: The figure for employment generated by group tourists is the average number.

Source: Banskota and Upadhyay 1989

Table 2.5: Establishments in Mountain Areas and Employment Generation

	Number of Estab.	Accommodation			Employment in Restaurants			All Total
		Male	Female	Total	Male	Female	Total	
Total	912	1,695	1,646	3,341	245	170	415	3,756
Mountains	46	12	43	18	4	21	6	15
Nepal	1,984	14,277	3,795	18,072	5,645	807	6,452	24,524

Source: CEDA 1991

Sources of revenue from mountain tourism are mountain royalties, trekking peak fees, and trekking and park entrance permit fees, etc.

- The gross earnings from tourism increased from Rs 636.8 million in 1980 to Rs 8,251 million in 1994, at current prices, with an average annual growth rate of about 17 per cent.
- The share of tourism earnings in the total value of merchandise export has fluctuated between 35 to 55 per cent.
- Its share in total foreign exchange earnings has fluctuated between 20 to 30 per cent.
- The average contribution of tourism earnings GDP has increased from 2.3 per cent in 1980 to about 4.2 per cent in 1994.
- Although there are no specific statistics on the total revenue contributed by mountain tourism at the national level, estimates indicate that it is substantial, with food and accommodation sources accounting for the largest shares (Table 2.6).

National Significance of the Value of HER (Table 2.6)

Local Significance of the Value of HER: How have the community in the Annapurna region benefitted from tourism?

Table 2.6: Estimated Income generated by Mountain Tourism (Rs. '000')

Year	Wages	Food	Mountain-eering	Trek & Park	Peak Fee	Mountain Revenue
1988	81,310	159,630	47,661	7,353	8,523	304,477
1989	89,938	184,416	71,198	7,303	1,389	354,244
1990	103,952	197,112	75,634	7,451	1,605	385,754
1991	120,225	309,618	165,292	7,892	13,053	616,081
1992	146,663	332,838	104,386	8,573	20,883	640,662

Source: Banskota and Sharma 1995a

The contribution made by mountain tourism to the local economy of the Annapurna area indicates that, besides the substantial revenue that accrues to the ACAP project, lodges and the community also benefit substantially through tourism (Table 2.7).

- Despite mountain tourism's contribution to the local economy, there are substantial leakages as well; some of which can be minimized through production of many food items locally.

Linkages and Leakages

Trekkers could have a greater impact on income in mountain areas. At present, in addition to what they import, group trekkers and mountaineers purchase most of their food items in Kathmandu prior to treks

Table 2.7: Visitor Expenditure and Gross Income Accruing to Lodges and the Community (Rs '000')

	Accom	B-fast	Lunch	Dinner	Food	Local	Wages	FEE	Total	Per Trekker
Total Lodge (Rs)	17,964	10,278	16,488	18,729	45,495	0	0	0	63,459	1,493
Community	6,979	5,747	2,762	4,780	13,289	27,204	107,483	27,621	182,576	4,297
ACAP Area	24,943	16,025	19,250	23,510	58,784	27,204	107,483	27,621	246,035	5,790
Local Economy as % of ACAP Area	10.14	6.51	7.82	9.56	23.89	11.06	43.69	11.23	100.00	na

Source: Banskota and Sharma. Contribution of Tourist Expenditure to the Local Economy in the Annapurna Area. Project Report No. 1196, CREST to ICIMOD, January 1996.

or expeditions. Many of these items, which include vegetables, eggs, milk, and other perishable food, could be produced locally. Encouraging the production of these items, where tourism is active, would benefit these areas even more than indicated above (Tables 2.8 and 2.9).

The impact of tourism on local cultural traditions and values is difficult to assess. Cultural practices change as people travel, educate themselves, trade, etc. Impacts of tourism on the sociocultural practices of mountain people are both positive and negative (Box 2.2).

Table 2.8: Occupational Linkage of Household Members (10 years and above) with Tourism (given in percentages)

	Ghandruk			Ulleri			Total			Total Cases
	High	Moderate	No Link	High	Moderate	No Link	High	Moderate	No Link	
Agriculture only	-	-	100	4.7	7.0	88.4	2.3	3.5	94.2	86
Agriculture + others	9.1	-	36.4	14.3	28.6	57.1	11.1	44.4	44.4	18
Service	-	54.5	75.0	18.2	-	81.8	13.3	6.7	80.0	15
Pension	-	25.0	100	-	25.0	75.0	-	11.1	88.9	9
Business	100	-	-	25.0	75.0	-	40.0	60.0	-	5
Tourism	92.3	7.7	-	100	-	-	94.7	6.0	-	1
Wage Labor	-	100	-	-	-	-	-	100	-	1
Students + Others	-	-	100	-	-	-	-	-	-	53

Source: Banskota and Sharma 1995b.

Table 2.9: Sources of Possible Leakage from Tourist-generated Income

Items	Ghorepani		Ghandruk	
	Local %	Import %	Local %	Import %
Rice	0.00	100.00	3.18	96.82
Flour	4.12	95.88	48.41	51.59
Bread	14.71	85.29	42.42	57.58
Vegetables	85.25	14.75	79.09	20.91
Meat	75.00	25.00	81.94	18.06
Eggs	0.00	100.00	1.14	98.86
Milk	0.00	100.00	21.14	78.86
Fruit	0.88	99.12	0.00	100.00
Jam/Butter	0.00	100.00	0.00	100.00
Furniture	90.29	9.71	85.45	14.55
Cloth/Drinks/ Mattresses	5.56	94.44	0.00	100.00
Total	23.59	76.41	31.91	68.09

Box 2.2: Tourism Does Not Generate Spontaneous Benefits

Tourism is unlikely to bring community development unless efforts are made. Tourism development in mountain areas must be integrated with community development. Indigenous knowledge alone cannot help promote tourism in mountain areas. New knowledge and technology will have to play a greater role. The economy of mountain areas cannot depend solely on food production; alternatives need to be developed. The assessment of the value of HER will enable the assessment of mountain comparative advantages. Although Nepal now cannot abandon strategies for poverty alleviation based on increased agricultural production, the plans for the twenty first century must be based on the comparative advantage paradigm. However, not all mountain areas will have the same potential for tourism development. How they can be used and linked with mountain tourism development must be made clear.

Sociocultural

It cannot be ascertained how sociocultural impacts will be manifested in the long run.

Changes in people's behaviour, dress, lifestyle, family and social structure, and values and expectations; the decline in local support for traditions and institutions; people's preference for tourist-related jobs over education; pollution of sacred places; and changes in traditional architecture are generally cited as instances of tourism's negative impacts on culture (Table 2.10).

Impact on Women

- Increasing burden on women to look after the family and agriculture as adult family members stay away from home for prolonged periods to serve tourists.
- Although not reported, this negative impact could result in smaller family sizes, which will effect women's health and time allocation and can be seen as an indirect positive impact.
- Large numbers of women have become self-employed in running lodges and tea houses.
- Mountain tourism has provided women with the opportunity to demonstrate their capabilities as good managers.
- Tourism has also helped women to undertake highly specialised and skilful activities such as climbing Mt. Everest, which undoubtedly increases their morale.
- Women from the Sherpa community have been trained as doctors and an increasing number of females from such communities are going for higher education. Perhaps the full impact of tourism on women is just beginning to unfold; in a few decades, the impact will be visible.

Table 2.10: Household Perceptions of Cultural Preservation and Promotion
(given in percentages)

	Perception	Household Perceived Factors Responsible for Change					Total
		Tourism	ACAP	Both	Others-1	Others-2	
Sacred Places	Improved	3.55	30.70	13.55	0.00	52.15	38.00
	Same	0.00	0.00	5.00	3.33	85.00	60.00
	Worse	0.00	0.00	0.00	16.67	0.00	2.00
	Total	2.00	10.00	6.00	3.33	72.00	100.00
Sacred monuments	Improved	4.55	55.70	0.00	4.42	88.75	30.00
	Same	0.00	0.00	0.00	16.67	0.00	68.00
	Worse	0.00	0.00	0.00	4.00	72.00	2.00
	Total	2.00	14.00	0.00	4.00	72.00	100.00
Village life	Improved	49.05	3.70	8.35	12.95	0.00	66.00
	Same	0.00	3.55	3.55	2.37	85.70	30.00
	Worse	0.00	0.00	0.00	8.33	25.00	4.00
	Total	32.00	6.00	4.00	11.33	24.00	100.00
Family ties	Improved	6.25	2.10	0.00	30.55	0.00	54.00
	Same	0.00	0.00	0.00	1.97	94.10	36.00
	Worse	0.00	0.00	0.00	29.17	12.50	10.00
	Total	6.00	2.00	0.00	19.33	34.00	100.00
Religious values	Improved	0.00	6.25	0.00	10.42	12.50	16.00
	Same	0.00	1.45	0.00	0.48	97.15	74.00
	Worse	75.00	0.00	0.00	8.33	0.00	10.00
	Total	6.00	4.00	0.00	5.33	74.00	100.00
Cultural values	Improved	9.10	0.00	4.55	23.93	14.55	32.00
	Same	0.00	0.00	0.00	0.93	97.20	40.00
	Worse	46.45	0.00	0.00	1.18	0.00	28.00
	Total	30.00	0.00	2.0	8.67	42.00	100.00
Crime and theft	Improved	15.40	11.55	0.00	3.85	11.55	26.00
	Same	0.00	2.00	2.00	1.33	92.00	56.00
	Worse	33.35	0.00	0.00	3.70	5.55	18.00
	Total	20.00	8.00	2.00	4.67	56.00	100.00
Dance and music	Improved	50.00	0.00	0.00	0.00	0.00	4.00
	Same	0.00	0.00	4.00	1.33	92.00	84.00
	Worse	25.00	0.00	0.00	5.55	8.35	12.00
	Total	10.00	0.00	4.00	2.67	78.00	100.00
Crafts	Improved	85.90	0.00	7.25	0.75	4.55	64.00
	Same	20.00	0.00	0.00	2.08	73.75	26.00
	Worse	30.00	0.00	0.00	6.67	63.33	10.00
	Total	64.00	0.00	4.00	2.67	24.00	100.00

Although not directly attributable to tourism, there are some positive impacts that can be identified. The discussion below conjectures and aims to shed light on new tourism impacts. They are: a) poverty alleviation, b) awareness generation (education, health and hygiene, conservation of natural and cultural sites, etc), c) development (infrastructure, settlement, cottage industry, etc.), d) socio-demographic, e) research, and f) publicity for Nepal.

Poverty Alleviation

In some mountain areas, tourism has been able to alleviate poverty. Take the case of the Khumbu region and some areas in the Annapurna region and compare them with similar areas in other parts of the mountain region (Box 2.3).

Awareness Generation

- Compared to other mountain regions of Nepal, the level of literacy among the younger generation of the Sherpa people of Khumbu is relatively high.
- Some basic understanding of a second language (mostly English) among local people where tourism is active (Sagarmatha, Annapurna, and Langtang).
- Among the people of these regions, the awareness about health and hygiene is of a higher standard than in other mountain pockets not frequented by tourists.
- The relatively greater awareness about conservation of cultural sites and nature may also be different among two groups of mountain people.
- Tourism has helped preserve local monuments (i.e., increased appreciation of man-made HER), as in the case of the Tengboche Monastery.

Infrastructural Development

Tourism may partially be the reason for infrastructural development in some remote areas. It is most likely that airstrips, bridges, and trails would not have been developed so early if tourism had not been introduced into these areas. Without the development of tourism, the limited resources of the government and local people would, perhaps, not have been adequate enough to build all the infrastructures available in areas such as SNP, ACAP, and LNP. For example, the infrastructure created through the Hillary Trust in the Khumbu region.

Research

Many research studies have resulted from tourism. In many cases, tourists have either been directly involved in carrying out such studies or have funded or found financial support for Nepalese as well as foreign scholars interested in carrying out such studies. Many books on Nepal written by foreign scholars have become internationally well-known (Box 2.4).

International Publicity

Nepal has received a great deal of international publicity through tourism, especially mountain tourism, some of which may have been negative. A vast number of books on Nepal has been printed. Documentary films have been televised in different countries. Many articles have been published by scholars in international journals. Nearly half a dozen or so cover stories have been published in the *National Geographic*. All of this has created an awareness about Nepal, its unique natural and cultural heritage as well as the problems that need to be addressed.

The main problems and its implications emerging from mountain tourism in the context of Nepal are summarised in Box 2.5.

Box 2.3: Challenge

How Nepal will develop mountain tourism and mitigate poverty to provide an impetus to sustainable mountain development (i.e., MCD and MTD) remains to be answered. Poverty alleviation in these potentially rich environmental areas calls for appropriate complementary investments in mountain tourism sectors that promote linkages between local production activities and tourism so that leakages are minimised and retention of benefits locally enhanced.

Box 2.4: Summary of Selected Impacts of Tourism on Mountain Environments

Negative Impacts		Positive Impacts	
Ecological/ Environmental	Sociocultural	Economic	Ecological/ Environmental
<p><i>Destruction of:</i></p> <ul style="list-style-type: none"> • Forests (energy) • Fauna (poaching) • Grazing land (camping) 	<ul style="list-style-type: none"> • Cultural loss • Alienation • Xenophobia • Vandalism • Selling antiques • Imitation of western culture 	<p><i>Encourages:</i></p> <ul style="list-style-type: none"> • Inflationary trends • Conspicuous consumption • Demonstration effect • Imports for tourism/leakages • Privileged treatment of tourists 	<p><i>Preserves:</i></p> <ul style="list-style-type: none"> • Cultural monuments • Folk traditions • Cultural properties • Art or history
<p><i>Pollution</i></p> <ul style="list-style-type: none"> • Water • Air • Noise • Trash, garbage, trails, etc 	<p><i>Changes</i></p> <ul style="list-style-type: none"> • Lifestyles • Native architecture • Settlement patterns • Folk traditions • Customs 	<ul style="list-style-type: none"> • Withdraws labour • Overburdened communal services • Overuse of scarce resources • Uneven economic development • Tourist enclaves 	<p><i>Helps:</i></p> <ul style="list-style-type: none"> • Maintenance of scenic landscape • Research/environ-mental impact studies • Retreat from marginal hillside farming
<p><i>Degradation of:</i></p> <ul style="list-style-type: none"> • Landscape • Scenic appeal • Promotion of throwaway mentality • Congestion/overburdening • Hygiene problems 	<p><i>Promotes:</i></p> <ul style="list-style-type: none"> • Moral laxity • Crime/gambling • Prostitution • Drug addiction • Inferiority (locals) • Beggar mentality 	<ul style="list-style-type: none"> • Seasonal dependence • Dependence on tourism • External domination (city) 	<p><i>Encourages:</i></p> <ul style="list-style-type: none"> • Education • Training of craftsmen/expedition • Contact with outside world • Speedy knowledge • Rediscovery of lost traditions • Fund mobilization
	<p><i>Disturbs:</i></p> <ul style="list-style-type: none"> • Religious practices • Indigenous style • Social cohesion • Promotes neo-colonialism 		
			<p><i>Improves:</i></p> <ul style="list-style-type: none"> • Infrastructure • Local arts/crafts • Regional development • Standards of living

Source: Singh, T. V. *The Kulu Valley: Impact of Tourism Development in the Mountain Areas*. Study supported by ICIMOD; Himalayan Books, 1989.

Box 2.5: Main Problem: No Appreciation of the Economic Value of HER
Valuation can take place only after appreciation

Problems	Implications
<ul style="list-style-type: none"> • Lack of appreciation of HER • Lack of vision on MCD and MTD • Lack of valuation of HER • Comparative advantage not understood • No responsible institution on MCD and MTD • <i>Ad hoc</i> policy formulation 	<ul style="list-style-type: none"> • Poor knowledge on value of HER and critical factors underlying different dimensions of carrying capacity • No long-term planning on MCD and MTD • No clearly defined national goal on SMTD • Poor coordination among institutions and stakeholders • Poor supply side planning and management • Lack of complementary investments • Poor product development and diversification • Revenue sharing inefficient • <i>Ad hoc</i> pricing
<ul style="list-style-type: none"> • Benefits from MTD not optimized 	<ul style="list-style-type: none"> • High leakages - many food items still need to be imported • Poor linkages - local production system subsistence • Unnecessary competition and pricing mechanism poor • Poor tourism services offered • Poor HRD of most mtn. communities in tourism
<ul style="list-style-type: none"> • Overuse of HER 	<ul style="list-style-type: none"> • Poor understanding of non-consumptive uses of HER by tourists • No affordable alternative energy for lodges and support staff
<ul style="list-style-type: none"> • Mountain tourism is not stimulating mountain development • Carrying capacity of HER eroding • Sustainable Mountain Development, i.e., MCD and MTD not being realized 	

SESSION 3

DURATION: ONE AND A HALF HOURS

Sustainable Mountain Tourism Development

Objective

- To understand the meaning of sustainable development and sustainable mountain development
- To identify and emphasize the importance of HER as important tourism assets which are unique in the world and enjoyed by many international visitors
- To demonstrate how mountain tourism can provide strong stimuli to mountain community development

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Critical Factors' Approach to Carrying Capacity

Critical Area and Resource

Critical Behaviour

Critical Infrastructures

Critical Institutions

However - Keep In mind

Methodology

Short Presentations followed by group discussions

Objective

To understand the meaning of sustainable development and sustainable mountain development.

To identify and emphasize the importance of HER as major tourism assets which are unique in the world and enjoyed by many international visitors.

To demonstrate how mountain tourism can provide a strong stimuli to mountain community development.

Sustainable Mountain Tourism Development

HER provides the basis for mountain community and tourism development. Tourism is a unique export industry since visitors have to come to a particular place to enjoy the product. In Nepal, visitors come to enjoy the Himalayas, flora and fauna, the village people's hospitality, their customs, etc., which are products that remain within the country. HER fulfills the mountain people's needs for firewood, timber, grazing land, and other requirements. It is consumed directly by the mountain people and does not have to be bought in the market. At the national level, HER is used to generate electricity. In addition, many environment related activities are being carried out by HER. Besides, HER holds importance to the global community in terms of its effect on the global environment, medicinal value of many plants, etc. Its value to the mountain community, nation, and global environment is very significant because HER is renewable and hence its prudent use can create a regular supply of natural resources.

Mountain tourism in Nepal has been essentially demand driven. When mountain areas opened for tourism and visitors began to visit the areas, local people, with whatever meagre resources they had, responded to meet the food, accommodation, transport, and other needs of visitors. HER could not be found elsewhere in the world and when blended with the rich cultural heritage of the mountain people, visitors became attracted by the country and thus mountain tourism began to take roots in Nepal.

Despite a rich supply of HER, mountain tourism has neither been able to benefit a wider mountain community nor stimulated mountain community development. Some remote and inaccessible areas have been developed due to tourism, but this development has not been planned. Tourism does not spontaneously develop mountain areas; it has to be planned for and appropriate environmental policies must be created.

Mountain tourism development is a concept that should encompass the characteristics of the mountain environment and the values of the different environmental resources that mountains have. Efforts to develop tourism in the mountains without duly addressing mountain characteristics can do more harm than good to the mountain environment and its economy.

There is no agreed definition of this concept. The Brundtland Commission popularized this concept and emphasized the need to address development and environment simultaneously and called for development that

What is sustainable development ?

“meets the needs of the present generation without compromising the needs of the future generations.”

Sustainable Mountain Tourism Development

Goal

Sustainable mountain tourism is defined to reflect a state of development in which the quality of life of the mountain people improves and visitor satisfaction is enhanced without depleting or degrading HER for future generations to come (Box 3.1).

The Main Dimensions of Sustainable Development

<i>Economic</i>	<i>Ecological/Environmental</i>	<i>Sociological</i>
Seeks to maximize human welfare within the constraints of existing capital stock and technologies.	Preserves the integrity of ecological sub-systems viewed as critical for the overall stability of the global ecosystem. The account units are physical, not monetary, and the prevailing disciplines are biology, geology, chemistry, and the natural sciences.	Emphasizes that the key actors are human beings, whose patterns of social organization are crucial for devising viable solutions to achieving sustainable development. This view is being increasingly realized as important and the failure of many development programs and projects has been attributed to the negligence of this dimension of sustainability.

Source: Sirageldin and Steer, The World Bank, 1994.

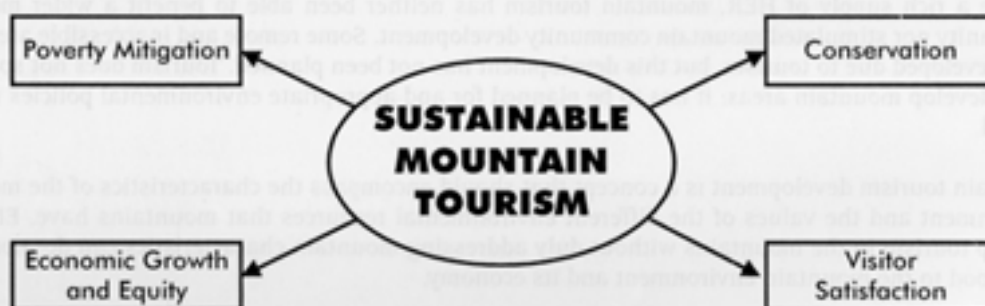
Objectives (Figure 3.1)

- poverty mitigation,
- improved visitor satisfaction,
- growth and equity, and
- conservation.

Box 3.1 Challenge

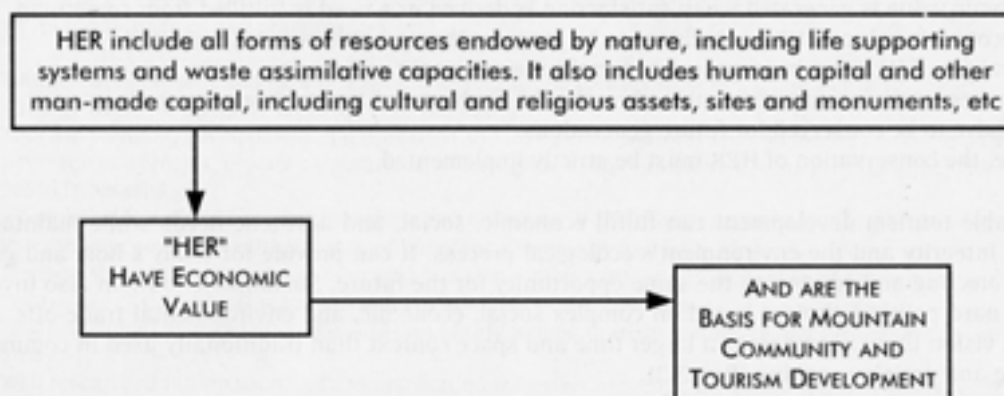
Poverty mitigation in the mountain areas requires accelerated use of HER and their increasing use can accelerate environmental deterioration. How can we balance the use of HER?

Figure 3.1: Objectives of Sustainable Mountain Tourism Development

*What is meant by Himalayan Environmental Resources (HER)?*

- Mountains are unique environmental resources that have no substitutes.
- Mountain environment is home to many people who have a rich and diversified cultural heritage.
- Mountain people depend on HER (firewood, pastures, etc.) for their livelihood.
- Mountain environments contain many endemic and threatened species whose potential value to mankind may be enormous.
- Mountain areas provide aesthetic value and high recreational value, i.e., tourism.
- Mountain environments have immense downstream values in terms of soil erosion control, watershed protection, and hydropower generation.
- Clearly, HER can truly be considered as economic assets that generate income (Figure 3.2).

Figure 3.2: Himalayan Environmental Resources (HER)



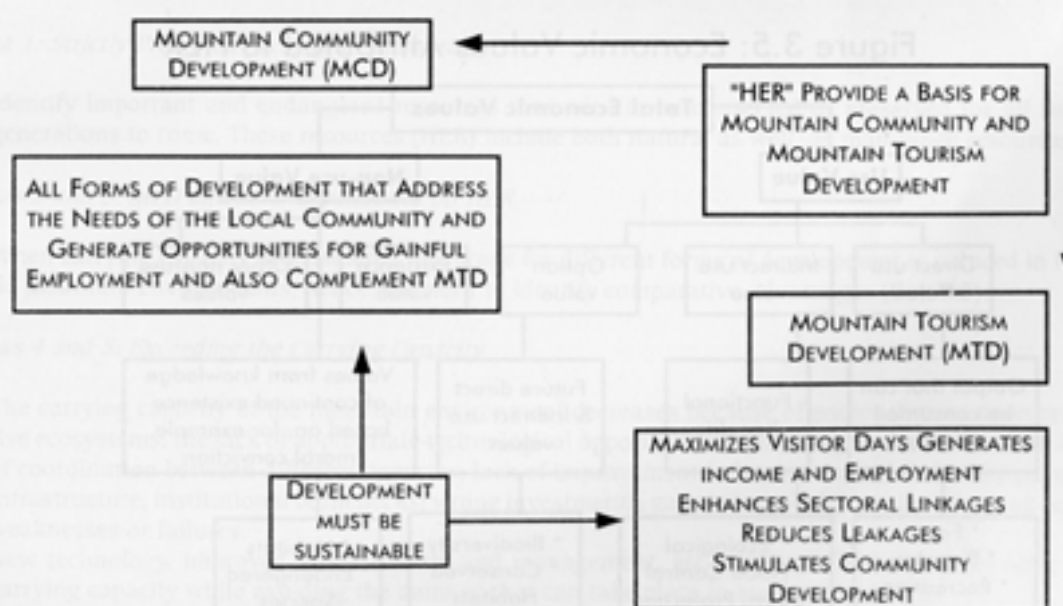
At the same time:

- mountains are highly fragile and unstable and any form of disturbance can quickly lead to environmental degradation.
- man-induced disturbances are increasing and tourism can accentuate the problem.
- for centuries, mountain people have managed environmental resources.
- these people possess a wealth of human traditions that can conserve HER, and
- these people have a vast knowledge of the different values of a wide variety of endemic plants.

Importance of HER (Figure 3.3)

- HER has different uses for the local people at the national and global levels.
- HER is consumed by local people to meet their daily needs.
- At the national level, HER is used to generate electricity.
- At the global level, HER is important to tourism as well as to the global environment.

Figure 3.3: Relationship between HER, MCD, and MTD



Value of HER (Figures 3.4 & 3.5)

- Economic value is generated when satisfaction is derived or a need is fulfilled from something.
- The economic value of HER is believed to be far more than what is currently realized.
- The values of HER can be increased to benefit the mountain community.
- Since these resources are renewable, they should not be over harvested or over used.
- HER have to be conserved for future generations.
- Hence, the conservation of HER must be strictly implemented.

Sustainable tourism development can fulfill economic, social, and aesthetic needs while maintaining cultural integrity and the environment's ecological process. It can provide for today's host and guests while protecting and enhancing the same opportunity for the future. Sustainable tourism also involves making hard political choices based on complex social, economic, and environmental trade-offs. It requires a vision that encompasses a larger time and space context than traditionally used in community planning and decision-making (Box 3.2).

Figure 3.4: Value of HER

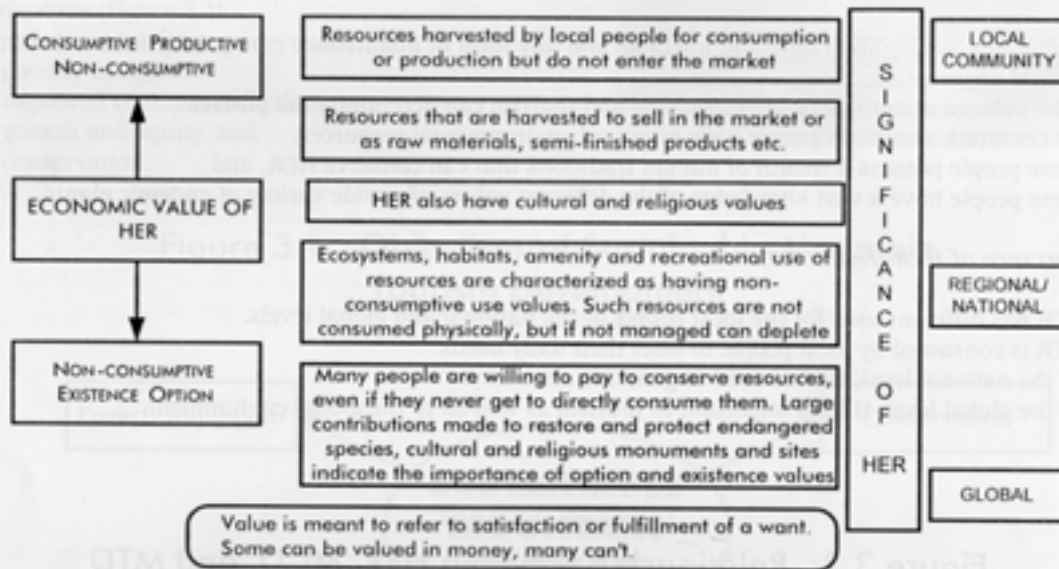
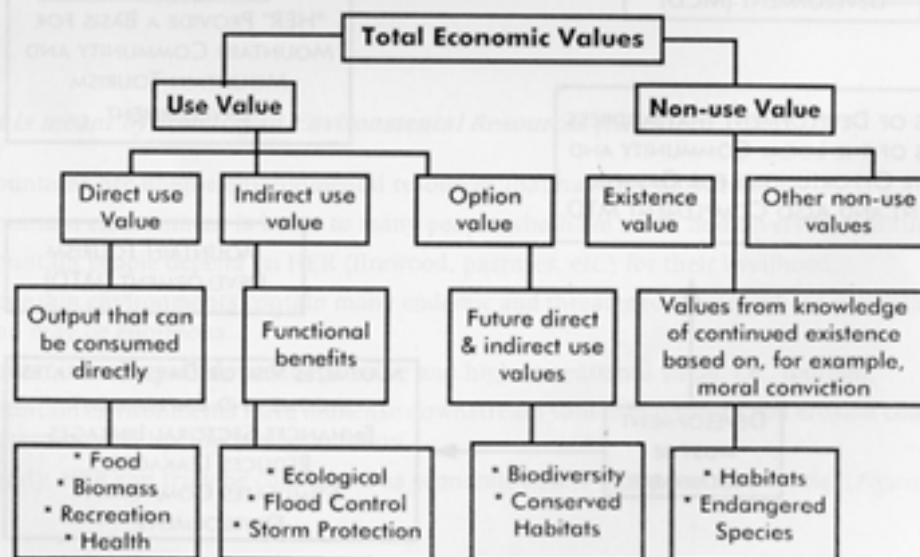


Figure 3.5: Economic Values Attributed to HER



Box 3.2: Basic Guiding Principles of Sustainable Mountain Tourism

The local planner can use the following principles as basic guidelines when attempting to incorporate broader visions into local policies and practices.

1. Tourism development and planning should be part of the conservation or sustainable development strategy made for a region, a province, or the nation.
2. Tourism planning development and operation should be cross-sectoral and integrated involving different government agencies, private corporations, citizen groups, and individuals, thus providing the widest possible benefits.
3. All stakeholders should respect the ethics and principles of the culture and environment of the host area, its economy, and the traditional way of life of the community and its behaviour.
4. Tourism should be planned and managed in a sustainable manner with regard to the protection and careful use of the natural resources and environment of the host area.
5. Tourism should distribute benefits and costs fairly among tourism promoters and host people in different areas.
6. Well researched information and communication materials regarding mountain tourism and its effects on people and the environment should be made available prior to the implementation of development plans. Local people should especially be informed so that they can participate and strongly influence the direction of development and its effects through individual and collective interests.
7. Local people should be encouraged and expected to undertake leadership roles in planning and development with the assistance of the government or business sector's financial support and other interests.
8. Integrated environment and social and economic planning analyses should be undertaken prior to commencement of any important project with careful consideration given to the different types of tourism development and the ways in which they can be linked.
9. Throughout the implementation stage of tourism development, a carefully monitored assessment and evaluation should be made in order to allow local people and others to take advantage of the opportunities and to respond to changes wisely.

McIntyre, G. 1993. *Sustainable Tourism Development: Guide for Local Planners*. Spain, World Tourism Organization.

Relationship between Mountain Community and Mountain Tourism Development

The relationship between MCD and MTD in the context of Himalayan Environmental Resources or HER can be amplified by using Figures 3.6 and 3.7. The three circles (Figure 3.6), representing HER, MCD, and MTD overlap. In Figure 3.7, an additional circle is drawn to represent the carrying capacity of the mountain environment, which overlaps the three circles shown in Figure 3.6.

Area 1: Strictly Protected Areas and Resources

- Identify important and endangered resources that need to be conserved or preserved for all future generations to come. These resources (HER) include both natural as well as man-made resources.

Areas 2 and 3: MCD and MTD dependence on HER

- When carrying capacity is considered, the scope for different forms of development is reduced in fragile mountain environments; hence, the need to identify comparative advantages (Box 3.3).

Areas 4 and 5: Exceeding the Carrying Capacity

- The carrying capacity of the mountain environment decreases because of encroachment upon sensitive ecosystems; the lack of appropriate technological opportunities, planning, and management; lack of coordination between different agencies; lack of improvement in human capital and other physical infrastructure; institutional bottlenecks; wrong investments; gaps in knowledge; and market and policy weaknesses or failures.
- New technology, improved infrastructure and management, etc, can be introduced to increase the carrying capacity while avoiding the damage that can take place in mountain areas.

Figure 3.6: Relationship between HER, MCD, and MTD

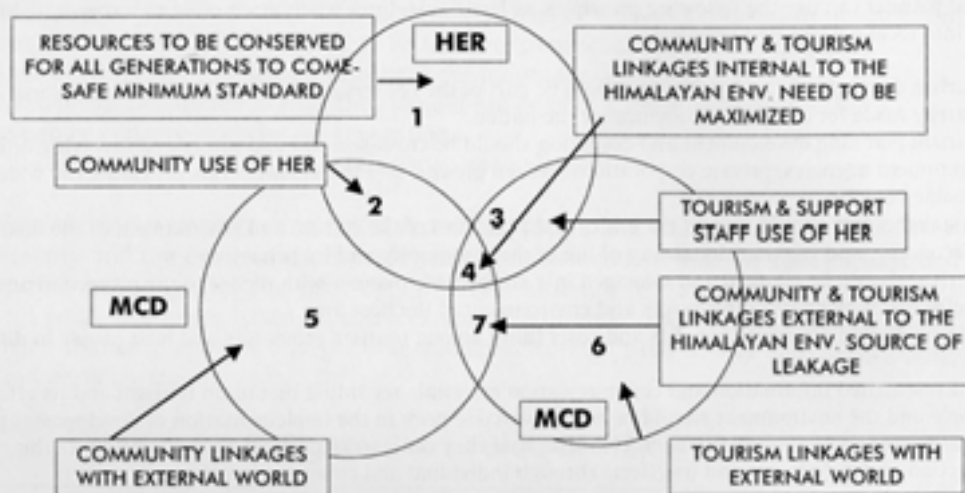
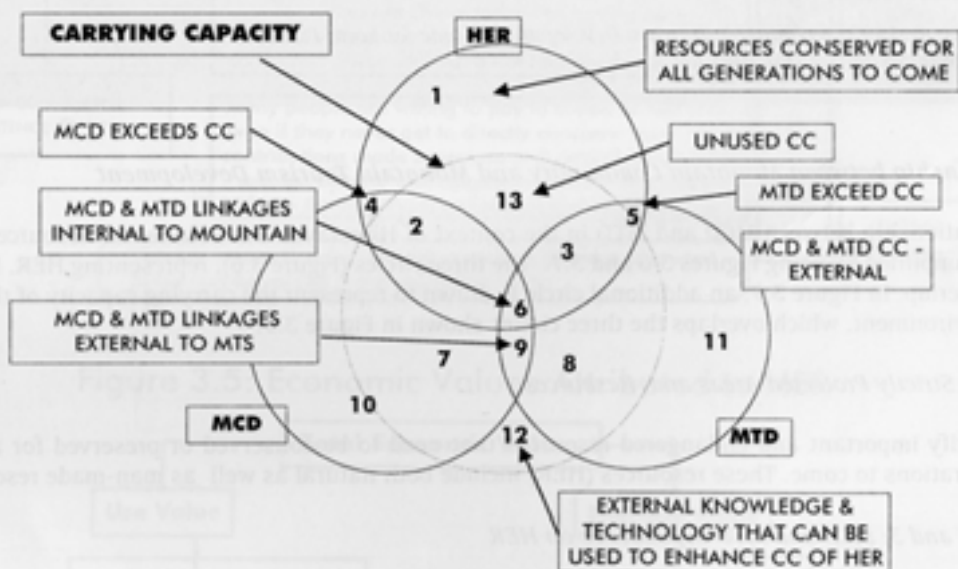


Figure 3.7: Carrying Capacity (CC) of HER for MCD and MTD



- It may not always be possible to completely eliminate such excesses, since there will always be gaps in knowledge. Thus, within the context of HER, each form of development has an upper limit which needs to be realized. There are several ways to deal with carrying capacity (See Box 3.4).

Area 6: Internal Complementarities of MCD and MTD

- Integration or linkage between tourism and mountain community development means that both forward and backward linkages are established and multiplier effects are activated. The pressure on HER

is reduced and, at the same time, import leakage is minimized and opportunities for retaining benefits from both forms of development are increased.

Area 7 and 8: Interregional Linkages of MCD and MTD

- MCD depends on external factors of the mountain community but remains within the national context.
- MTD depends on the external factor as well, which is a source of leakage. This leakage is, perhaps, unavoidable.

Box 3.3 Carrying Capacity

One approach to sustainable mountain tourism development is to understand the carrying capacity of Himalayan Environmental Resources. Carrying capacity is a key concept in planning for sustainable mountain development (community and tourism). Carrying capacity seeks to establish an ecological and behavioural balance in which the quality of life of the mountain people does not deteriorate and the visitor has a good experience. Carrying capacity can also be seen in terms of the environment, society, and economy.

Box 3.4: Control Methods to Avoid Risks of Saturation (Carrying Capacity)

Control methods fall into two conceptual categories: regulation of volumes by rules and by prices. Regulation by rules has the following elements:

- permits,
- queuing,
- space allocation to activities, and
- time rationing.

A surprising number of accessible public goods are not priced, which is why they are overused and abused. In a society with large differentials in income, it is justifiable to charge more to higher income groups for access to public environmental goods. Income groups are frequently easy to identify on the basis of transport used by them. Taxes are needed that externalize impact by users. However, to be fully effective in promoting repair and maintenance of tourism assets, more taxes need to be collected and returned to the communities bearing the costs in a direct and transparent manner. Penalties can control littering and are frequently more acceptable than jail sentences for minor damage to environmental assets commonly used by tourists and local communities.

Jalaly and Nazeer 1995: *A Tourism for Local Community Development in the Mountain Areas of NWFP and the Northern Areas of Pakistan. Phase Two - Case Studies of Kalam and Hunza.* Development Research Group for ICIMOD

Area 9: External Complementarities of MCD and MTD

- Complementarities of MCD and MTD extend beyond the mountain environment.

Areas 10 and 11: Beyond the Himalayan Environment

- Besides HER, both MTD and MCD depend on external factors as well. Imports will be required to meet community and tourist needs which represent macro-linkages of both forms of development with the external world. They need to be internalized to promote MCD and MTD.

Areas 12 and 13: Potential Carrying Capacity

- There is always scope to increase carrying capacity through use of research and technology, planning and management, infrastructural improvement, institutional development, and so on. Area 12 is external to the mountain environment, whereas area 13 is internal.
- Internally, inappropriate policies, behaviour, and gaps in knowledge result in under utilization of carrying capacity.
- Externally, there is knowledge and technology to be internalized to increase carrying capacity.
- However, it may never be possible to fully optimize carrying capacity because of many factors.
- Hence, carrying capacity can never be a static concept and will change over time.

The above illustration suffices to bring home the point that the best possible scenario is one where MCD and MTD complement one another to the greatest extent possible. It may never be possible to fully optimize carrying capacity as it is constrained by many factors. An illustration on dimensions of carrying capacity in the Indian Hindu Kush-Himalayas is provided in Box 3.5. Important factors to be considered in assessing the carrying capacity of camp sites is presented in Box 3.6. A summary of the above methodology applied in the case of the Annapurna area in the Nepal Hindu Kush-Himalayas is provided in Box 3.7.

Box 3.5: Dimensions of Carrying Capacity in Kinnaur District and Badrinath Tourist Zone: The Indian Hindu Kush Himalayas

Area	Environmental Factors	Socioeconomic Factors	Institutional and Managerial Factors
Kinnaur District	<ul style="list-style-type: none"> Waste disposal Drainage Littering of slopes Shortage of water Land degradation 	<ul style="list-style-type: none"> Security for cultural assets Changes in construction practices Already visible inequalities 	<ul style="list-style-type: none"> No local institutional mechanism Shortage of accommodation Expensive and scarce local travel
Badrinath Tourist Zone	<ul style="list-style-type: none"> Waste disposal Expansion of settlements Encroachment 	<ul style="list-style-type: none"> Temple opening Austerity among pilgrims 	<ul style="list-style-type: none"> Information system Transport uncertainties

Source: Sridhar, R., 1995. *Mountain Tourism for Local Community Development: A Report on Case Studies in Kinnaur District H.P. and the Badrinath Tourist Zone*. Academy for Mountain Environments for International Centre for Integrated Mountain Development (ICIMOD), MEI Series No 95/10

Critical Factor Approach to Carrying Capacity

Understanding the full extent of carrying capacity is, perhaps, never possible. A critical factor approach can be taken to assess carrying capacity using experts in the field of environment/ecology, sociology, and economics (Figure 3.8 and Box 3.8).

Critical factors can have negative or positive effects on HER, MCT, and MTD. Negative factors result in the deterioration of HER, MCD, and MTD and positive factors improve their current state.

Critical factors could be:

- resources (flora, fauna, water, cultural, historical, etc.);
- areas;
- behaviour;
- infrastructure; and
- institutions.

Critical Area and Critical Resource

Critical resources can also be harnessed to promote development and conservation (e.g., water to produce electricity). Mt. Everest is a critical resource which has helped the development process of the Solukhumbu area. Likewise, the Phewa Lake and the Annapurna range have helped develop Pokhara.

Generally, critical areas are characterized by critical resources that increase the biodiversity and cultural value of the area and are necessary for survival. They are sensitive to human intervention. Both critical area and resources have similar characteristics. They:

- experience relatively greater stress;

Box 3.6: Determining Carrying Capacity of a Camp Site

The following factors need to be assessed:

- available camping space,
- water supply,
- fuel/food supplies for local porters,
- capacity to recycle biodegradable garbage, and
- garbage and waste disposal management.

Source: Shrestha, MEI Series No. 95/4, ICIMOD.

Box 3.7: Examples of Assessing Carrying Capacity in the Annapurna Conservation Area - Nepal Hindu Kush-Himalayas

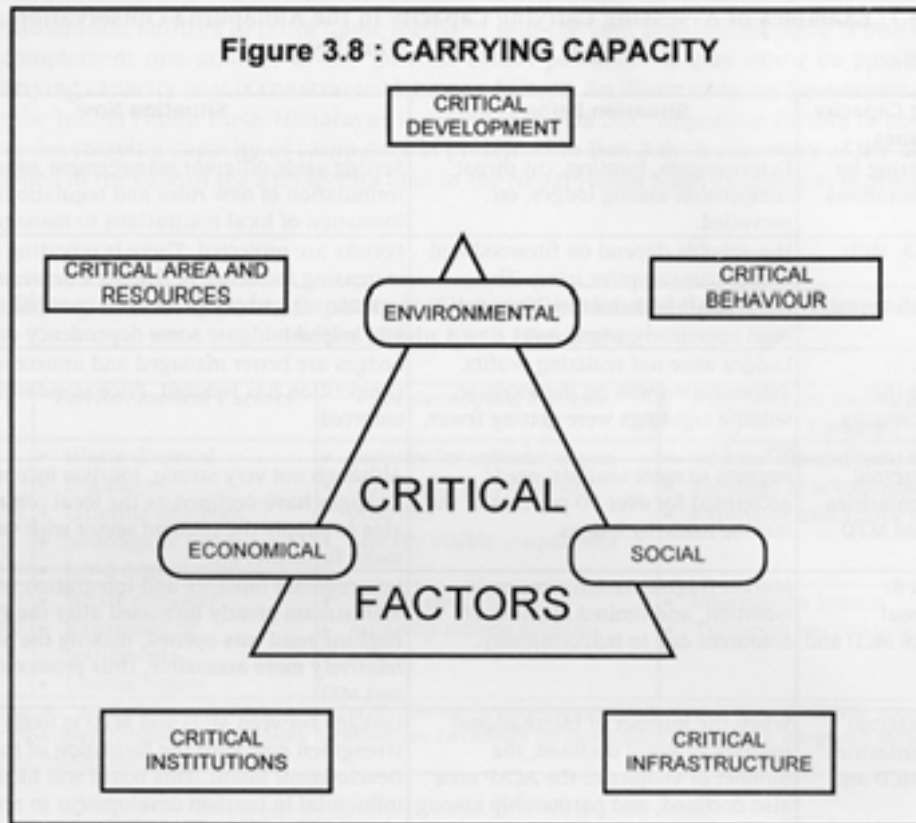
Carrying Capacity Issues	Situation Before	Situation Now
Area 1: Caring for future generations	Deforestation, hunting, cut throat competition among lodges, etc. prevailed.	Setting aside different management zones, formulation of new rules and regulations, and formation of local institutions to manage HER.
Area 2 & 3: MCD and MTD Dependence on HER	Households depend on firewood and fodder (consumptive uses). The Ghorepani rhododendron forests had been completely wiped out.	Forests are protected. There is reporting of increasing incidence of livestock depredation by wildlife. Electricity production (productive use) has helped mitigate some dependency on HER.
Areas 4 & 5: Exceeding the carrying capacity	Lodges were not realizing profits, deforestation was on the increase, wildlife sightings were getting fewer, etc.	Lodges are better managed and unnecessary competition has reduced. Price standardization is enforced.
Area 6: Internal complementarities of MCD and MTD	Imports to meet tourists' needs accounted for over 80 per cent of the income made by lodges.	Although not very strong, tourism income leakages have declined as the local community is able to supply the tourism sector with vegetables, meat, furniture, etc.
Areas 7 & 8: Interregional linkages of MCD and MTD	Market fragmentation, economic isolation, and limited mobility of resources due to inaccessibility.	Interregional linkages and integration with the mainstream greatly increased after the Pokhara-Baglung road was opened, making the area relatively more accessible, thus promoting MCD and MTD.
Area 9: External complementarities between MCD and MTD	When the number of international tourists to Nepal declined, the number of visitors to the ACAP area also declined, and partnership among stakeholders dealing with MCD and MTD at the national level became weak.	Linkage between MCD and MTD is likely to strengthen now with the formation of the Tourism Development Board. This board will likely be influential in tourism development in remote areas.
Areas 10 & 11: Beyond the Himalayan environment	Many items for MCD and MTD will always continue to depend on imports.	Leakages can only be minimized but never eliminated.
Areas 12 & 13: Potential carrying capacity	The use of modern technology and knowledge was almost non-existent. Local institutions which could deal with new problems related to environmental deterioration and tourism did not exist.	New energy saving gadgets, production of electricity, training for lodge owners, the formation of the Community Development Committee, <i>Ama Toli</i> (local institutions), forest protection, land zonation, etc. have improved carrying capacity to some extent. The carrying capacity still remains critical due to poor economic situations.

Banskota, K. And Sharma, B., 1995b. "Tourism for Mountain Community Development. Case Study Report on the Annapurna and Gorkha Regions of Nepal." Centre for Resource and Environmental Studies (CREST) for International Centre for Integrated Mountain Development (ICIMOD). Discussion Paper No. MEI 95/11.

- are relatively more sensitive to increased human interference;
- are relatively more scarce;
- are characterized by extreme poverty and lack of critical resources; and
- have critical resource development (comparative advantage).

Critical Behaviour

- If people do not follow rules and regulations, conservation efforts, tourism, and local development cannot be successful. Attitudes and perceptions toward conservation and development are reflected in human behaviour.
- Some human behaviour is more desirable than others. Management is needed to motivate desired behaviour and to discourage behaviour that is not desirable.



Box 3.8: Identifying Critical Factors

- Resources become critical where human interference can lead to stress, and some areas are more prone to stress, due to the fragility of the environment, than others. Here, conservation is needed to make resources sustainable.
- Regions and areas refer to those areas that are relatively more fragile and prone to stress, and hence to degradation caused by tourism related activities.
- Attitudes and behaviour become critical when individual and collective actions increase the level of stress felt by the area. Institutions play a critical role in providing the facilities that are essential for the development of tourism.
- Infrastructures play the role of providing the necessary essentials concomitant to development.
- Social development here refers to the level of development in the social indicators of the local population, particularly education, training, and HRD.
- Economic security is critical if the community is to engage in a trade-off between the use of resources to meet their basic needs and the conservation of non-renewable resources.

Jalaly and Nazeer 1995. "Tourism for Local Community Development in the Mountain Arcs of NWFP and the Northern Areas of Pakistan. Phase Two - Case Studies of Kalam and Hunza." Development Research Group for International Center for Integrated Mountain Development (ICIMOD)

- It is important to identify such critical behaviour of host and visitor populations. Local people, i.e., the host population and lodge owners, are both producers and consumers of resources, whereas visitors and their support staff are only consumers.
- Economic incentives and disincentives can be used as policy tools to motivate desirable and undesirable consumption and production behaviour. Even in the absence of a written code of conduct, a community generally adheres to right behaviour. Deviation from such accepted norms is a form of critical behaviour that can generate either positive or negative outcomes.

Critical Infrastructures

- A critical infrastructure is one that reduces stress on or promotes the environmental, economic, and social carrying capacity and promotes the welfare of the host and visitor populations.
- If tourism is considered to be a driving force for economic growth in the area, attention should be given to identifying critical infrastructure (trails, campgrounds, lodges, etc) to promote tourism development. This development should be integrated with community development.

Critical Institutions

An institutional base at different levels is a key to ensuring social sustainability of all forms of development (MCD and MTD). An institution becomes critical when it is participatory in nature, encompassing the following crucial elements of social capital formation.

- Participation of all stakeholders in the decision-making process.
- Emerging sense of solidarity and collective will/action and conflict resolution.
- Shared learning and accountability and participatory monitoring.
- Interdependencies and coordination, both horizontally and vertically, with other institutions.

Especially when common property is being shared by many stakeholders, the lack of an effective participatory institution can lead to the property deteriorating (Box 3.9). An example of qualitative assessment of different dimensions of carrying capacity using the critical factor approach in the case of the Royal Chitwan National Park and Lo Manthang -Upper Mustang is provided in Boxes 3.10 and 3.11a through 3.11c.

Box 3.9: Conflicting Use Values of Phewa Lake Environmental Resources

Presently, many lodges use the lake for laundry. Local people also use the lake to bathe and wash. Tankers collect water from the lake for selling purposes. Buffaloes wallowing and grazing are other activities conducted in and around the Phewa Lake environment. According to HAAN, the municipality does not control such activities. The municipality argues that local people do not support the initiatives and actions taken by it. Local people argue that they must have alternatives, if they are to abandon the use of the lake area. Once the municipality introduced a penalty of Rs 500 for those caught bathing and doing their laundry, but the regulation could never be effectively enforced. An alternative site for bathing and doing laundry could be developed below the dam site on the Burundi *Khola*, but this suggestion from the local people does not appear to have been taken up seriously by the authorities. Such conflicting uses of the lake environment are affecting its tourism value.

Source: Banskota and Sharma, 1997. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Submitted by the Centre for Resources and Environmental Studies (CREST) to ICIMOD

However - Keep In Mind

The concept of carrying capacity is dynamic rather than static. Carrying capacity is a function of a variety of internal and external factors and thus changes over time with the changes in management parameters, local factors, visitors' characteristics, and their activities/behaviour. Over time changing both external and internal forces are likely to influence how much change the host community and tourist are prepared to accept.

Step 1: Defining the Explicit and Measurable Management Objectives and Standards.

Since carrying capacity is rather a relative condition that varies according to management objectives and standards, operationalizing the concept first requires defining the management objectives and, in particular, the adoption of the indicators that can be monitored. Only then will it be possible to determine whether management objectives are being met.

Step 2: Identification of the critical factors associated with environmental, economic, and social dimensions of carrying capacity or sustainability.

It is seldom easy to assess carrying capacity in its totality and hence the critical factor approach is useful. Use experts and discuss with local people to establish the critical factors.

Box 3.10: A Critical Factor Approach to Understanding Threats to Biodiversity Resources of the Royal Chitwan National Park (Nepal)

The Royal Chitwan National Park is rich in biological diversity. The park is endowed with three principal types of vegetation - namely - grasslands, *sal* forest, and riverine forests. Over 40 species of mammals, 486 birds, numerous reptiles, and amphibians have been recorded. Also, 185 different plant species are known to have medicinal values, 97 are edible species, 57 ceremonial plants, 8 oil-bearing plants, 7 poisonous plants, 135 fodder species, and 15 useful for making handicrafts. The global significance of this park has been recognised as it is one of the World's Heritage Sites. Over 60,000 tourists visit the park annually. Its recreational value is therefore of global significance. The park also has local significance as over 40,000 households live around the park and benefit from it in different ways. At the national level, the park generates substantial revenue for the government from fees, royalties, etc. Annually, the park generates an estimated income of US\$5 million. Despite the different values of the park, the park's carrying capacity is constantly threatened. Some important indicators of the erosion of carrying capacity are listed below.

Succession

Succession is a natural process in which a plant species gradually encroaches upon other species and eventually colonizes an area. Two types of succession are going on inside the park. The first of these is encroachment by tall grasses, which are displacing short grass species, such as *Imperata cylindrica*. The second encroachment is by fire resistant riverine tree species, such as *Bombax ceiba*, *Ehretia laevis*, *Cordia dichotoma*, *Syzygium operculata*, and several shrubs, which have begun to form savanna type vegetation in some areas adjoining the flood plains inside the park. Changes in species' composition threatens different species that are dependent upon it.

Illegal Grazing

There is a continued shrinking of forest outside the park because of its use by the local people and the growing number of unproductive animals. In the absence of alternatives for grazing their animals, local people have no other choice but to graze their animals.

Fodder and Firewood Demand Pressure

Current wood biomass demand (firewood and timber) in all VDCs surrounding the national park is greater than the wood biomass that can be sustainably harvested and supplied from existing forests (both public and community forests) of these VDCs. Illegal harvesting of firewood and fodder from the park is thus on the rise. This situation is perhaps directly related to the increasing frequency of (as reported by local people) livestock depredation and crop raids by wildlife in the surrounding VDCs.

Poaching

The frequency of poaching of endangered species such as tigers and rhinos is also a serious threat to the park's ecological balance and value.

Pollution

Pollution of the Narayani River, which passes through the park, by industrial effluents is becoming another threat to the park. Testing water quality (temperature, saturation, pH, turbidity, phosphate, nitrate, coliform bacteria, oxygen, etc) from time to time helps determine the pollution level for corrective action. The pollution can affect the entire aquatic ecology of the Narayani River in the long run.

Poisoning

Poisoning is a dangerous threat to the biodiversity of RCNP. Poison has killed animals, birds, and fish inside the park.

Source: Banskota, K., Sharma, B., Sharma, U., and Rijal, A., 1997. *Royal Chitwan National Park after Twenty Years: An Assessment of Values, Threats, and Opportunities*. Centre for Resource and Environmental Studies (CREST) for King Mahendra Trust for Nature Conservation (KMTNC)

Box 3.11a: Critical Factors and Indicators of Social Aspects - Lomanthang

Broad areas	Indicators	Current Status of Indicators	Perceived Impact			Remark
			Minor	Moderate	High	
Host's perception towards tourism	Well-off people	favourable	x			The poor do not see how they can benefit.
	Poorer sections	bewildered		x		
Cultural heritage	Religious monuments	rich but dilapidating		x		Despite the rich cultural heritage, a great deal of renovation is needed. Crafts could be promoted to benefit people, but presently it does not exist on any commercial scale.
	Religious values	high		x		
	Dance, music, festivals	fair	x			
	Crafts	scant	x			
Social indicators	Crime and theft	low	x			Although crime and thefts have not been reported so far, they are possible if management is lax. Present schooling and curriculum is not helping people to find employment.
	Overall literacy	very low	x			
	Female literacy	very poor	x			
Visitor related	Visitor satisfaction	moderate		x		Little interaction between the host and visitors. More needs to be done to develop interaction with the host population. Dance performance is a step in the right direction.
Visitor perception	Cleanliness	moderate	x			
	Hospitality	moderate	x			
	Information	moderate	x			
	Quality of services	moderate	x			
	Maintenance of tourism assets	moderate		x		
	Conservation efforts	moderate		x		
Institutional development	Effectiveness of traditions institutions	fairly good	x			The poor are at a disadvantage. People are gradually realizing the need.
	Development of new institutions	fairly good	x			
Decision-making process	Traditional institutions	fairly good	x			Not always favourable to the poor.
	New institutions	poor	x			
People's participation	Planning and implementation	poor	x			An appropriate incentive mechanism not developed. Local people, especially the poor, have to receive tourism benefits.
	Repair and maintenance	poor	x			
	Enforcement	poor	x			
Coordination between institutions		poor	x			Virtually does not exist at any level.

Note: The results in the above table should be interpreted as follow; for example, under the broad heading, crime and theft are indicators. Occurrence currently is believed to be fairly high. The x sign indicates that the current status of crime and theft has a big (negative) influence on the social carrying capacity.

Source: Banskota and Sharma, 1997. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Submitted by the Centre for Resources and Environmental Studies (CREST) to ICIMOD.

Step 3: Assessment of status of indicators and their degree of impact on different dimensions of carrying capacity:

After identifying the critical factors, indicators need to be developed to arrive at a baseline situation of the carrying capacity. The basis of monitoring, which is also provided, needs to be monitored periodically by the management.

Box 3.11b: Critical Factors and Indicators of the Economy - Lomanthang

Broad Areas	Indicators	Current Status	Perceived Impact			Remark
			Minor	Moderate	High	
Agriculture	Cultivated land	Scarce		x		Limited potential for diversification, agricultural productivity declining. Animal dung, the main source of energy, is replacing its use in agriculture as manure. Animal husbandry becoming less viable.
	Agricultural productivity	Low			x	
	Irrigation facility	Limited	x			
	Manure availability	Declining		x(7)		
	Livestock population	Fairly high			x	
Food sufficiency	Percentage of households	Very low			x	Growing magnitude of deficit.
Poverty	Percentage of households	Very high		x		It is rampant.
Migration	Percentage of households	Fairly high		x		High but not among the poor.
Dependency on trade	Percentage of households	Fairly high		x		Enhances carrying capacity. Labour productivity low in off-farm activities..
Employment opportunities	Tourism induced	Very poor	x			Group tourism does not provide local people with an opportunity to earn an income. Off-farm activity income very low.
	Off-farm activity induced	Very poor	x			
Income opportunities	Tourism activity induced	Very low	x			
	Off-farm activities	Relatively higher	x			
Linkages between tourism and the community	Traditional sector	Non-existent	x			Linkage has to be induced through innovative efforts.
	Tourism sector	Very poor	x			
Income disparity	Community	Very high			x	Disparity between rich & poor visible.
Knowledge and technology	Human resource development	Very poor	x			Mass illiteracy. Scope for introducing new technology to save firewood.
	New technology	Almost nothing	x			

See notes from Box 3.11a

SESSION 4

DURATION: TWO HOURS

Planning and Management of Sustainable

Box 3.11c: Critical Factors and Indicators of the Environment - Lomanthang

Broad Areas	Indicators	Current Status	Perceived Impact			Remark
			Minor	Moderate	High	
Forestry	Forest cover	Sparse			x	Regenerative capacity is low. Scope for community plantation is limited. Firewood saving stoves have scope. Animal dung is used increasingly for cooking and energy. Some community plantation. Overgrazing visible.
	Firewood supply	Deficit			x	
	Fodder supply	Deficit	x			
Private tree plantation	Number per household	Low			x	
Pasture land	Livestock/ha	High density	x			
General landscape	High visibility	Attractive	x			Scars of erosion.
Littering/garbage/pollution	Perceptive visibility	Fairly low	x			Mostly visible in tourist areas.
Wildlife habitat	Quality	Fairly good	x			Damodar Kund area rich.
Unique fauna	Density	Fairly good		x		Endangered species found and need protection. Livestock depredation reported.
Unique flora	Density	Declining	x			
Alternative energy	Installed capacity (hydro)	Low	x			Electricity for lighting purposes only. Kerosene too expensive. Other new gadgets may be too expensive unless highly subsidized.
	Potential capacity (hydro)	High	x			
	Kerosene consumption	Low	x			
	New energy saving gadgets (per/hh)	Low	x			

Environmental Impact Assessment (EIA)

Stage 1: Project Concept/Identification

Stage 2: Pre-feasibility Studies

Stage 3: Feasibility Studies

Stage 4: Project Appraisal and Design

Stage 5: Implementation of the Project

Methodology

Short Presentations and Discussions

SESSION 4

DURATION: TWO HOURS

Planning and Management of Sustainable Mountain Tourism Development

Objective

- To familiarize programme designers and implementors on basic knowledge essential for designing mountain tourism sites and destination plans
- To familiarize programme designers and implementors with different components of tourism products and provide an idea of how to carry out feasibility studies necessary for mountain tourism development

Contents

- Planning Scales
- Site Planning Concepts
- Design Criteria
- Site Analysis
- What Tourism Development is Expected to Accomplish
- Tourism Products
- Development of Tourism Products: Feasibility Studies
- Environmental Impact Assessment (EIA)
 - Stage 1: Project Concept/Identification
 - Stage 2: Pre-feasibility Studies
 - Stage 3: Feasibility Studies
 - Stage 4: Project Appraisal and Design
 - Stage 5: Implementation of the Project

Methodology

- Short Presentations and Discussions

Objectives

- To familiarize programme designers and implementors with basic knowledge for designing mountain tourism sites and destination plans
- To familiarize programme designers and implementors with different components of tourism products and provide an idea of how to carry out feasibility studies necessary for mountain tourism development

Tourism planning is essential to allocate the scarce resources (at the local, regional or national levels) to maximize output, income, and employment; conserve the environment; and provide visitor satisfaction. Large scale and rampant poverty is a fundamental characteristic of mountain areas and tourism development alone cannot be considered a panacea for poverty alleviation in these regions. Tourism planning must seek to make mountain tourism a stimulus (i.e., multiplier effect) to mountain community development in areas where tourism can play a leading role. As a result, it is essential that the complementarities of mountain tourism and mountain community development are maximized to the greatest extent possible. This means that income and employment generation from tourism are maximized on one hand and tourism income leakages are minimized on the other. Income and employment generation must serve as the motivations for environmental conservation. Local institutional development needs to be emphasized for sustainable development and the capacity of local people needs to be increased to manage mountain tourism at the local level. Since tourism is governed by international and domestic market forces, mountain tourism planning should be market oriented in that the forces of demand and supply must be carefully understood and integrated into the plan.

Mountain tourism in Nepal so far has been haphazard and scientific planning has not taken place. In other words, mountain tourism in Nepal has been essentially demand led, and there has been no proper supply of management. As new areas have been opened for tourism, local people have catered to the visitors' needs for food and accommodation and transport services, mainly porters. Creating the infrastructure, providing appropriate training, setting standards, and enforcing them has so far not been carried out effectively on an institutional basis. This part of the training session will focus on planning issues that are pertinent only at the local level as opposed to the national level, although their relationship should not be undermined. Tourism planning must be regarded as an integral part of the country's general economic and social planning, even when planning is conducted at the local level.

Clearly, effective planning and management of mountain tourism are essential at the destination and site in order to maintain their integrity and to ensure that their unique attractions are protected. Although the process of tourism planning is well understood, there are many barriers to its effective implementation. Tourism is very different from other sectors of the economy. As a matter of fact, almost all sectors are involved in tourism planning. Coordination between different sectors thus becomes a crucial factor in tourism planning and execution. As the number of institutions involved in coordination increases, complications arise, leading to inefficiencies. Tourism planning must be comprehensive and consider all relevant components of tourism and the role of overall land use planning. Plans must demonstrate how tourism can function as a system; how well services can be provided; how well sites can be developed and managed; and how attractively tourism products can be developed, marketed, and promoted.

An area qualifies for mountain tourism development if it possesses attractions (tourism assets) and is able to provide hospitality to tourists. Planning then becomes essential to develop the area for tourism and an agency or individual must be made responsible for it. Planning must be conducted with close interaction with the local people and institutions.

Planning Scales

Tourism planning needs to be approached on three different scales, namely, site scale, destination zone, and national scale. Integrating tourism development on all scales holds great promise for guiding it towards the desired goal.

Site Scale

In the context of mountain tourism, site scale is very important. Site scale involves the development of individual property ownership (lodges and camp grounds on private property). Sites are suitable for tourism development if they are located in an area that has unique tourism assets or areas that are en route to such a destination (as in the case of trekking tourism). In the context of Nepal, however, this form of individual property development has generally been aesthetically ugly and non-economic. In addition, whatever development has taken place at the site has often been of a poor standard as a result of the lack of maintenance standards, even where national park authorities are present. An equally important factor has been the poor capability of local people to provide the quality services that are usually expected by visitors. Local businesses also do not make adequate profits from their investments due to unproductive competition. Although it is desirable to have aesthetic and management control over business in mountain areas, especially in sensitive areas, local communities should, however, be free to develop services to attract visitors.

Destination Scale

A destination zone may be defined as a geographic area containing a critical mass of development that satisfies traveller objectives (Gunn). A critical mass usually means a large enough and diverse enough tourist area or a unique attraction that satisfies visitors. Different activities can be built around a unique attraction to attract visitors with different interests. The idea should be to maximize visitor nights in the local area so that the critical mass is generated even with less visitors. Unless a critical mass is present, it may not be possible to involve many local people in tourism or it may not be worthwhile to invest in infrastructure. The destination also includes all locations en route where visitors have to halt for the night, and, hence, considerable cooperation is needed from local bodies. Also, a fairly large critical mass is essential to establish tourism links with the community and enhance mountain community development through tourism. Thus, services, such as lodging, food, and transportation, can be made to benefit a wider community if a certain minimum number of tourists visits the area. When properly planned (site and destination), negative impacts can be significantly minimized.

The basic elements of a destination zone area.

- Transport and access within the destination
- One or more communities with adequate public utilities and travel services
- Attractions that meet market needs
- Efficient and reliable transport services from cities to the destination

Regional and National Scales

Since Nepal is a small country, national scale planning may alone be sufficient. Planning at the national level has to be comprehensive as there are more institutions and stakeholders involved on this scale. Planning must encompass a longer time frame. Planning at the national level is essential for better integration. Well designed sites and destinations are key attractions to investors since private investors are generally interested in investing at the site and destination levels.

Site Planning Concepts

Site is defined as a land area within a destination zone usually controlled by one or more individuals or a firm or government agency. At the site level, planning entails planning attractions, facilities, and services for visitors.

Planning Design Professionals

At the site level, landscape architects and other types of architects must be involved, although the work of other disciplines, such as environmentalists, biologists, etc., is also necessary. All three decision-makers, government, non-profit organizations, and the private sector, must be involved in site planning. Property owners and the community must be involved in the designing phase from the very beginning. The emphasis at this stage must be on design rather than planning.

Execution of any plans entails investment for which financial institutions will play key roles. Each financial institution will have its own policies and practices regarding funding.

There has to be a good deal of knowledge on how much it will cost, what materials have to be used, and who will carry out the construction.

Who will manage the sites? The local community must be involved in planning negotiations, since at the site level there will be managers. Training will have to be imparted to the local people.

Place Meaning

The site design should respect all attributes of the place.

- As nature - unspoiled, deserving of conservation
- As habitat - supportive of man, animals, and vegetation
- As artifact - to be subdued, conquered by man
- As system - holistic, human-nature as one
- As problem - all is in disarray, needs solving
- As wealth - a commodity to be owned, sold, and used
- As ideology - hold ideals, cultural meaning
- As history-cumulative record of man's use
- As place - visual and spatial geography
- As aesthetic - intrinsic beauty, visual value. (Gunn p 341).

Items that give a site a special sense of place.

- Architectural style
- Climate, particularly the quality and quantity of light, amount of rainfall, and varying temperatures
- Unique natural setting
- Memory and metaphor, what the place means to people who experience it
- The use of local materials
- Craftsmanship
- Sensitivity in the sighting of important buildings and bridges
- Cultural diversity and history
- People's values
- High quality public environments which are visible and accessible

Functional and Design Criteria

Plans must demonstrate that they will create development that will function as a system. The visitor is the only individual to experience whether tourism functions as an efficient system or not. Is a visitor satisfied in terms of reaching an attractive site, information provided, transport and other services available? Related with these criteria is that the design has to be aesthetically pleasing and appropriate.

Integration with Other Plans

A tourism plan must be integrated with other plans. In the context of mountain areas, tourism plans must be integrated with community development.

Visitor Experience

Visitors to the site must be satisfied with the services and facilities they enjoy. Thus, the demand side of tourism must be carefully studied.

Eco-Design Ethics

- Environmental issues must be an integral part of the overall design. Some fundamentals are as follows.

- The design shall be in a scale intune with the setting and not dominate natural resources.
- All water shall be disposed of without polluting air, water, or soil.
- Waterfront edges shall not be used for building anything.
- Location of tourist facilities shall be separated from important cultural and religious sites as well as sensitive areas. Access to these resources shall be planned and controlled so that crowding is avoided.
- Sensitive natural areas shall be zoned and protected and construction of any form and access will be denied if necessary.
- All project designs shall be acceptable to the local community.
- Cultural attractions are designed for visitor uses that promote cultural values.
- Sites must be equipped with appropriate infrastructure (water supply, waste disposal, road or trail access).

Interpretative Centre

The purpose is:

- to interpret the area's natural and cultural resources;
- to provide an enjoyable and stimulating visitor experience;
- to provide a setting for environmental education;
- to provide a design alternative to mass erosion and natural and cultural resources; and
- to add an important tourist attraction complex to others within a destination.

Market Analysis

Designers need to avail themselves of the services of a market analyst.

Programme Statement

Listing of what is to be designed, in a participatory manner, i.e., involving all principal stakeholders.

The site analysis involves two parts, namely, on-site and off-site factors.

Site Analysis

On-site Factors

Construction elements

- Legal and physical boundaries, public easements
- Existing buildings, bridges, and other infrastructure including historical, cultural, and archeological sites
- Trails and other forms of transportation
- Existing land uses
- Applicable ordinances such as zoning regulations and health codes

Natural resources

- Topography, gradients, and drainage patterns
- Soil types (permeability, stability, and fertility)
- Water bodies
- Sub-surface matter: geologically and functionally valuable materials such as sand, gravel, stones, and water
- Vegetation types-trees and other plants
- Wildlife habitats and species' importance
- Climate and weather

Perceptual characteristics

- Aesthetic characteristics including views and features
- Spatial patterns

Off-site Factors

- Surrounding land use, stream and drainage sources, influence of noise pollution, etc

In addition, community development and social development of the community in question need to be integrated into the plan to the greatest extent possible.

In the context of mountain areas, where tourism is primarily lured by natural attractions, the inventory of HER and assessing its value take important dimensions. On the supply side, the first task is to make inventories of the characteristics and status of tourism assets in the community (HER). Such inventories will not only bring out relevant features of resources but also help identify and appreciate the most critical resources (see Session 3 and Box 4.1).

Box 4.1: Utility of Inventory

The inventory will provide the basis for assessing carrying capacity, defining safe minimum standards, and determining limits of acceptable change. Rare and endangered species, unique ecosystems, and habitats that need protection can be assessed after a detailed inventory of HER is made. Foremost, there is a need to take an inventory of HER to identify critical factors and to provide the basis for monitoring and evaluating the goals of sustainable mountain tourism.

What Tourism development is Expected to Accomplish

There can be different management objectives for achieving the goal of sustainable mountain tourism development (Box 4.2). It becomes important therefore for managers to determine what tourism development is expected to accomplish. First, tourism management objectives should be clear, unambiguous, non-conflicting, and achievable. Second, tourism development objectives should be identified in close coordination with community residents and all other concerned stakeholders. Third, tourism development objectives should follow some guiding principles of sustainable tourism development as laid out in the previous session.

Box 4.2: Some of the Objectives Commonly Found in Tourism Development Plans

- Promoting high quality tourism though not necessarily at high cost
- Encouraging the use of tourism for both cultural and economic exchange
- Distributing widely economic benefits of tourism both directly and indirectly to as many residents of the host community
- Maximization of foreign exchange earnings to ensure sound balance of payments
- Attracting big-spending tourists to increase employment opportunities

Tourism Products (Boxes 4.3, 4.4, and 4.5)

A tourist product provides physical and psychological satisfaction to tourists. It is comprised of the following supply components: attraction, services, transportation, information, and promotion. Figure 4.1 demonstrates how these supply components of tourism are closely interrelated and operate in a system. Highlighted below is the importance of each supply component and its stage of development in the sustainable promotion of tourism in mountain areas.

Tourism in mountain areas involves non-consumptive uses of HER. These cannot be offered to tourism in their pure form and have to be developed from *in situ* forms into a HER products. Nepal's HER are the scenic Himalayas, flora and fauna, and people.

All these different aspects of HER need to be blended together to develop a tourism product. A tourism product in turn has to be attractive or else visitors will not visit the area. Besides developing the product, other supply factors also need to be developed simultaneously.

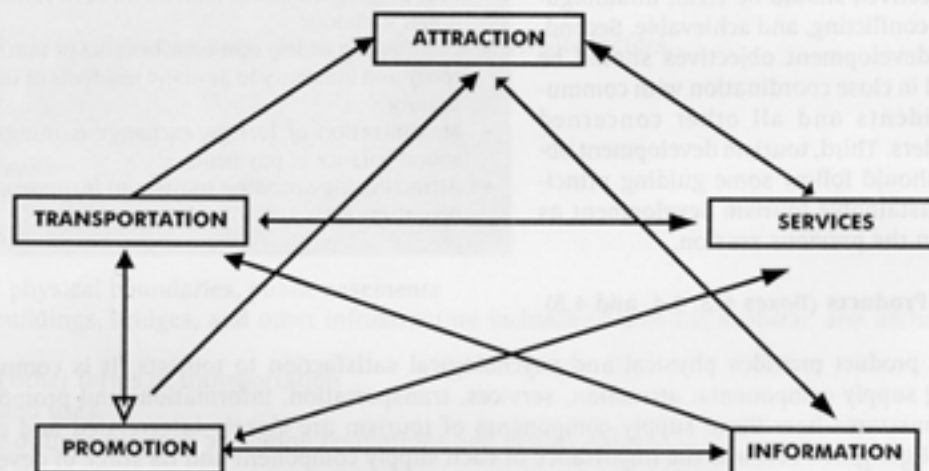
A country's natural beauty, history, culture, and its people all determine the choice of a visitor's destination. Attractions are an array of physical features and services that are provided for an assumed capacity of visitors. Tourist attractions are both created and managed. Attractions could be an ecosystem, rare plants, or animals, but should be developed and well managed entities. Planning for tourism must therefore place emphasis on those areas that have the best attractions and which can be linked with other

Box 4.3: Tourism Assets of Hunza-Pakistan

- Karimabad: This is the capital of Hunza. It offers an awe inspiring view of the 7,788 m Rakaposhi peak.
- Fort Baltit: Located at Baltit, the former capital of Hunza, Fort Baltit is about 1.5 km from Karimabad. This castle was rebuilt a number of times during the thousand year reign of the Mirs of Hunza. The present structure was constructed some 600 years ago, and the architecture reflects a marked Tibetan influence.
- Fort Altit: This is situated in the village of Altit, about three kilometres from Karimabad. It has been built on a sheer rock cliff that drops 300 m down to the Hunza River and is much older than Fort Baltit.
- Buddhist rock carvings: The rock carvings and inscriptions around Ganesh village, near the Altit Fort, are proof of the Buddhist influence in the area. The inscriptions are in four different scripts: Kharoshti, Gupta, Sogdian, and Tibetan.
- Ruby mines: The ruby mines of Hunza are a popular tourist attraction. Precious and semi-precious stones may be sought at the sales' centre in Aliabad.
- Technical mountaineering (ice climbing): Mainly the Rakposhi (7,788 m; Grade D+) and Rashpari peak climbs (5,058 m; Grade D).
- Trekking and hiking: Batura Glacier trek (Grade A), Hobar and Hispar glaciers, and Patundas Meadows (Grade B).
- Pony trails and yak safaris: Ponies are widely available while yak riding is mainly along the Batura trek.
- White water rafting: For professionals, as the Hunza River rapids are Grade III-VI in some stretches.
- Mountain bicycle tours: These are being promoted by the tourism industry.

Source: Al-Jalaly, S.Z., and Nazceer, M.M. 1995. Tourism for Local Community Development in the Mountain Areas of NWFP and the Northern Areas of Pakistan-Phase Two: Case Studies of Kalam and Hunza. International Center for Integrated Mountain Development (ICIMOD), Discussion Paper Series No. MEI 95/12.

Figure 4.1: SUPPLY COMPONENTS OF TOURISM



services. Clustered attractions have greater promotional impact. National parks are examples of attraction clusters offering many complementary activities such as hiking, bird watching, wildlife sightseeing, etc. Besides tourist attractions, service linkages are also very important.

Accessibility or Transport

An efficient transportation network is necessary for tourist product development. Transportation, as a vital component of a tourism system, provides a critical linkage between market source and destination. Since all other supply components of tourism depend on transportation, there should be proper planning and managerial linkages between transportation, decision-makers, and tourism developers. Changes in routes, pricing, schedules, and other factors can affect the tourism business.

Box 4.4: Tourism Assets of Upper Mustang

Lack of any form of modernization is itself a unique attribute of the area and when blended with the natural setting, makes Upper Mustang very unique. Upper Mustang is in the trans-Himalayan region, from where one gazes south to look at the main Himalaya. The people practice a custom that continues to thrive fairly independently, despite the twin influence of the main Nepali polity and Tibetan culture. Its remoteness adds to its tourism attraction. The sheer beauty of this cold-natural-wilderness desert, north of the majestic Himalaya, is in itself an important tourism asset. In general, the tourism assets of Upper Mustang may be classified into several categories, namely natural and man made. Natural assets include the endowments of nature and man made assets could be tangible (monastery) as well as intangible (culture).

Natural Assets

Damodar Kund

Damodar Kund is a sacred site for the Hindus and at the same time, provides a unique opportunity to observe a glacial lake that abounds in pristine forests and wildlife. Many of the wildlife found in the Damodar Kund area as well as in Upper Mustang are uncommon and some are endangered species.

Fauna and Flora

Occurrence of three endangered species, namely wild yak (*bos grunniens*), Tibetan wild ass (*equus hemionus kiang*), and the *Nayan* or great Tibetan sheep (*ovis ammon hoggsouth*) in northern Mustang have been reported. Additionally, the area abounds in pristine forests and harbors many floral species.

Mustang Gate

Kali Gandaki at a certain point along the trail can be seen to flow through a big rock face and is a spectacular natural site. This is called the Mustang Gate.

Man Made Assets

The cultural and religious practices of the people of Upper Mustang dates back to the 14th century and are still practised to this day.

Historical Assets

Ancient texts, scriptures, and paintings depict the area's ancientness.

Jhampa Gomba is the oldest monastery in Lo Manthang and was built in 1387. Its uniqueness lies in its mysterious and excellent mandala wall paintings printed in gold.

Thuchchen Monastery was built in 1412 A.D. The monastery has an imposing two storied building consisting of beautiful artworks and woodwork inside its interior. The main image inside the monastery is made of gold plated copper sheets.

Fort Towers

Two forts stand just north of Lomanthang. From the fort towers, it is possible to get a clear view of the Tibetan plateau. It is reported that these towers were built to watch enemy attacks from Tibet.

Longest Prayer Wheel Wall

Upper Mustang also boasts of having one of the longest row of prayer wheels in the country, which is located in Ghami VDC.

Chhosser Cave

Among the numerous caves found in this area, Chhosser Cave is five storeys high and consists of about 85 rooms. The sizes of most rooms are about 120 sq. ft with the exception of one big room that is about 400 sq. ft. Besides a kitchen and toilet facilities, there are shelves in all the rooms, perhaps, made for storing food and other materials. The walls of the caves are painted with turpentine extracted from blue pine.

Lo Manthang Wall

Built in the 15th century, the wall surrounding the city is another cultural heritage of the people of Lo Manthang. A unique city with a wall and a gate that closes every night at 10 p.m. is rare.

Festivals

Losar

The Losar marks the Tibetan new year and is an important festival celebrated by the people in Upper Mustang.

Teeji Festival

The Teeji Festival is celebrated for three days. Teeji commemorates the victory of Buddha's incarnation over a demon. This festival can be an interesting event to tourists since it takes place in May.

Yartung

This is a harvest or horse festival that takes place on the 15th of the seventh month.

Source: Banskota and Sharma 1996

Box 4.5: Some Peculiar Characteristics of Tourist Products

Tourism is a specialized services' product and has a number of peculiar characteristics which need to be fully understood if a tourism enterprise is to be successfully planned, developed, and marketed.

Tourism is intangible, non-material, and perishable: Intangibility means that the product can not be easily evaluated or demonstrated in advance of its purchase. Perishability means that it can not be stored for sale on future occasions.

Inseparability: Tourist products are often consumed and produced simultaneously. Thus the production and consumption of tourist services are closely interrelated. In fact, its production takes place only when the customer (tourist) is actually present. Since tourists can not inspect tourist services before deciding to use them, the risk and uncertainty for consumers are higher and, thus, their need for reliable pre-purchase information is quite strong.

Tourist demand is highly unstable: It is influenced by seasonal, economical, and political factors. The tourist business is seasonal and normally lasts for a limited part of the year; hence, the problem of unemployment exists.

Dominant role of intermediaries: In contrast to most other industries where manufacturers have control over design, distribution, promotion, and pricing, travel sale intermediaries, such as tour operators, travel agents, hotel bookers, etc, play important roles in tourism marketing. Types of service to be offered, pricing policies, and promotional strategies are thus determined not only by the need and preference of customers but also by travel sale intermediaries.

Accommodation and Service

Accommodation, as an essential component of tourism, provides the psychological base for tourists during their stay away from home. It complements tourist attractions and other components of tourism. Service oriented businesses (accommodation, food service, travel agencies/ business, retail shops, restaurants, etc) generate the greatest economic impact in terms of employment, income, and tax revenue. They are the source of multiplier effects and linkages through the indirect support from other sectors. If visits are longer than one night then it is the accommodation that will become the pursuit. The demand made upon accommodation depends on the purpose of visits. For example, business tourists demand business facilities. Likewise, an independent trekker demands accommodation while group trekkers do not rely on such premises.

Information

In contrast to advertising, which is intended to attract, information is descriptive (maps, magazines, articles, guidebooks, videos, etc). The objective of travel information is to provide visitors with a greater understanding of places and activities. Pre-travel information is as important as en route and on-site information. Visitor centres offer many varieties of information and services (food, retail sales, museum exhibits, publications, etc) to visitors.

Promotion

Despite the fact that promotion is a programme rather than a physical development, it is an important supply component of tourism, with strong and critical linkages with other components. Promotion takes place only after all other supply components of tourism have been developed.

A tourist product is generally marketed at two levels.

- The national or regional tourist organization (official government organization) sells tourist products indirectly by providing knowledge of its country and persuading tourists to visit first. Secondly, it creates an image of its country to attract tourists.
- Various firms providing tourist services can market their own component of tourist products after the national organization has launched marketing campaigns to persuade potential tourists to visit the country.

Development of Tourism Products: Feasibility Studies

Environmental Impact Assessment (EIA)

EIA is becoming a comprehensive and versatile instrument for achieving many sustainable development interventions. In the context of tourism, EIA is basically an evaluation of the likely serious impacts of tourist activities on the environment. Since the EIA process covers most of the surveys and research, all relevant studies and research instruments related to development of tourism products are provided in this section.

EIA Project Cycle and Project Management

EIA needs only to be applied for those actions which may significantly affect the environment. EIA should be initiated at the beginning of the project cycle and continue throughout the life of the project. The main linkages between relevant EIA activities and a typical project cycle are given below in *Figure 4.2*.

Screening an IEE can be applied at this stage.

Screening an initial environmental assessment (IEE) can be applied at this stage. Screening is the process of selecting the project that requires EIA. At this stage, the project may be subject to screening to decide whether a full comprehensive EIA report must be prepared. In Nepal, if the proposed projects happen to be listed on the government gazetted schedules then an EIA report must be prepared.

Stage 1 : Project Concept /Identification

What is IEE?

A project for which the EIA requirement cannot be easily determined is subject to IEE, which is carried out to determine the most likely significant environmental impacts from the proposed action. The IEE process thus requires an adequate in-depth inventory survey to address the following issues.

- Mitigation measures for adverse impact not expected to be significant.
- Mechanism for enhancing beneficial impact.
- Uncertainty not possible to be resolved in the IEE stage.
- Method of IEE usually involves the use of interaction matrix/check list (see box) showing project activities in the horizontal column and degree of response of each environmental parameter on vertical columns rated on a scale of 1-3 (no impact, moderate impact, and severe impact).

Alternatives can be proposed and analyzed.

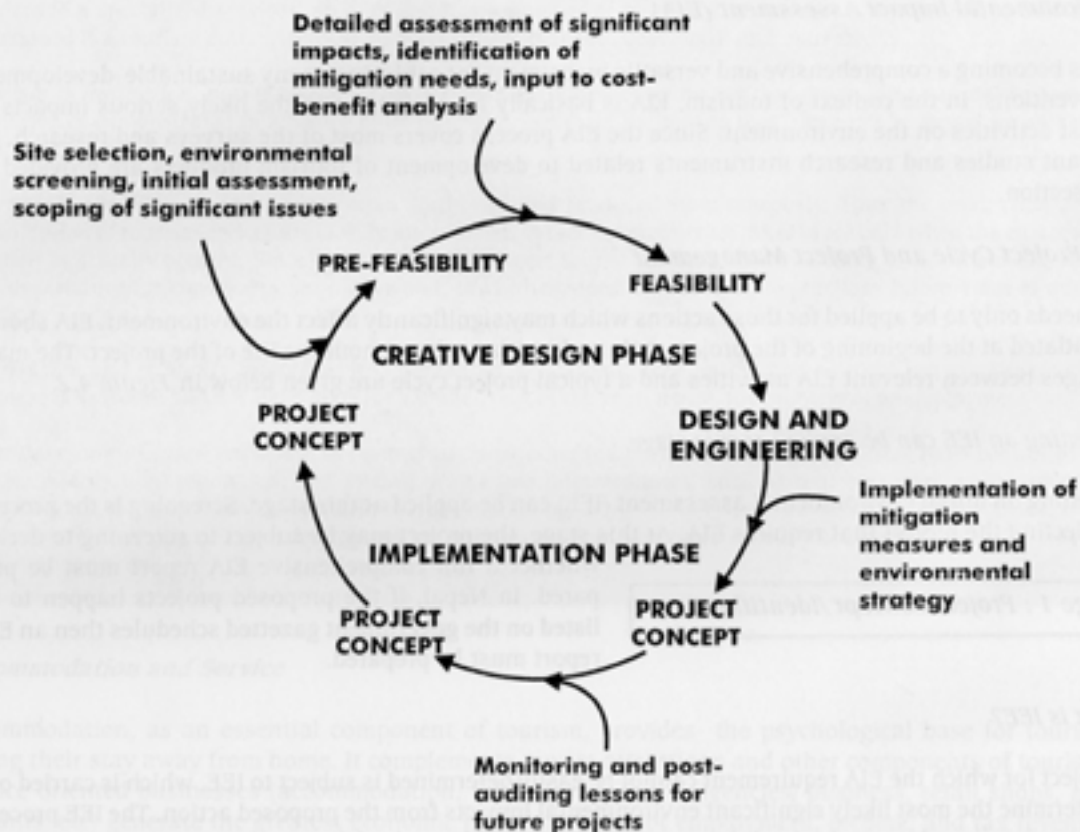
EIA work begins with screening. If screening recommends that an EIA report is required then the initial studies will begin. At this stage, a quick environmental overview/ reconnaissance or preliminary EIA can indicate whether any of the alternatives proposed are environmentally disastrous. The main advantages of such a quick overview are:

- identification of viable alternatives, and
- early indication of likely significant impacts for further EIA work.

Scoping and Formulating TOR

Stage 2 : Pre-feasibility Studies

Following the screening procedure, scoping takes place. This determines the scope for the EIA study. The main EIA activities at this stage are a) identification of issues /impacts for investigation and b) formulation of TOR.

Figure 4.2: Project Cycle

Source: EIA Training Manual, Asian Regional Environmental Assessment Programme, IUCN Nepal.

Outline of Scoping Procedure

1. Identify the environmental issues to be considered in EIA
2. Scoping helps in
 - reaching an agreement on specific issues,
 - identifying alternatives,
 - TOR preparation for EIA,
 - public participation,
 - identifying methods to be used in EIA, and
 - achieving cost effectiveness

Stage 3: Feasibility Studies

At this stage, EIA activities should be carried out in connection with economic, technical, and design work. The majority of the EIA studies carried out include market demand and Cost Benefit Analysis (CBA) at this stage. Note that the market demand or marketing process has already been highlighted in the preceding section. The basic concept and steps involved in carrying out financial and economical CBA are provided below.

Financial and Economic Analysis (Box 4.6)

- Financial analysis addresses the commercial profitability of the project from the point of view of project entity.
- Economic analysis on the other hand addresses efficiency of resources from a society's point of view.
- In financial analysis, transfer of payment, tax, rent, and duties are treated as financial cost and sub-

Box 4.6: Valuation of Output and Input - Two Approaches

There are basically two methods of valuation for the economic analysis of a project: The World Bank and UNIDO evaluation method. The World Bank approach (an extension of the OECD - Little and Mirrlees approach) differs from the UNIDO approach in that the former uses government income as the basic unit of account (numeraire) valued at world or border prices, whereas the UNIDO's unit of account is based on aggregate consumption valued at domestic price. In the UNIDO method, all traded goods are converted to domestic prices using domestic shadow prices based on shadow exchange rates, whereas in the World Bank method, domestic prices are all converted to border prices using standard conversion factors derived for this purpose and other accounting prices. The World Bank method is most commonly used in the economic appraisal of development projects in many developing countries, including for those in Nepal.

siding as financial benefit. From the society's point of view, these are merely transfer payments which do not use up the resources or generate income and are excluded in the economic cost and benefit analysis.

- Interest and depreciation are excluded from the total cost in both financial and economic analysis, since interest is taken care of in discounting and the rate of return on investment takes care of depreciation.

In social cost benefit analysis, complex social weights have to be developed, which in the absence of standard national parameters may, perhaps, be difficult tasks. For example, social CBA is based on the assumption that an additional rupee accruing to a poor man is considered to be more valuable than it accruing to a rich man and this calls for properly taking into account income distributional weight in economic cost and benefit in order to arrive at a social analysis result.

Steps Involved in Financial and Economic Analysis

- 1 *Preparation of physical input and output flow tables:* All purchased or owned input and output sold or self-consumed by the beneficiary are included in developing the physical flow for conducting the financial analysis. In economic analysis, additional indirect benefit and cost have to be also accounted for.
- 2 *Unit value tables for project and output:* In preparing the unit value table for financial analysis, prices of all inputs and outputs have to be estimated at the time of purchase, sale, or consumption and adjusted for inflation. In contrast, prices of inputs and outputs are valued at their opportunity costs to arrive at shadow efficiency prices in economic analysis. In some community infrastructure development activities, such as forest, bridge, and drinking water schemes, the imputed value of the project has to be used because the increased output is for self-consumption and incurs no additional cost to the beneficiaries.
- 3 *Financial cash flow and economic value flow tables:* These can be obtained through multiplying the physical input and output flow tables (step 1) by their respective unit value tables (step 2).

Measures of Project Worth: Basic Concepts

The most widely used measures of project worth (decision-making criteria) are:

- Net Present Value (NPV),
- Internal Rate of Return (IRR), and
- Benefit Cost Ratio (BCR).

Conventionally, the financial attractiveness of the project is determined when the following criteria are met.

- The value of aggregate benefit is greater than the value of the aggregate cost when both are discounted with the alternative rate of discount (i.e., NPV of the project is greater than zero).
- The discounted value of benefit is at least equal to the value of cost for each separable project component and the project as a whole.
- There is no known cost lower than the identified to achieve the same level of benefit.

The main question in economic analysis is similar to the above three criteria except that the economic opportunity cost of capital (in contrast to market rate of return in financial analysis) is used to discount the aggregate benefit and cost all valued in efficiency price.

Merit and Limitation of NPV, IRR, and BCR

Generally, any project that provides positive NPV as an efficient use of resources involved in assuming that each separable component of the project is the least cost means of achieving the same benefit. IRR is essentially a break even discount rate in the sense that, at this rate, the PV of benefit equals the PV of cost (i.e., NPV=0 and BCR =1). While the financial IRR shows the investors what the average earning power of an investment is likely to be, the economic IRR shows the decision-makers what society can expect to receive back as benefit from a given investment of the scarce resource invested (Table 4.1).

The selection criterion generally used is to select a project if the FIRR (EIRR) is greater than the market rate of interest (economic discount rate or opportunity cost of capital).

NPV and IRR provide information not provided by BCR. NPV provides information on absolute value of PV of benefit but tells nothing about how large the cost will be to achieve the Positive NPV (for example, there could be a project with an NPV of say 5 million which costs 2 million with the same NPV that costs Rs 6 million). IRR on the other hand is a relative measure of a project worth, which gives information on the return per unit of cost and hence provides more information for comparing the benefit that can be expected from the alternative use of funds.

If preliminary EIA work starts right from the project inception onwards, it would be more cost effective for decision-making at all stages of the project. However, if it is an add on after the project design is over, the process of EIA becomes cumbersome and time consuming. The East Rapti Irrigation Project is an example wherein a post design EIA cancelled the whole project concept. EIA should be considered as a means of prevention rather than cure at this stage.

Possible Alternatives To Be Identified and Assessed by Both Design and EIA

Alternatives may be designed and possibly there will be changes in the initial range of alternatives. EIA work has to be adaptable to deal with external changes just as a designed work needs to adapt to EIA results. In other words, there should be a close relationship between the design and EIA work.

Deciding Whether or Not a Project Should Go Ahead

Stage 4: Project Appraisal and Design

At this stage, the EIA result will be considered with other feasibility studies. If appraisal results have a go ahead, then a final decision for project implementation has to be made through the approval of government agencies.

At this stage, in the project cycle, the EIA report will serve as a reference guide for implementation and will also be used for mitigation strategies and monitoring schemes.

Table 4.1. Summary Results on Cost Benefit Analysis of Rural Development Projects

Results	Drinking Water	Fishing Suspended Bridge	Community Forestry
Financial Analysis			
IRR(%)	34	36	27
NPV(Rs '000)	2,886	5,675	3,399
BC Ratio	2.2	3.51	1.95
Economic Analysis			
IRR(%)	39	47	51
NPV(Rs '000)	2,737	7,068	4,233
BC Ratio	2.3	4.69	2.83

Source: Sharma, B., Banskota, K., Gyawali, P., and Neupane, I., 1995. Evaluation of NGO Program in Selected VDCs of Gorkha District. Centre for Resource and Environmental Studies (CREST) for Gorkha Development Project.

Comparison of Predicted Impact to Actual Impact

Stage 5: Implementation of the Project

After the project is completed, an audit can be done to determine how close the EIA prediction was to the actual impact of the project.

Management of EIA Studies

EIA is Multidisciplinary and Intersectoral

In contrast to other types of study, EIA is multidisciplinary and involves a diversity of topics ranging from archaeological investigation to noise/vibration assessment and as such provides one of the challenges in terms of project management as shown in Table 4.2).

Usages of PRA, RRA

The involvement of the local people and other stakeholders in the EIA process is crucial, and this can be facilitated through employing a variety of participatory data collection tools (focussed group discussion, semi-structured interviews, participant observation and preference ranking, and need assessment) as elaborated on in length in Session 8.

Table 4.2: Checklist for Environmental Impact Assessment (EIA): Evaluation of Tourism in a Locality/Area/Route

Type of Impact	No Impact	Minor Impact	Moderate Impact	Serious Impact	Remark
Road Traffic					
Pedestrian Traffic					
Noise Level					
Airport Traffic					
Trail Condition					
Littering/Solid Waste Disposal					
Camping/Picnicking					
Visual Amenity					
Natural Vegetation					
Unique Flora					
Biodiversity					
Wildlife					
Unique Fauna					
Bird					
Drainage Condition					
Pollution					
Surface Water Quality					
Groundwater Quality					
Air Quality					
Archeological Cultural/Historical Sites					

Note: An environmental impact may not always be possible to quantify. However, it may be possible to qualitatively judge the intensity of such an impact. A possible list of environmental impacts is provided in the table as a checklist that may be useful for qualitative assessment. Such an assessment would provide a technical framework for setting up carrying capacity standards.

SESSION 5

DURATION: ONE AND A HALF HOURS

Technologies for Mountain Environmental Management

Objective

To highlight the principal negative impacts of mountain tourism on the environment and identify suitable technologies that help mitigate the negative impacts

Contents

- Dwindling Base of HER
- Renewable Energy Sources
- Garbage and Waste Management
- Zero Waste
 - Sanitation and Toilet
 - Incinerator
 - Campsite
- Energy Technologies for Sustainable Mountain Tourism
 - Micro-hydropower Development
 - Lighting Technologies
 - Peltric Set
 - Electrical Cooking
 - Solar Photovoltaic Cell (PVC)
 - Biogas
- Water Heating Technologies
 - Back Boiler
 - Solar Water Heater
 - Solar Dryer
 - Solar Cookers
- Impact of Solar Technology in Energy Saving
- Government Policies and Institutional Efforts
- Space Heating Technology
 - Solar Space Heating System
- Improved Cooking Stove (ICS)
- Policy and Institutional Issues
- Institutional Arrangement
- Adaptation of New Technology in Mountain Areas

Methodology

Short presentations followed by group discussions

It is estimated that an average trekking group of 15 people generates about 15 kg of non-biodegradable, non-burnable garbage in ten trekking days. With over 70,000 trekkers in the mountain areas, this problem appears to be serious in the absence of management and facilities.

Dwindling Base of HER

Siting of toilets too close to or over streams or drinking water sources and use of chemical soaps for bathing or washing dishes and clothes in streams or too close to water sources have been reported as some sources of pollution. Lack of appropriate facilities is the main problem and increased awareness among both host and tourist population will mitigate this problem over time. Lack of toilets is another source of pollution and contamination of food and drinking water sources. Visitors have often reported becoming sick from drinking the water.

One of the most widely discussed topics on mountain environment has been on forest degradation and deforestation. Increased firewood demands by tourism and associated tourism activities in the mountains are viewed as the prime impacts on forests, vegetation, and wildlife. Three factors put pressure on the demand for firewood which are as follows:

- in some mountain areas visitors outnumber hosts;
- although group tourists are expected to use alternative sources of energy, FITs and porters both depend on firewood; and
- the growing seasons in the mountains are extremely short.

Some lodges are known to use firewood to heat water (shower) as well as rooms to attract visitors. The pressure on forests to supply firewood is obvious. This demand has provided local people with the incentive to sell firewood to the tourists. This process accentuates deforestation as sustainable yield rates are already below harvest rates.

It is not only deforestation that destroys the mountain environment but also the loss in biomass and habitats. Lopping of dwarf junipers at base camps by mountaineering teams for fires has been a common phenomenon. The cumulative effect of the removal of this vegetation on the fragile slopes when coupled with a dense flow of tourists and their entourage can be devastating. Off-trail hiking and firewood collection can impact a much larger area than the immediate vicinity around the trail. This problem is further compounded by the fact that tourism in these areas occurs during off growing seasons, when the weather and soils are extremely dry.

His Majesty's Government (HMG) has restricted the use of firewood by trekkers in most national parks and mountain protected areas visited by tourists. But the use of firewood cannot be assumed to have stopped due to the lack of law enforcement and monitoring as well as the lack of cheap availability of alternative sources of fuel. The mandatory use of kerosene in protected areas by group tourists has helped, but effective enforcement still remains. At the same time, FITs continue to depend on local resources for food and accommodation and the demand for firewood by lodges, hotels, tea houses, and private homes cannot be assumed to have decreased.

Given the deteriorating environmental situation, generating awareness among the host and visitors and making available affordable and suitable technologies to mitigate the problems are necessary. Although not all negative environmental impacts are attributable to tourism, they may be indirectly associated with tourism or have implications on tourism. Likewise, mitigating environmental problems is important for community development as well.

Renewable Energy Sources

The energy situation in Nepal is dominated by traditional energy — particularly fuelwood which meets 91 per cent of all energy requirements in the country. This heavy reliance on fuelwood has been one of the reasons for the large-scale deforestation of accessible forests in the country, in the absence of affordable energy alternatives and the quality and quantity of accessible forest. Destruction on the margins is a common phenomenon in many parts of the county. The dwindling supply of fuelwood has also forced people to burn increasing quantities of dung and agricultural residues for fuel, thereby depriving the soil

of valuable nutrients and organic materials. As a result, soil fertility is also believed to be declining in many parts and thus affecting agricultural productivity.

Alternative energy technology is synonymous with new, renewable, and non-conventional forms of energy. The most important renewable energy technologies in the context of Nepal are related to micro-hydropower, biomass energy, and solar energy. Some efforts have been made to develop renewable energy technologies particularly in the private sector. HMG's policy regarding the development of renewable energy technology in the past has been much criticised for its inconsistency and irregular nature. Only lately has the importance of renewable energy been strongly felt at the policy and decision-making level as reflected in the Eighth Five Year Plan. The objective is to gradually replace imported fuel by the indigenous energy sources that can be locally exploited. The role of renewable energy technology in transforming the mountain economy is crucial as it can:

- help to reduce the drudgery of the mountain population by cutting down the time required to collect and use traditional forms of energy such as firewood, animal dung, and waste;
- provide a cleaner cooking environment for women;
- combat the environmental effects of CO₂ emissions (Box 5.1), forest depletion, etc., by reducing and replacing the use of traditional as well as commercial forms of energy;
- save convertible foreign currency by curtailing imported fuel;
- be exploited on different scales and sizes to suit local needs in remote locations; and
- promote end use efficiency.

Box 5.1: Reduced Emission

The extent to which the introduction of alternative energy technology in Ghandruk has been able to reduce carbon dioxide (CO₂) emission can be best judged from the estimates reported below. In Ghandruk, where electricity and other fuel efficient end-use devices are available, less firewood is being consumed and energy diversification has enabled lodges to gradually switch to a higher energy ladder. This has resulted in almost 67 per cent less emission rate in Ghandruk than in Ghorepani. Note that firewood emission is the main source of environmental pollution in these rural areas. Given the vital contribution of firewood to meet the rural energy requirements, a complete switch from firewood to other alternative energy sources is not possible in Ghandruk. Nevertheless, dissemination of improved energy devices and alternative energy sources suited to local conditions can significantly contribute to reduced carbon dioxide emission, apart from improving the energy efficiency.

Total CO₂ emission from principal sources in tonnes/year

Energy source	Ghandruk	Ghorepani
Firewood	130.1	452.0
Kerosene	45.4	31.3
LPG	3.5	0.2
Total	179.0	483.5

Source: Banskota, K. and Sharma, B., 1996. *Impact of Alternative Energy Technology in Reducing Pressure on Forest Resources in Ghandruk*, Centre for Resource and Environmental Studies (CREST) for International Centre for Integrated Mountain Development (ICIMOD)

Some issues that have emerged in relation to the development of alternative energy technologies can be broadly grouped into:

- a. social issues related primarily to non-acceptance of the technology;
- b. planning and policy issues;
- c. institutional issues dealing with responsible coordinating bodies;
- d. financial issues dealing with high initial investment costs;
- e. technical issues; and
- f. managerial and marketing aspects.

The most striking issue has been the gap in coordination and inter-organizational communication between agencies dealing with planning and implementation of renewable energy. Due to the lack of such coordination, many problems remain unattended and have adversely affected the production and promotion of renewable energy technology devices.

Garbage and Waste Management

Garbage generation is already becoming a serious problem in mountain areas. Garbage may be of three types, namely biodegradable, non-degradable, and toxic. A great deal of this garbage is non-biodegradable, i.e., it does not disintegrate naturally over time. Toxic waste results from batteries and other materials that contain heavy minerals. Biodegradable waste ruins a clean environment and hence dissatisfies the visitor. These wastes can be harmful to human and livestock, directly or indirectly. Seepage can result and water sources can get polluted. A third problem is human waste management as many people in the rural areas do not own toilets and use the open space. When this activity is conducted near water sources, it pollutes the water and has a direct implication on health. Tourism can also be affected (Table 5.1) (Boxes 5.2 and 5.3).

Table 5.1: Trekkers' Report of their Opinion on the State of Sanitation and Garbage in Langtang National Park

Place	Sanitation		Garbage	
	Adequate	Inadequate	Adequate	Inadequate
Lodge	26 (32)	53 (67)	47 (59)	33 (41)
Campsites	17 (35)	31 (65)	17 (31)	29 (63)
Private Homes	5 (24)	16 (76)	9 (39)	14 (61)
Trekking Routes	25 (34)	49 (66)	16 (20)	62 (79)

Figures in parentheses are in per cent.
Source: Banskota and Upadhyay, 1989, Table 29.

Box 5.2: Hygiene and Sanitation

Hygiene and sanitation were emphasised by the Partnership for Quality Tourism Project (PQTP) to promote the quality of tourism in Syaphrubesi Village. All lodges were encouraged to build toilets for their visitors and also to attach an adjacent shower room. An awareness campaign about improving the hygiene and sanitation conditions in the village was conducted and motivation was provided by constructing six rubbish pits for dumping sorted garbage. Improving hygiene and sanitation in the kitchen was also encouraged.

Field observation revealed visible impacts. Kitchens were kept clean. Kitchen utensils were organized in shelves. The dining area was also generally clean. Food was served in trays and plates and spoons and other utensils were wiped by kitchen towels. In most lodges, the rooms had white sheets. Lodge owners who had not begun using white sheets indicated they were planning to make the change. The cooks, generally females or wives of the lodge owners, used aprons while cooking and serving guests. The lodge yards were also kept fairly clean. The lodge owners indicated that they had realized the importance of cleanliness since visitors would generally opt for a cleaner lodge. Six rubbish pits were dug in separate places for dumping garbage and litter. In the morning, a member from each lodge could be seen sweeping the road in front of their lodges. The trash was collected and dumped in the garbage pits. The pits have two compartments, one for dumping biodegradable garbage and the other for non-degradable. Glass and bottles were kept separate. Villagers were found to separate the garbage and throw them away accordingly. Although the hygiene and sanitation conditions in Syaphrubesi could still be improved, the condition is far better than prior to the PQT. The participation of the local community was instrumental in achieving this.

Source: Banskota and Sharma, 1997. Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports. Submitted by the Centre for Resources and Environmental Studies (CREST) to ICIMOD.

Box 5.3: Sagarmatha Pollution Control Project

Ever since the first ascent of the summit of Mt. Everest by Sir Edmund Hillary and Tenzing Norgay, this area has become one of the most popular of all mountain areas in the world. Each year, thousands of tourists flock to the region. One adverse effect is the accumulation of garbage, a problem that has come to international attention. The World Wildlife Fund (WWF) and MTCA, along with local participation, have launched a programme to curb pollution and garbage collection in this area.

Originally started in 1991, with support from the WWF, this project has received funding from MTCA since the fiscal year 1993/94. A Sagarmatha Pollution Control Committee has been formed to carry out the following activities in the region:

- > garbage management,
- > clean up of Sagarmatha Base Camp (has been launched successfully),
- > conservation education,
- > reforestation,
- > sanitation,
- > tourist facilities (trail, bridge, radio, and telephone installation),
- > community services (maintenance of infrastructure, community water supply, hydroelectricity schemes, etc), and
- > cultural conservation (cultural studies, monuments, gumpa, etc).

Two fuel efficient incinerators have been set up at Lukla and Namche. Rubbish pits and public toilets have been set up in various places as have visitor information service centres in strategic locations. The government has learned from these innovative projects. It is now realised that, without involving the community, the conservation and sustainable development of such unique, beautiful, and fragile areas is impossible. Also, revenue raised from park fees is being shared by the government and the local committees. The need for involving an NGO/INGO as a link between the centre and local people to educate and direct people's participation in the cause of development and conservation has now been realised. People in most of the mountain areas have a low education level, low awareness, and low morale. Only suitable NGOs can work closely to boost the morale of these people and get their cooperation.

Source: Banskota, K. and Sharma, B., 1995a. *Mountain Tourism in Nepal: An Overview*. Centre for Resource and Environmental Studies (CREST) for the International Centre for Integrated Mountain Development (ICIMOD)

Zero Waste

This is a situation in which garbage is not produced at a rate that is higher than natural decomposition. This situation prevails in many inaccessible mountain areas. With tourism and their support staff, garbage is increasing and its management is becoming a serious problem. Zero waste garbage is, however, an unlikely situation. Generation of garbage can, however, be significantly minimised by following the 4-R principle related to: reduce, reuse, recycle, and replace.

- Reducing the amount of garbage produced is the first step to solving the garbage management problem. Many items can be discarded in appropriate places before commencing the trekking trip. For example, there is no point in taking packaging materials that are of no use while trekking and such can be discarded before the trip begins. Following this simple habit reduces the amount of garbage that will be produced in mountain areas.
- It is possible to reuse many materials. Soft drink bottles, beer cans, mineral water plastic bottles, etc., are reusable, if not directly in their original style but in some other form.
- Recycling is yet another way to reduce garbage, whereby the original product is transformed to some other useful purpose. All nonbiodegradable products can be recycled. Beer cans can be used to make ashtrays. Mineral water bottles are used to grow tree saplings.
- Replacing materials that are nonreusable with reusable materials also reduces garbage. For example, using jute bags instead of plastic bags.

Composting is a natural process of decomposing organic materials which become rich nutrients to the soil. Thus, it is a form of a rich fertilizer. All forms of biodegradable waste generated can be composted. This technology is, however, not suitable in higher mountain areas, where the air temperature is low all year round. Composting has proved to be effective below a 2,000 m altitude.

Advantages

- It is cheap and is a good substitute for chemical fertilizers.
- It enriches the soil and hence increases crop productivity.
- It is an effective way of reducing garbage.
- It reduces air and water pollution.
- Since garbage is not scattered it makes the environment look clean, and hence such an environment appeals to tourists.
- It can be built at low cost.
- Rural people can quickly learn this technology.

Disadvantages

- It cannot be used in colder regions.
- It is labor intensive.

Sanitation and Toilet

Poor sanitation is blamed for many diseases that kills thousands of people in rural areas. Tourists also often suffer from this problem while traveling in mountain areas (Table 5.2). The main reason for this is the lack of knowledge on health, cleanliness, and toilets in rural homes. Human waste is thus disposed in open areas, which invites different diseases through various carriers such as insects, water, and air. Hygienic disposal of human excreta is important for improving the health of the people. It is cheaper to protect people's health and the local environment from fecal pollution than to undertake expensive measures to care for the diseased and reduce pollution when problems occur. Thus, the construction of cheap toilets is an important step in improving the health of rural people (Box 5.4).

Table 5.2: Trekkers' Report on at least One Member being Sick and by a Specific Reason

Type of Trekker	Reason for being Sick		Total
	Drinking Water	Food	
FITs	13 (37)	19 (37)	35
Group	2 (20)	1 (10)	10

Figures in parentheses are in per cent.
Source: Banskota and Upadhyay, 1989, Table 23

Types of Cheap Toilets

- Pit type
- Sulav latrine
- Solar toilet is effective in colder regions as well.

Wastes that are nonbiodegradable and nonrecyclable can be burned in an appropriate way with the help of an incinerator. An incinerator helps burn safely without causing much harm to the environment. Thus paper, plastics, bandages, etc., can be burned inside the incinerator.

Box 5.4: Community Toilet on Private Land in Syaphrubesi

Prior to PQT, the local people did not use closed toilets and human excreta was disposed in open areas. In response to this poor sanitary situation, a clean up campaign was launched by the project including the construction of two public toilets on private land. Lodge owners were also encouraged to build their own toilets. The use of private property land for public use created some dissatisfaction initially, but such a decision was made to ensure that the constructed public toilets would continue to be maintained. This is exactly what has happened and after nearly two years, these toilets are functioning and well maintained.

Source: Banskota and Sharma, 1997. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Submitted by the Center for Resources and Environmental Studies (CREST) to ICIMOD.

Advantages

- Effective way to dispose solid waste with little effect on the environment.
- Thus, pollution is reduced.

Incinerator

- It is a good substitute for dumping sites and helps control pollution through seepage.
- It does not require firewood to burn the waste.
- It can be made locally if iron sheets and welding machines are available.

Disadvantages

- It produces smoke and dust and hence creates pollution which can be minimized through a proper design.
- Burning plastic generates harmful gas, which inhaled by humans can be harmful.

Campsite

Any wide open flat space is suitable for developing campsites. The spot selected should, however, be safe from rockfalls, landslides, floods, and other natural factors. Campsites must have certain minimum facilities to make them useful. A campsite must include:

- shelter for porter;
- separate cooking space with shelter for trekking teams and porters;
- drinking water;
- toilet; and
- two refuse disposal pits for bio and non-biodegradable garbage.

Guidelines for Campsite Management

Along trekking areas, most campsites, both privately owned and public are poorly managed and lack the minimum facilities. Poor management often reflects lack of awareness on the part of the manager on garbage and waste management issues. Users of the facilities, namely the trekking agency staff, are also often unaware of the implications of disposing garbage and waste.

The following guidelines are addressed to sirdars and owners of campsites:

- Training needs to be provided as to choice of location, planning, and construction. Financial support in the form of credit must be made available.
- Technical assistance to form campsite must be provided.
- Trekking agents and their staff must be made aware of using campsite facilities appropriately as well as carry materials that are biodegradable and avoid using as much as possible nonbiodegradable and toxic wastes. Overall, garbage generation must be minimized. Toxic waste must be carried back to appropriate designated locations and handed over to concerned authorities.
- Rubbish must be disposed in appropriate pits.
- Pits and latrines must be built safely away from any water sources.
- All fires must be put out before retiring during the night and before leaving the campsite.
- Ashes should be scattered away from the camp site.
- The campsite must be left clean for the other party's use.

Institutional Arrangement and Promoting the Role of the Community in Water Management

There is a need for institutional arrangements in order to create awareness of zero waste among tourists, trekking staff, and villagers. Awareness generating institutions that need to be either created or strengthened to deal with target groups including their form of awareness generating medium can be summarized below:

The village iron smith can be trained on construction of fabrication installation and repair and maintenance of incinerators. The lodge owner and camp supervisor should be oriented to the usefulness of incinerators. Villagers should be trained on improved composting and toilet making technology.

Target group	Institutions	Medium	Goal
Tourist	Hotel, Lodges Visitor Information Centre Immigration Office	Leaflet Verbal Information Leaflet	Zero waste
Support staff	HMTTC	Training /Education	
Villagers	Local organization/ committee HMTTC	Clean up campaign Training/Workshop Education/Motivation	

Energy Technologies for Sustainable Mountain Tourism

Micro-hydropower Development

With more than 6,000 rivers and innumerable rivulets in the country, micro-hydropower has great potential for fulfilling the energy requirements of rural Nepal. Various kinds of micro-hydropower technologies, e.g., propeller turbine, cross flow turbine, pelton wheels, multipurpose poser unit (MPPU) peltric set, and improved *ghatta* have been developed in the past to tap water resources more effectively. The total number of micro-hydropower turbines manufactured and installed in Nepal is 924 units, the majority of which are used for agro-processing. The total number of micro-hydropower units installed so far is 311 and the total installed capacity for electricity generation is about 2.651 kW. The number of private utility micro-hydropower units installed is 283 with the corresponding installed capacity of 1.679 kW. The population covered by the private utility micro-hydropower units plants is estimated at 110 to 170 thousand.

At present, NEA has no plans to construct new hydropower plants in the micro ranges. As such the rural areas, especially in the hills and mountains, can be electrified only through private utility micro-hydropower plants. For private micro-hydro power generation, there is a subsidy of 50 to 75 per cent on the electrification component.

Implementation Aspects

Presently, all survey and design work for micro-hydropower generation are being carried out by the manufacturers themselves in order to reduce cost and simplifications are being made in surveys and designs. Load survey is one of the most critical parts of the micro-hydropower survey. It plays an important role in the success of a micro-hydropower plant.

Civil Design and Construction

All micro-hydropower plans in use except a few are of the temporary diversion arrangement. The temporary diversion arrangement is a 20 to 30 cm high structure consisting of gravel/stone packed with a mud leaf weir which channels the flow towards the headrace.

Management Issues

Operation and management aspects of micro-hydropower plants have not yet received due attention.

- Management capabilities of village entrepreneurs, for instance, are generally very poor, although some have been fairly successful (e.g., Barpak VDC in Gorkha District).
- O and M is also a problem in micro-hydropower installations.
- The educational background of plant operators vary considerably from one power plant to another and thus affects O and M.
- Many such plants have not been able to develop a financial scheme for O and M and thus, when a breakdowns occurs, the plant shuts down for prolonged periods.

Lighting Technologies

Most rural mountain communities continue to use kerosene for lighting purposes. In some cases, people have to depend on the light from the cooking fire. Hence, affordable and acceptable lighting technology is important in the context of MTD and MCD. In Nepal, different forms of technologies have been experi-

important in the context of MTD and MCD. In Nepal, different forms of technologies have been experimented on to different degrees of success (Box 5.5).

The most successful ones have been the following:

- Peltric set;
- Solar photo voltaic cell; and
- Biogas plants.

Peltric Set

The peltric set is a miniaturized local version of a peltron turbine used to generate electricity for a variety of end uses such as lighting, charging batteries, and operating radios, TVs, etc. A small stream with a small quantity of water, can be effectively used to generate electricity from this technology. The power generated by the peltric set is generally of 1 kW and can light between 10-12 light bulbs. The power that can be generated from a peltric set can be calculated as follows.

If the water flow is say "X" litres per sec and there is a height "H" from which the water can be made to flow downhill (gross head), the power (P) that can be generated is given by the simple formula:

$P = X \cdot H$: Thus, if X=10 litres per sec and H=50 metres, P= watt.

In reality, the used power will be less due to different inefficiencies in the system.

Advantages

- it is easy to install (2 days), operate, and maintain;
- it is made in Nepal and is light (35 kg);
- it can run on low water volume with enough gross head;
- it can be installed when 5 to 10 households organize themselves and if water is available;
- electricity generation is usually low, and hence it is affordable;
- It is durable and the manufacturer generally guarantees ten years of life; and
- it does not have any negative effect on the environment.

Dwindling supplies of fuelwood and electricity during certain off peak hours have lately attracted micro-hydropower promoters to try electric cookers. The low wattage cooker, *Bijuli Dekchi*, was developed in Nepal by DCS and is in use in different parts of the country (Box 5.6). Water heating is also conducted. This has resulted in a substitution for firewood to some extent. So far about 1,400 such cookers have been produced in two and a half years. The heat storage cooker is another cooking technology being developed by INGOs in collaboration with KMI. Such cookers are in operation in Ghandruk, near Pokhara.

Other uses of micro-hydropower include beating and digesting pulp and drying paper. KMI and BYS have built electric beaters and digestors. The typical beater consumes about 1 kW of power and the digester 10 to 15 kW. A 3 kW add-on micro-hydropower plant at Gajuri in Dhading District is operating a small chilling plant producing ice blocks and ice creams. In Jomsom and Marpha, apricots and peaches are produced and processed into dried fruit, jam, jelly, cider, juice, and brandy.

Box 5.5: Samagoan lights Up

This is a remote village, the last one to encounter on the 12 day long trail from Gorkha Bazaar to the Tibetan border in Gorkha District. It is unlikely that development will reach this village in the near future. However, efforts made by IUCN, GDP, and the local people have enabled households in this village to enjoy electricity through the peltric set. Seeing how quickly this set can be installed at a low cost, many villages in Gorkha are installing peltric sets to light their homes.

Box 5.6: Electric Cooking

In Ghandruk, ACAP has subsidized all the capital costs of *Bijuli Dekchi* (BD) under 20 litres capacity by 30 per cent and all transportation and repair cost for the first year. BD is a low wattage cooker consisting of a cooking pot. Water takes an estimated two hours to fully heat up which can be used for cooking rice, meat, and other boiled food but not fried food. In the first two years of the program, 85 cookers were sold in Ghandruk with the initial demand coming mostly from lodges. Large (20 litre cookers) exclusively used by lodges are, however, not subsidized. A revolving fund has been set up to provide subsidies on BD to encourage households to buy them.

Source: Banskota, k. and Sharma, B., 1996. *Impact of Alternative Energy Technology in Reducing Pressure on Forest Resources in Ghandruk*. Center for Resource and Environmental Studies (CREST) for International Center for Integrated Mountain Development (ICIMOD).

Solar Photovoltaic Cell (PVC)

PVC is a technology that directly converts sunlight into electricity based on a physical process that requires no moving part. It is a proven technology and can generate 120 watts of electric power from a 10 sq.ft. area of PVC on a sunny day. The electricity generated can be used for a variety of end uses such as lighting homes, lodges, campsites, schools, etc, and operating communication equipment, radios, TVs, fans, pump sets, refrigerators, rice mills, etc. The solar PV system is another technology which converts solar energy directly into electricity and is used for:

- operating communication equipment in remote areas;
- meeting residential electricity demands for use of low energy intensive appliances; and
- operating small irrigation pump sets.

The use of solar photovoltaics based rural electrification has been carried out by NEA in different locations with an installed peak power of 130 kW. Forty three airports in the country utilize solar PV energy. Likewise, Nepal Telecommunications has installed solar PV sets in 16 locations. Such units are generally installed in extremely remote locations, but are still beyond the means of many rural households.

Advantages

- It is based on sunlight which is generally available everywhere.
- Its operating cost is nil and recurrent costs small.
- It can be made to fit individual needs.
- It is highly reliable compared to diesel or wind-powered generators.
- Its operation and maintenance is simple.
- It is durable.
- It is an environmentally friendly technology.

Disadvantages

- It is not very cheap (a 75 watt panel costs about Rs 37,000) (Table 5.3).

Biogas

Popularly known as gobargas, this technology operates on animal and human excrements and tender plants or plant residues which are anaerobically fermented with the help of methanogenic bacteria in air and water tight containers.

Methane, a combustible gas, is produced which can be used for cooking, lighting, running internal combustion engines, generating electricity, etc.

Biogas technology is considered to be one of the most promising and sustainable sources of renewable energy in Nepal. About 24,000 biogas plants of different sizes (4 m³, 6 m³, 8 m³, 10 m³, 15 m³, 20 m³) have so far been constructed in the country, although there is scope for installation of an estimated 1.3 million units throughout the country.

The total amount of dry dung produced in Nepal is about 11 million tonnes per year. If all the available dung is used for biogas, the potential biogas production is estimated to be around 12,000 million m³ per year, which is equivalent to 29 million GJ (about 10% of the present energy consumption) without affecting agricultural productivity.

Biogas plants are installed mostly in the *Tera* and are gaining popularity in the hill regions as well. The mountain region is, however, unfavourable for biogas production because of its cold climate. Table 5.4

Table 5.3: Energy Cost Using Solar PV

PV Capacity	BOS* cost	Module cost	Battery Replacement	Annual O & M cost	Equivalent Energy	Cost/kWH (Rs)
17 W	15,000	12,000	2,000	100	378	72
35 W	23,000	21,000	4,000	150	776	59
75 W	37,000	27,000	8,000	200	1,663	42

* Balance of system cost
Source: WECS 1994/95

provides the progress of the number of biogas plants installed in 1994 and 1995.

Biogas Support Programme and Policy

Realising the need for continuing higher levels of subsidy, especially in the hill districts, the Biogas Support Programme (BSP) was established in 1992 with financial support from the Netherlands Development Cooperation (SNV). This programme is being implemented by different agencies such as GCC, ADB/N and SNV/Nepal. Phase II of BSP started in July 1994 and had a target to construct 100,000 biogas plants in the country. The government subsidy programme has taken different forms:

- 50 per cent interest subsidy;
- 25 per cent capital subsidy and 50 per cent interest subsidy;
- 25 per cent capital subsidy only; and
- fixed subsidy of Rs 700 for the *Tera* and Rs 10,000 for the hills, which currently prevails.

BSP recognised that while the subsidy programme would provide initial impetus to biogas installation by households, sustainability depended on quality control, cost reduction achieved through smaller plants and technological improvements, encouragement of private companies and NGOs to construct biogas plants, and awareness of farmers. Although BSP has had some success, personal resources and other constraints have not allowed the wide dissemination of biogas plants to take place, given the enormous number of livestock in the country.

Experience shows that getting the subsidy and structure right and reducing associated transaction costs, BSP can have profound influence on the dissemination of biogas plants.

Institutional Issues

Various institutions have been involved in the development, promotion, and implementation of biogas technology in Nepal, namely, GGC, United Mission to Nepal (UMN), UNICEF, FAO, Asian Development Bank, USAID, UNCDF, SNV/Nepal, and private companies (Kisan Gobar Gas, Nepal Gobar Gas, Rastriya Gobar Gas, and Baral Gobar Gas).

Despite the various institutions, there exists institutional bottlenecks who can promote and carry out government policies and programmes. With the growing number of private biogas companies, the quality of biogas plants is deteriorating with no uniformity in design, installation, construction materials, and supply of accessories. In the absence of a competent biogas development and promotion unit, this trend is unlikely to be reversed. The need for an institution is crucial for the successful implementation of biogas plan and policy. The experience of GGC in construction needs to be capitalised on mainly through redefining the responsibility of GGC towards construction activities.

Economic Benefits of Biogas

The benefits of the biogas programme are multifaceted and can be listed as follows:

- reduced work load of women and girls;
- reduced smoke pollution and fire hazards;
- sanitation benefit resulting from integration of toilets with biogas plants and the composting of slurry;
- rural employment generation due to constructions, extension, and service programs;
- saving in kerosene expenditure by households and kerosene subsidy saving by the government;
- reduction of CO₂ emission from burning kerosene and fuelwood; and

Table 5.4: Biogas Plants Installation in 1993/94 and 1994/95

Zones	1993/94	1994/95	Total
Mechi	387	356	743
Koshi	591	517	1,108
Janakpuri	410	279	689
Sagarmatha	80	59	139
Lumbini	584	669	1,253
Narayani	716	471	1,187
Bagmati	398	397	795
Gandaki	1,812	1,706	3,518
Dhaulagiri	58	73	131
Rapti	202	209	411
Bheri	206	194	400
Karnali	0	0	0
Seti	130	109	239
Mahakali	79	83	162
Total	5,673	5,122	10,775

Source: WECS 1994/95

- nitrogen, phosphorous, potassium, and micronutrient loss from dung through volatilization and leaching are checked by proper composting of the biogas slurry.

Problems and Constraints in Biogas Technology

There are a number of problems associated with family owned plants:

- low gas yield during winter and rainy periods;
- occasional blockage and leakage of gas from the pipeline;
- frequent burning out of the lamps; and
- serious lack of trained manpower to repair and maintain biogas digestors.

The initial investment cost is the main limiting factor for wider adoptability of biogas. Despite subsidies, farmers need to invest between Rs 10,000 to Rs 12,000 for the installation of an 8 m³ plant. Loan is obtained from ADB at an 18 per cent interest rate and repayment period is six months with Rs 1,500 as an installment payment. A large majority of rural families cannot afford this investment. Additionally, manufacturing biogas plants in rural and inaccessible areas is constrained as materials such as cement, GI pipes, biogas lamps, and other appliances are not available.

Also, community-owned biogas plants are beset with ineffective management related to the unavailability of fresh dung, O and M of the plants, and sharing benefits and distribution of the gas among members of the community. Finally, the quality of plants varies given the increasing number of new manufacturers in this sector and the lack of defined standards.

Advantages

- it is a proven technology;
- it uses otherwise waste materials;
- it is an environment friendly technology;
- it is more efficient than firewood in terms of heat generation, and hence a good substitute for firewood;
- it is nonpolluting;
- it gives cheap energy;
- its slurry can be used as an excellent manure;
- it saves time in rural areas (firewood collection);
- it is durable (20 years);
- it is easy to construct but requires skilled labour;
- it encourages livestock stall feeding; and
- the government provides subsidy (up to 60%).

Disadvantages

- it requires livestock to provide a daily supply of dung;
- its initial cost is fairly high; and
- it cannot be used in areas that are above 2,000 masl (most tourist areas in the mountain are above this altitude).

Water Heating Technologies

The demand for hot water in mountain areas for bathing, washing, cleaning, etc has been increasing rapidly along with the growth of the local population and tourists. This has, in turn, further accelerated deforestation and environmental degradation. Amongst the most popular water heating technologies that can be disseminated to address this problem are the back boiler, solar heater, and *Bijuli Dekchi*.

Back boiler

Back boiler is a water heating technology in which cold water is circulated throughout a hearth and hot water is received continuously (Box 5.7).

Box 5.7: Back Boiler

The traditional method of providing hot showers to trekkers was to fill a 200 litre drum and surround it with firewood and burn it all day - a highly inefficient method. To reduce the large amount of firewood that was required for this purpose, a new fuelwood saving device, namely the back boiler was introduced by ACAP. This system consists of a pipe and a galvanized iron drum with a capacity of about 220 litres. The pipe is connected to the drum and then buried within the traditional cooking hearth. The cold water from the bottom of the tank flows through the coil and becomes heated through the heat generated in the hearth. This gadget has been successful in saving fuelwood and consequently its demand has been growing among the lodges. The back boiler technology is becoming popular among lodges because it is relatively inexpensive and the concept is easy to build and operate.

The installation cost of a 100-200 litre drum ranges from Rs 600 to 800. The installation of a back boiler is free and is guaranteed for six months for repair and maintenance. ACAP provides subsidy for transportation and 50 per cent of the cost for the circulatory part of the system. The reduction of the subsidy to 25 per cent has affected the demand. Moreover, it is learned that some lodge owners have encountered technical problems with this device, the leakage in the drum and blockage in the pipe being the major ones. Investigations are underway to refine this device.

Available estimates indicate that this system has been able to save, on an average 675 kg of wood per month per lodge during the peak tourist season - a net reduction of 23 per cent of firewood use.

Source: Banskota, K. and Sharma, B., 1996: *Impact of Alternative Energy Technology in Reducing Pressure on Forest Resources in Ghandruk*. Centre for Resource and Environmental Studies (CREST) for ICIMOD

Advantages

- It is a very simple and inexpensive (installation cost of Rs 600-800 for a 100-200 litre drum) technology to build and operate and can be used in lodges/guest houses and local residences.
- It can save an average of 6,765 kg of firewood per month per lodge during the peak tourist season, a net reduction of 23 per cent of fuelwood (evidence from Ghandruk).

Disadvantages

- Occurrence of leakage in drum and blockage in pipes.
- Water drums have to be transported up the hill.

Solar water heaters have found the widest application in Nepal with 30 to 35 firms manufacturing them. The majority of the manufacturers are concentrated in Kathmandu. The present installed capacity is estimated to be around 300,000 litres per day. These heaters are suitable for application throughout the country except in districts where the temperature falls below freezing point. Solar water heaters of different designs, capacity, and fabrication have their own merits and limitations (energy technology manual).

Solar Water Heater

Despite several advantages of this technology in terms of efficiency and environmental conservation, the widespread diffusion and distribution of this technology is rather limited given the high initial cost and non-local production unit. The price of the solar water heater is currently very high (Rs 23,000 for a 200 litre system). People belonging to the lower income strata usually cannot afford these kinds of technology (Box 5.8).

Currently, two kinds of solar water heaters are being marketed, namely, the integrated tank system and circulation system. The price of the solar water heaters is currently very high (Rs 23,000 for a 200 litre system) and thus is not affordable for a large majority of the people with low incomes. The number of solar heater manufacturers has increased from a few in 1986/87 to more than 40 in 1993.

Box 5.8: Solar Water Heater

Solar water heaters are also simultaneously promoted as an alternative energy source, although the installation cost of this gadget is relatively expensive. Although water can be used for cooking, bathing, etc, the high cost of the solar panel limits its widespread use. ACAP provides no loan but offers a discount of 10 per cent as an incentive for installing the solar panel. Keeping in mind of the high capital cost, a prototype model of a low cost solar heater was promoted and installed in Ghandruk. The newly-developed model with a 1,001 litre capacity seems to be more cost effective as it cost only Rs 5,000 compared to Rs 21,000 for a 2,001 litre capacity conventional heater. By 1991, four solar water heaters were installed in lodges in Ghandruk and Chomrong. By then, ACAP was subsidising this technology by offering free transport and installation costs. Tourists are required to pay Rs 20 for every hot shower they take during their stay in the lodges. Recently, lodge owners in Ghandruk have installed six solar panels. It is learned that they can make returns on their investment in two to three years.

Source: Banskota, K. and Sharma, B., 1996. *Impact of Alternative Energy Technology in Reducing Pressure on Forest Resources in Ghandruk*. Centre for Resource and Environmental Studies (CREST) for ICIMOD.

Solar Dryer

About 15 types of solar dryers have been used in the country for drying spices, fruits, vegetables, and herbs. The fabrication of solar dryers is simple and can be constructed using locally available materials. However, because of the initially high capital cost, solar dryers are not affordable by many poor households.

Solar Cookers

Solar cookers were introduced by RECAST in 1977 as cookers for parboiling. Although used in some parts of Nepal, efforts to improve the efficiency of solar cookers have not been encouraging. Because of its high cost, this technology has not gained popularity. Various types of solar cookers have been developed to reduce cost.

Impact of Solar Technology in Energy Saving

Although the solar water heating system has been a big help in reducing the consumption of electrical energy, the contribution of solar energy in the total energy use scenario is negligible. However, it provides a substitute the electricity supply is interrupted. Solar water heaters are used mainly in urban areas by both the domestic and commercial sectors.

A study conducted by CRT on energy saving reveals that the use of various types of solar cookers can save energy (Table 5.5). The use of solar power in Tatopani has been effective in saving kerosene use. An ITECO study states that there was an increase of three per cent in the use of energy from 1,348.95 GJ to 1,349.36 GJ per year. Though kerosene consumption for lighting dropped from 43.06 to 36.04 GJ, its use in cooking has remained the same (ITECO, 1993).

Table 5.5: Fuel Saving and Equivalent Benefit

	Fuelwood		Kerosene		Electricity	
	Kg	Rs	Liter	Rs	Kw	Rs
Cardboard Box	31	93	10	100	135	472.5
Wooden Box	50	150	13.5	135	189	661.5
Parabolic	100	300	25	250	375	1,312.5

Source: WECS 1994/95

Government Policies and Institutional Efforts

Recently, NGOs, donor agencies, and research organizations are giving attention to use solar energy through intermediate technologies. The use of solar cookers and solar crop and spice dryers are being aggressively used by these agencies. So far no definite plan and programme has been formulated by the government for the development of solar technology. Although HMG has incorporated a solar energy programme in the Eighth Five Year Plan, it is not very specific and refers only to the preparation of a master plan to diversify the use of solar energy and to create an environment which involves the private

sector in the production of 5,000 solar heaters, 25,000 solar dryers, and 5,000 solar cookers. The capability to manufacture such equipments in the country has not received adequate motivation in the private sector. There is no direct government subsidy provided for the use of solar energy as in the case of biogas and micro-hydropower electricity. However, industries manufacturing the solar PV system are entitled to seven years of tax holiday including two additional years for energy related manufacturing. The government also provides duties and tax exemption on the import of raw materials and equipment required by solar power manufacturers. NEA is the principal implementing agency in the field of the solar PV system in the country. There are no central institutions who lead the development process of other solar instruments such as dryers, cookers, etc. Some R and D is conducted by RECAST.

Space Heating Technology

The bulk of rural household energy in mountain areas is spent on space heating which puts additional pressure on the forest and environment. One way to relieve the pressure is to diffuse and disseminate the existing space heating technology through proper training, promotion, and institutional support.

The back boiler, small-scale windmill, improved stove, solar passive heating, and other types of cookers are such technologies.

This technology can be used for heating home and commercial spaces during the cold months. This system can be:

Solar Space Heating System

- an active system which requires conventional energy to operate it or
- a passive system which operates entirely on renewable energy available and does not need any device or power to operate it. It can be constructed from environmentally clean materials (earth, rocks, water, iron, etc).

Improved Cooking Stove (ICS)

Improved cooking stoves have the potential to save fuelwood used for household cooking. Annually, about 11 million tonnes of fuelwood are burnt for cooking alone. Theoretically, it is possible to reduce fuelwood consumption for cooking by 50 per cent. ICS has an efficiency factor in the range of 15 to 30 per cent compared to the traditional mud stove whose efficiency varies between three per cent to 15 per cent.

There are various types of ICSs and the efficiency of these stoves in saving firewood use varies from 21.5 to 26.7 per cent. The amount of fuelwood saved also depends on the type of ICS developed, the condition of the fuelwood, the type and amount of food prepared, and the type of pots used for cooking. Even with a low performance of 11 per cent fuelwood savings, estimates indicate that one ICS can save on an average one tonne of fuelwood annually.

Policy and Institutional Issues

The main issues relating to the use and dissemination of ICS in Nepal are worth highlighting. First and foremost is the lack of intensive interaction between designers and end users. Most ICSs designed in the past follow the target oriented top-down approach with little or no attention being paid to involve local people and other organizations involved to understand the problems faced by users of ICS in different parts of the country. The focus has always been to achieve the target with little attention given to resolving problems associated with its use under local conditions. Energy planners and stove designers have not been able to internalise the socioeconomic factors underlying the failure of ICS programmes in rural areas or compensate the problems through better stove designs.

There is no effective ICS awareness campaign and coordination between the government, NGOs, and private agencies. Research organizations involved in ICS promotions have not been effective. Besides, the approach and strategy of various agencies promoting ICS in the past have raised people's expectations by providing ICS free in many places without much consideration about its O and M.

Institutional Arrangement

Institutional arrangements/networking are needed to develop, promote, disseminate, and monitor environmentally friendly technologies through intensive interaction between technology designers/producers and end users from the laboratory stage to the utilization level. Such institutional networking would involve all the stages from policy support to technology development to monitoring an evaluation to ensure efficient use and utmost satisfaction of customers.

Different links of institutional networking form the complete chain of the technology promotion strategy as stated below.

- *HMG policy support* (incentive, import facilities, M and E support, etc)
- Research and development (identification, technology improvement or innovation, prototype development and field research, improved design of technology for commercial purpose, standardisation of design, etc)
- Technology extension (A-V media, demonstration, and pilot testing, etc)
- Credit facilities (for producers and users)
- Mass production (production, installation/construction, and R and D facilities)
- Marketing/distribution (in country, export, etc)
- Capacity building (manufacturers, producers, extension worker, installation-construction worker, R and M worker)
- Monitoring and evaluation (quality control, subsidy administration, coordination between parties involved, and utilization benefit/effect, and impacts)

Adaptation of New Technology in Mountain Areas

Despite the proven benefits of the technology, mountain people are not likely to use them for several reasons. In the first place, adoption of the new technology means it has to be purchased. The level of poverty in most mountain areas precludes the possibility of households adopting one or more technologies on a large scale. It is in this context that mountain tourism can play an important role by enhancing affordability for households involved in tourism. Furthermore, if linkages between MTD and MCD can be strongly established, tourism benefits would spread to a wider mountain community, and hence affordability of the new technology would also increase. The implications of a wider scale adoption can be significant.

When tourism development is encouraged, along with a new technology, several factors must be conducted simultaneously. For adoption of a new technology on a wider scale, the following additional points are important:

- awareness generation and education,
- appropriate and affordable technology,
- availability of credit, and
- enforcement and incentive structure.

In the first place, mountain people have to be made aware that garbage can become a problem if not disposed of properly. They must be made aware of the harmful effects that garbage can create. Also, the different forms of garbage must be explained to them. Mountain people may not be aware that some of the wastes generated by mountain tourism can be non-biodegradable and toxic. Their use can be harmful and this awareness must be imparted to the local mountain people.

Promotion and extension of this technology is needed through an initial subsidy, given its high cost. Village craftsmen need to be trained on this technology because it can be built by local craftsmen after a short period of training. Training services are now available from the Centre for Rural Technology (CRT).

A number of issues and challenges need to be carefully addressed to sustain the process of energy transformation in mountain areas. The promotion of energy efficiency should receive priority in future conservation programmes. Distorted pricing regulations are always detrimental to the promotion of efficient energy use as it causes faulty, inefficient fuel uses, and wrong investment signals to consumers. Additionally, affordability also plays an equally important role in the adoption of new technology, besides

attractive prices. In conjunction with programmes to increase energy efficiency, programmes should be implemented to sustain the supply of traditional fuel through improved management of forests and plantation programmes which require strong grassroots' institutions. In other words, conservation interventions should strike a realistic balance between sustainable supply and demand side management. This requires not only an integrated environment cum economic policy and programmes, but also an effective institutional framework from the national to the grassroots' level.

Different links of institutional networking form the complex chain of the technology transfer or strategy as stated below

- RMC policy support (incentive, import facilities, M and E support, etc)
- Research and development (identification, technology improvement or innovation, prototype development and field research, improved design of technology, for commercial purpose, standardisation of design, etc)
- Technology extension (A-V media, demonstration, and pilot testing, etc)
- Local facilities (for producer and user)
- Mass production (production, installation, construction, and R and D facilities)
- Manufacturing (in country, export, etc)
- Capacity building (instructing, producer, extension worker, installation construction worker, R and M worker)
- Monitoring and evaluation (quality control, subsidy administration, coordination between parties involved, and utilization beneficiary, and impact)

Adaptation of New Technology in Mountain Areas

- In the first place, mountain people have to be made aware that garbage can become a problem if not disposed of properly. They must be made aware of the harmful effects that garbage can create. Also, the danger of garbage must be explained to them. Mountain people may not be aware that some of the water generated by mountain tourism can be non-potable and toxic. Their use can be harmful and this awareness must be imparted to the local mountain people.
- Promotion and extension of this technology is needed through an initial subsidy given to high cost. Various extension need to be trained on this technology because it can be built by local craftsmen after a short period of training. Training services are now available from the Centre for Rural Technology (CRT).
- A number of issues and challenges need to be explicitly addressed to sustain the process of energy transfer in mountain areas. The promotion of energy efficiency should receive priority in future conservation programmes. Improved pricing regulations are always detrimental to the promotion of efficient energy use as it causes fairly inefficient fuel use and worse investment signals to consumers. Additionally, affordability also plays an equally important role in the adoption of new technology. Besides enforcement and incentive structure
- availability of credit, and
- awareness regarding and extension
- availability of credit, and
- enforcement and incentive structure

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A number of issues and challenges need to be explicitly addressed to sustain the process of energy transfer in mountain areas. The promotion of energy efficiency should receive priority in future conservation programmes. Improved pricing regulations are always detrimental to the promotion of efficient energy use as it causes fairly inefficient fuel use and worse investment signals to consumers. Additionally, affordability also plays an equally important role in the adoption of new technology. Besides

SESSION 6

DURATION: ONE AND A HALF HOURS

Promoting Community Participation in Mountain Tourism Planning

Objective

To familiarize project managers and implementors with the ways and means to promote community participation in tourism planning and mountain community development

Contents

The Participatory Approach
What is Participation?
Factors Influencing Participation
Guiding Principles of Promoting Participation
Important Areas of Participation
Women's Participation

Methodology

Short presentation followed by group discussions
Use of short case studies (box) and other lessons

Objectives

To familiarize project planners and implementors with the participatory approach to project planning.

The Participatory Approach

There is a growing belief that beneficiary participation in decision-making greatly increases the chances of success of a development project, especially in rural areas. Participation means having a stake in the outcomes that affect their lives. Evidence suggests that with involvement or control in decision-making, people tend to work harder to ensure success. Although currently there is no guarantee that the participatory approach will always ensure success, evidence based on different projects carried out in different countries do provide overwhelming support to this approach. Literature on this subject is mushrooming.

Most of the evidence on the participatory approach is qualitative in nature and, thus, many are skeptical of this approach and argue that the qualitative approach does not provide enough guidance for promoting the participatory approach on a large scale. However, given the large number of projects that have failed to deliver goods and services to the poor in developing countries, the little success they have achieved in project implementation does provide a strong basis for its application.

The participatory approach may be seen as consisting of three dimensions, namely, as a social experiment (local initiatives and control, transparency in information sharing and decision making, inspiration, institutional building, etc), social innovation and social learning (value of diversity, institutional space for local initiatives, accountability, etc), resource mobilization, and financial sustainability. All these dimensions need to be addressed systematically.

In the participatory approach, initiatives must originate from within the community where the social experiment is being performed. A second crucial factor is that local people must be in control of the experiment. In other words, it is important to find out whether the local people, the beneficiaries, feel the project being planned is in their interests or whether their participation is simply to please the external agent or sponsor.

Transparency in project information is vital for providing equal opportunity and adequate feedback for those who are involved in the experimental process. There should be no confusion among the beneficiaries as to what the project aims are. The decisions made must be understood by all beneficiaries to ensure effective participation. The agent or sponsor must be sensitive in initiating inspiration among the beneficiaries. In other words, the sponsor must play a catalytic role as an eye opener and inspirer.

Institutional development is a process of strengthening the capacity of an institution to fulfill its objectives effectively. It requires new routines and habits to be formed organically over time and in a participatory mode. Success will depend on how effectively the institution is able to empower and legitimize itself. Active participation of women as well as the poor is crucial. Participatory institutions are not always designed and implanted but are themselves a process which evolves over time and as such they require support for capacity building. External supporters must be back seat riders. The leadership role is crucial for the success of an institution. Good leadership qualities are found in persons who are dedicated and honest, spare adequate time for their institutions, coordinate all members effectively, and make wise decisions.

Social innovations are fostered by recognizing diversity, space, accountability, and equity to enable the beneficiaries to take advantage of inner potentials to meet and deal with challenges in an innovative way.

The lack of proper recognition of the value of diversity within a community often limits the chances for people to develop their own solutions to problems. Besides, the recognition and appreciation of the value of diversity and the extent to which local initiatives are given a chance to work are also important. However, such social innovations are not likely to just flourish, unless deliberate efforts are directed by the project to this end. Additionally, the extent to which the institution will be able to communicate with the local people and be transparent and accountable as well as generate a true spirit of participation will all be crucial social innovations.

The conventional practice of reporting progress to donor agencies limits the prospect for institutionalizing local accountability. A success criterion that can be used to assess the progress of a participatory institution is to judge the extent to which the people are allowed to take direct responsibility for design, implementation, and gradual monitoring of their own affairs, i.e., local accountability. The ability of a community organization to gradually minimize its dependency on external resources is crucial for its long-run existence, i.e., resource mobilization and financial sustainability.

The participatory approach needs to address three important questions systematically.

- To what degree does participation contribute to project effectiveness?
- Which beneficiary and agency characteristics foster the process?
- And, if participation does benefit project outcomes, how can it be encouraged through policy and project design?

Studies conducted by the World Bank clearly point out that the projects implemented through the participatory approach indicate overwhelming success. Many projects have been studied in Asia, Africa, and South America. These projects cover a variety of areas related to health, energy, forestry, poverty alleviation, drinking water, irrigation, women, etc. The studies indicate that beneficiary participation contributed significantly to project effectiveness, even after statistically controlling other factors. Other key findings emerging from a study of 121 completed water supply systems in 49 developing countries are as follow (Box 6.1).

Box 6.1: The net benefits of promoting participation are manifold and as key elements of sustainability they can be summarized as consisting of four "Es".

Effectiveness: participation allows people to have a voice in determining objectives; supporting project administration; and making their local knowledge, skills, and resources available, thereby resulting in a more effective project.

Efficiency: participation allows more efficient use of resources available to the project.

Empowerment: participation increases people's sense of control over issues that affect their lives and helps them to learn how to plan, implement, and prepare themselves for participation in broader terms.

Equity: It ensures an equitable sharing of the benefit.

- Participation contributed significantly to overall project effectiveness.
- The four proportion of water systems was in good condition, overall economic benefits were received, the per centage of the target population was reached, and environmental benefits rose significantly with participation.
- Equality of access to facilities was also assured.
- Participation fostered individual and community empowerment.
- Participation promoted management and organizational skills in the community.
- Participation strengthened local organizations which were then able to take up new development activities.

Fostering participation, user investment in capital cost, local ownership and control, and agency (sponsor) responsiveness to feedback have been reported to be crucial. Likewise, at the beneficiary level, the commitment and degree of organization was found to be determining factors in participation. At the sponsor level, relative autonomy and degree of client orientation were important. Other factors that have proved important were using knowledge for designing and implementing projects, investing in the capacity building of local people, allowing time for local people to organize themselves, and making the participation of beneficiaries a goal to be monitored and evaluated. A critical shortfall in this project was that many had failed to involve a high per centage of women.

Participation was found to be weak when sponsors or agents were unwilling to give up control over implementation details, did not provide incentives to support new institutional arrangements, and were unwilling to invest resources to promote community capacity or in social organizations to manage their physical infrastructure (Narayan 1985).

What is participation?

Participation is a dynamic multidimensional process that takes varying forms and changes during the project cycle. Participation is generally meant to describe people's involvement in decision-making and control over project resources throughout the project cycle. While the vast amount of literature dealing with its varying interpretations has broadened the understanding of participation, it is defined within a single statement. The following statements summarize a range of interpretations of participation.

- People's involvement in decision-making processes, in implementing the programme, their sharing of the benefits of the development programme, and their involvement in evaluating such a programme (Cohen and Uphoff 1977).
- The organized effort to increase control over resources and regulative institutions in a given situation on the participation of group and movement of those hitherto excluded from such control (Pearse and Stiefel 1979).
- An active process by which beneficiary or client group influences the direction and execution of a development project with a view to enhancing their well-being in terms of income, personal growth, self-reliance or other values they cherish (Paul 1987).
- Information sharing, decision-making, and local initiative and control.

Factors Influencing Participation

Participation is generally determined by both stakeholders and sponsors' characteristics. The stakeholder or beneficiary is meant to describe the project beneficiary group or simply the group of people affected by the project. Sponsors refer to the project implementing agencies (government or non-government organization, business sector, etc) or simply the project sponsors /staff. It is important to understand the characteristics of both the stakeholders or beneficiaries and sponsors in order to ensure the effective participation of the people in the project (Box 6.2).

Stakeholder or Beneficiary's Characteristics

- Commitment of the community before the implementation of the project
- Skill and knowledge
- Quality of broad-based leadership
- Dependence on a strong leader
- Organization of a stakeholder or beneficiary
- Extent to which an organization is based on the traditional structure
- Demand for service

Sponsor's Characteristics

- Use of local knowledge
- Extent to which participation is made a goal (end) rather than a means
- Implementational flexibility
- Autonomy and stakeholder or beneficiary orientation of a project
- The consensus of objectives
- Degree to which the project is driven by physical targets
- Degree to which agencies incorporate local knowledge into project designs

The real success of participation is often judged in terms of organizational growth, group behaviour, and group self-reliance including other attributes of social capital formation such as:

Box 6.2: New Relationship between Stakeholders and Sponsors

In the participatory process, collaboration is required between sponsors and stakeholders such as in:

- analysis and diagnosis,
- setting objectives,
- creating a strategy, and
- in formulating tactics,

whereby sponsors (external experts) take a back seat - listen and consult as opposed to being "listened to" and "consulted with (external expert approach)".

Source: World Bank 1994. World Bank source book on Participation. ESD, The World Bank.

- norms, shared values, reciprocity, and trust;
- capacity for self organization: a group's ability to organize itself (mobilize people and resources) to solve problems and achieve common goals; and
- network and linkages.

Obstacles to Participation

- **Structural factors:** The political environment within a particular country can either be a supportive or a destructive (obstacle) element of the participatory process.
- **Administrative structure:** Centralised decision-making, inappropriate attitude and skills of project staff, and frequent transfer of personnel render the implementation of the participatory process extremely difficult.
- **Sociocultural obstacles:** Widespread poverty and the deep-rooted mentality of dependence upon local elites coupled with lack of leadership and organizational skills leave most rural people incapable of responding to the demand for participation. Likewise, existing sociocultural values and norms in which women live hinder their participation and prominence in development activities.

Guiding Principles of Promoting Participation

Emphasise the process of participation as opposed to immediate quantitative outcome

Projects that promote participation must be flexible and willing to experiment and must not allow the demand of immediate quantifiable impact to undermine the process of participation.

Ensure Balance between Awareness Creation and Economic Activities

Just as a project that merely emphasises awareness with no tangible economic gains is bound to run into the problem of unsustainability, the project that overemphasises economic activities on the assumption that these will naturally provide the base for future participation is bound to run the risk of collapse of the process when project inputs are not available.

Build Where Possible upon a Local Base

Includes not only local people but traditional leaders and local institutions to the maximum extent possible.

Maintain Regular Contact between the People and Project Staff

Participation is a labour intensive process and develops better where there is continuity. External support is fundamental to this process but it must be both reliable and regular.

Important Areas of Participation

Environmental management

Forest protection: private and community plantation
 Nursery management
 Pasture management
 Soil conservation
 Garbage and litter management
 Alternative energy promotion

Development of Infrastructure

Community building: trail and bridge construction and maintenance
 Preservation of cultural and historical assets
 Drinking water scheme and various income generating schemes

Sharing of Benefits through Participatory Institutional Building (Boxes 6.3 and 6.4)

Women's Participation

Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development (Principle 20, Rio Conference on Environment and Development). The central issue of women's development is women's empowerment: to enable them to take an equal place with men and to encourage them to participate equally in the development process in order to achieve control over the factor of production.

The 'equality of access' is obtained by ensuring the principle of equality of opportunity, which typically entails the reforms of the law and administrative practice to remove all forms of discrimination against women.

The 'equality of participation' in all the stages of a project cycle (need assessment, project formulation, implementation, and evaluation) means involving the women of the community in the same proportion in decision-making.

Finally, it is important to ensure not only the participation of women in the decision-making process, but the utilization of this participation through consensus and mobilisation to achieve the 'equality of control' over the factor of production and the distribution of benefits.

Potential Areas of Women's Participation

Environmental Management

Women are integral to the environmental protection and management system. As principal users/collectors of natural resources, women have to bear the brunt of the resource scarcity problem in the form of the increased work burden. As such the desire of rural women to improve their living conditions through participating in environmental management protection is universal.

Given opportunities and incentives, women in Nepal and elsewhere in other developing countries have demonstrated their ability to better protect and manage environmental resources - particularly forests. Women are able to make decisions regarding selection of sites, species, and time for plantation. In many cases, the involvement of women in forestry programmes has not only fostered women's decision-making capabilities but has also helped empower local women.

Box 6.3: Lesson learned from ACAP

- Women's participation in meetings and in influencing decisions cannot be ensured without their increased membership.
- Time and structure of meetings must be convenient for women.
- A serious gender sensitive programme requires the involvement of more women activists and motivators and frequent follow up as women have their own limitations such as lack of education awareness, social restrictions, and so on.

Source: Gurung, D., 1995. *Tourism and Gender: Impact and Implications of Tourism on Nepalese Women*. International Center for Integrated Mountain Development (ICIMOD). Discussion Paper Series No. MEI 95/3.

Box 6.4: ACAP Incentive Programme for Promoting Women's Participation in Tourism

ACAP's women's development programme aims to provide women with greater opportunities and independence by giving them new skills and helping them to generate income on their own. For this purpose, ACAP has been implementing a Developing Women's Entrepreneurship in Tourism (DWET) programme (launched by HMG with the financial assistance of UNDP/ILO) in Dhampus Village. This programme is specifically geared towards building the entrepreneurship skills of women in the field of tourism. The participatory approach has been used in DWET in trainee selection and most of the trainees are from poor families. Another special feature of DWET is the provision of loans to women to carry out various income-generating activities without being restrictive in terms of collateral requirements or group formation. DWET offers full-time trainers and facilitators who play crucial roles in regularly monitoring/supervising women's enterprises and helping them to gain confidence and experience in mountain tourism enterprises as their occupations. Experience, however, suggests the need for establishing strong linkages between training and follow-up activities.

Source: Gurung, D., 1995. *Tourism and Gender: Impact and Implications of Tourism on Nepalese Women*. International Centre for Integrated Mountain Development (ICIMOD). Discussion Paper Series No. MEI 95/3.

The prospect for participation of women in environmental management, however, depends, among other things, on how well they are represented in user forestry committees. Evidence suggests that forests are better managed when there is exclusively a women's group/committee.

Tourism Development

The prospects for direct participation of women in tourism development appears in the following areas.

- Accommodation (hotel, lodges, etc)
- Restaurants/tea stalls along the trekking trails
- Camping arrangements
- Porter services
- Clothing equipment/accessories, rental
- Dance performance
- Traditional music performance
- Handicraft production and sale
- Other public and private sector employment in tourism

Incentives for Participation

Despite the vital role women can play in environmental management and tourism and community development, prevailing sociocultural and institutional norms and the economic incentives structure limit the prospect for enlisting the real participation of women, as the evidence shows. One way to promote the incentives' structure for their participation is to overcome the limitations that women face in mountain areas. Some important limitations to overcome are (Gurung, D.):

- religious traditions and rituals that reinforce the subordinate role of women,
- cultural factors that define the norms and different behaviour set for men and women,
- invisibility of women's work which is assigned within the domestic sphere leading to the invisibility of such work,
- women's excessive work load both within the household and outside,
- lack of education, information, and training,
- lack of self-esteem, leadership and entrepreneurial capability, and
- lack of access to credit and resources.

ACAP's women's development programme in Dhampus Village provides an example of how women's involvement in tourism could be promoted through establishing linkages with training institutions (Box 6.5). Likewise, the UNDP funded Partnership for Quality Tourism Project in

Syaphrubesri offers another example of an incentive for enlisting women's participation in tourism through establishing linkages with WEAN (Box 6.6).

The fundamental principle of working with the rural people (poor and disadvantaged) is to develop the incentives structure and organizations that can help the poor become self-reliant and empowered. Such grassroots' organizations would be participatory in nature.

Box 6.5: Women in Community Development Activities

Women in the Annapurna region have become aware of their potential to organise themselves as a group. Several women's groups have been formed and the funds raised by these groups from cultural programmes have played an important role in their decision-making at the community level through their participation in various community development activities such as construction and maintenance of small-scale drinking water systems, school buildings, bridge irrigation systems, drainage systems, and so on. ACAP has modified its working policy and approach in the implementation of its project to ensure women's participation at all levels.

Source: Gurung, D., 1995. *Tourism and Gender: Impact and Implications of Tourism on Nepalese Women*. International Centre for Integrated Mountain Development (ICIMOD). Discussion Paper Series No. MEI 95/3.

Box 6.6: Wean Micro Credit and Saving Programme

WEAN started a Micro Credit and Savings programme since March 1995. The main objective of this programme is to arrange capital for micro level women entrepreneurs and help them to develop a saving habit. WEAN started this programme from its capital of Rs 2 lakhs. In this program, there are 17 groups in the Kathmandu Valley and 25 groups in Syaphrubesi. In the Syaphrubesi program, the fund has been further expanded by an additional amount of Rs 206,000. The general features of this programme are:

Making groups consisting of five to 15 members.

- Start saving on the basis of the capacity of the members.
- Extend loan up to an amount of Rs 15,000 for a period of one year.
- Interest will be charged at a rate of 18 per cent.
- Repayment should be done on a monthly basis.
- No collateral is needed and the group itself stands guarantee.

Source: Banskota and Sharma, 1997. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Submitted by CREST to ICIMOD.

Grassroots Institutional Building Facilitates Participation a Key Element in Empowerment

Participatory institutions and empowerment are closely linked. Empowerment is about people taking control over their lives: setting their agenda, gaining skills, increasing confidence, solving problems, and developing self-reliance. It is both a process and an outcome. Empowerment is a term generally used to describe a process by which poor people become conscious of their own situation and organize collectively to gain greater access to public services or to the benefits of economic growth. The ACAP participatory approach provides an example of confidence building and empowerment (Box 6.7). The UNDP-supported PQT project in Syaphrubesi demonstrates the participatory institutional building process (Box 6.8). Other examples on grassroots' institution building are provided in Boxes 6.9 - 6.12.

Box 6.7: Institutional Building and Empowerment - an Example from ACAP

The ACAP experience of participatory development suggests the need to first win the villagers' trust and confidence to build a partnership with the local communities. At the heart of ACAP's participatory approach to conservation and development, lies the concept of its Conservation Education and Extension Programme (CEEP). It is a participatory and multidisciplinary approach for addressing environmental and developmental issues. Unlike other environmental education programmes, CEEP neither intends to develop local literacy skills nor deliver ready-made solutions to the community or group. Rather it aims at building confidence and institutional capabilities in addressing the issues raised and empowering the locals.

Seven years after CEEP came into being, there has been a remarkable progress in local organizational capacity building. The Conservation and Development Committee (CDC) and sub-committee (sub-CDC), the Lodge Management Committee (LMC), and women's groups are now the hubs of ACAP's grassroots' approach in setting a bottom-up process for identifying and resolving issues. Institutional building at the grassroots' level has facilitated the real participation of people in addressing their own village affairs through adopting the most effective and efficient conservation strategy for sustainable development. CDC makes the decision on how, where, and how much the local people are to be allowed to use their forest products. LMC encourages its members to use alternative energy resources and firewood saving devices to lessen the burden on forest resources.

There is enough indication that the partnership between ACAP and local institutions can now be carried forward solely by the local beneficiary, which is perhaps a vision of CEEP and a parameter to measure ACAP's success in promoting community participation in tourism management and mountain community development.

Source: Banskota, K. and Sharma, B., 1995b. *Tourism for Mountain Community Development: Case Study Report on the Annapurna and Gorkha Regions of Nepal*. International Centre for Integrated Mountain Development, Discussion Paper Series No. MEI 95/11.

Box 6.8: Participatory Institutional Building Process (CDC): Syaphrubesi

PQT has been successful in establishing a fairly strong institutional foundation at the grassroots' level through representation of both lodge owners and non-lodge owners in the Community Development Committee (CDC) in Syaphrubesi. CDC carries out its duties and responsibilities fairly effectively. The duties and responsibilities were agreed upon by the Syaphrubesi community itself. Guidelines for CDC in Tourism Promotion and Environmental Management were also designed and developed by the project, with a view to enabling CDC to be an effective grassroots' organization to manage tourism promotion, resource generation, and environmental management of the area. First-hand knowledge acquired by lodge owners through their observation tour to Ghandruk was instrumental in setting up CDC in Syaphrubesi. During the observation tour to Ghandruk, lodge owners from Syaphrubesi had an opportunity to interact with a similar committee (CDC). The starting phase was difficult since not all lodge owners were pleased with the rules made and there was tension between lodge owners and the village community. Initially, CDC lacked good representation of members from the village community on an institutional basis. This made it difficult to ensure real participation of villagers from the surrounding village area. As such the enforcement was weak initially. This situation has now been rectified as the CDC is also represented by some members from the village community on an institutional basis. CDC has thus become a fairly strong participatory institution in Syaphrubesi. Prior to this committee's formation and training, lodges were setting their own prices to attract visitors. A price war prevailed which did not benefit any lodge and recovering investments was also made difficult. All the lodges have now established a standardised menu and fairly effective enforcement of rules and regulations. Transparency in decision-making in the CDC was fairly apparent. Decisions are carried out only after a consensus is reached in most cases. The decisions made appear to be enforced and abided by most. A secretary, one of the lodge owners, maintains a logbook and minutes of all the meetings held. In a short period of time, CDC has been able to generate revenue from various sources in order to be a financially self-sustaining institution in the long run.

- Membership fee of Rs 100 per annum
- Rs 5 from the sale of menu cum brochure
- Rs 2 per guest (lodge visitors as well as those from camp tents)
- Rs 5 from households in the community
- Rs 10 per month from each tea shop
- Rs 20 per month from each lodge
- Rs 500 from any new tea shop built in Syaphrubesi
- Rs 1000 from any new lodge built in Syaphrubesi
- Rs 500 for any violation of rules made by CDC by trekking parties
- Rs 5 per visitor for use of hot springs
- Rs 2 per Nepali for use of hot springs

Source: Banskota and Sharma, 1997. Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports. Submitted by the Centre for Resource and Environmental Studies (CREST) to ICIMOD.

Box 6.9: People's Participation through Grassroots' Institutional Building in Upper Mustang Conservation and Development Project

Conservation and Development Committee (CDC)

CDCs are the main institutions responsible for policy and programme formulation related to natural resource management and community-identified programmes such as the construction or renovation of trails, bridges, schools, and drinking water schemes. CDCs are formed at the VDC level and are 15 in all. The CDCs meet once a month to discuss and decide on important community matters related to forest use and conservation.

Sub-Conservation and Development Committee (sub-CDC)

CDCs are supported by a number of sub-CDCs. Sub-CDCs are formed to allow autonomy and traditional rights to the maximum extent possible. As such, a sub-CDC may look after one or more village wards and thus does not usually compete with the traditional institution if such exists (at least theoretically).

Lodge/Campsite Management Committee (L/CMC)

The L/CMC is formed by the lodge/campsite owners and is mainly concerned with tourism related matters, but has not been effective.

Electricity Management Committee (EMC)

The EMC is responsible for the management of the micro-hydropower plants, repayment of loans raised for construction, and to raise revenue from electricity tariffs. The committee is also responsible for fixing the tariff rate. EMC is supported by a small technical staff who execute day to day affairs.

Mothers' Groups (Ama Toli)

The *Ama Toli* or mothers' groups initiate community activities such as clean-up campaigns, trail repairs, and community plantations in their own communities. The core *Ama Toli* comprised of 11 to 15 women. Any woman in the village automatically becomes a member of the mothers' group.

Gomba Management Committee (GMC)

GMCs are responsible for supervising and managing work related to *gomba(s)*, and these are mainly concentrated in Lo Manthang.

Source: Banskota and Sharma, 1997. "Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports". Submitted by the Centre for Resource and Environmental Studies (CREST) to ICIMOD.

Box 6.10: Income Generating Activities for Women

Several women from Syaphrubesi were brought on a tour to Kathmandu by PQT and were provided with training in several areas by WEAN. Through a loan scheme developed by WEAN, women have been encouraged to take small loans to run their own small-scale businesses. The size of loan is Rs 5,000 in the beginning and Rs 8,000 for repeat borrowers. The *Ama Toli* conducts regular meetings and each member contributes Rs 100 as a membership fund. The fund is used as a revolving credit fund among members. Vegetable production has helped minimise the leakage of tourist generated income as the lodges in Syaphrubesi can now purchase most of the seasonal vegetables locally. WEAN has been instrumental in capitalising and motivating women for community development and in developing linkage between tourism and the community.

Source: Banskota and Sharma, 1997. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Submitted by the Centre for Resource and Environmental Studies (CREST) to ICIMOD.

Box 6.11: Drinking Water Project: Linking Tourism with Local Community Development

The water source of the drinking water project under PQT was constructed in the uphill community (Kami Gaun) on the west bank of the Bhoté Kosi River. Initially, there was disagreement from this community about allowing their water source to be used by the population below (lodge community mostly). CDC took an active role and decided to contract out the project to the community and also provided several water taps. Since the community was able to make monetary gains and also enjoyed easy access to water, an agreement was quickly reached and the water project was undertaken. Each user unit has to pay a differential tariff for the use of water. The funds are collected by CDC who uses it for maintenance. A new relationship and solidarity between the two communities have thus been fostered and a link between tourism and the community established.

Source: Banskota and Sharma, 1997. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Submitted by the Centre for Resource and Environmental Studies (CREST) to ICIMOD.

Box 6.12: Project Failure due to Lack of Participation

Swayambhu Maha Chaitya, a World Heritage Site, was selected as a pilot "Urban Attraction" improvement scheme by UNDP supported Partnership for Quality Tourism Project (PQT). The surrounding areas of the World Heritage Site lacked hygiene and sanitation facilities and was filled with garbage. There was no effective management. The project goal was to establish and test an active and functioning and self-sustaining urban heritage site management model for possible replication in other such areas in Nepal. A massive clean up campaign, toilet construction, and participatory institutional building process were launched. One year after implementation, successes achieved at the beginning could not be sustained. Some critical factors identified for the failure of the project were mainly related with the crucial element of participatory institution and its sustainability. The first critical failure factor was that initiatives did not originate from within the community nor were they in control of the experiment process. Local people had never been consulted or made aware by their leaders of what this social experiment was about. Second, while there was sufficient institutional space for local initiatives, the degree of cohesiveness and collectivity were perceived by local residents to be weaker than before when the traditional Mul Thakalis played an active role. The growing conflict in interest between different organizations working in the area was another factor. There are 17 organizations working in Swayambhu who represent the hill top residents, the four gombas, and outsiders. Third, a federation of the Swayambhu Management and Conservation Committee (Maha Samiti), which came into existence prior to PQT, was not participatory. The Maha Samiti lacked a representation of local residents. A large number of the local people including some members of the local institutions were unaware of the constitution of the Maha Samiti and indicated that they were never consulted in drafting it. Fourth, the decision making process was not very transparent as many local residents were not fully aware of the project, its goals, and sponsor. Responsibilities were also not made clear among local residents. There was confusion among the local people as to who was responsible for the garbage removal. There was a communication gap between the members of the Maha Samiti, who were local residents, and the local people who were non members. Little or no effort was made to recognize the value of cultural diversity and the role of women was completely neglected. On the whole, the lack of local initiation and control, limited transparency in project information among local people, lack of coordination between organizations, and above all, the limited participation of local people in the decision making process were some critical factors responsible for the failure of the PQT Project. Participation did not work as its foundation from the very beginning was set on a wrong footing.

Source: Adapted from Banskota, K.; Sharma, B.; Neupane, L.; and Gyawali, P.: 1995. *Evaluation of the Partnership for Quality Tourism Project*. Center for Resource and Environmental Studies (Crest) for United Nations Development Program.

SESSION 7

DURATION: ONE AND A HALF HOURS

Participatory Planning

Objective

To familiarise programme designers and implementors with participatory planning tools

Contents

- Participatory Action Planning Methods and Tools
- Stakeholder Analysis: A Four-Step Process
- Gender Analysis and Planning
- Involving Stakeholders in Participatory Planning and Decision-making
- Participatory Planning Tools' — Access to Resources

Methodology

Presentation and discussion

Stakeholder Analysis: A Four-Step Process

The participatory planning and management approach give a wide scope to enhancing links between community and tourism as well as building the capacity of the local people in mountain tourism development. The participatory approach appears to acquire importance in mountain tourism development given the larger number of stakeholders and their diverse interests, power, and influence over tourism programmes and policies at different levels, and ownership and control over natural resources. The involvement of stakeholders in decision-making, especially when many stakeholders are involved, is believed to be a right step towards achieving sustainability of development projects. The purpose of this session is to introduce to programme managers the participatory approach to planning and implementation of projects.

A variety of participatory planning and implementation tools exist. Some tools are useful for sharing or collecting information whereas others are used for transferring information into plans or actions. Broadly, these tools can be divided into three categories.

- Anchor Tools (stakeholders and gender analysis)
- Participatory Data Collection Tools
- Participatory Action Planning Tools.

Anchor Tools are relevant for practically every participatory approach and include mainly stakeholders and gender analysis. Participatory Data Collection Tools will be discussed in Session 8 and Participatory Action Planning Tools are discussed briefly in this session.

Participatory Action Planning Methods and Tools

In the participatory framework, identification of stakeholders is a must for minimising obstacles that may arise during implementation and to produce good results. It generates substantial information that is critical to planning, executing, and monitoring sustainability of development projects. As such stakeholder analysis is a strategic entry point for designing participatory planning and management in development projects. Stakeholder analysis seeks to answer the following questions.

- What stakeholder role is assumed for project/policy success?
- Is the assumption realistic?
- What responses (positive as well as negative) are expected?
- What can be done to encourage stakeholder support?

Investigation of these questions will enable programme managers to determine who will participate, how they will participate, and so on.

Identifying Key Stakeholders

In the participatory approach, the key stakeholders need to be identified at the very start. Identifying key stakeholders means understanding where information originates, what are the interests of the different stakeholders, and where does the local power lie and with whom? Generally, the government as the primary decision-maker and implementor of policies and projects is a stakeholder. It is essential to identify the core ministry or department and the officials. Other agencies and individuals, who may be important, also need to be identified including NGOs and INGOs.

Broadly, the stakeholders can be individuals, community social groups and organizations, and the government (See Box 7.1, which shows the large number of stakeholders in the case of the Phewa Lake Area). It is essential to narrow the field of stakeholders from all those who potentially affect or are affected by the proposed programme or project into key stakeholders whose involvement will later be sought. Asking the following questions becomes useful to screen the key stakeholders.

- Who are the potential beneficiaries?
- Who might be adversely effected?
- Have vulnerable groups been identified?
- What is the relationship among stakeholders?

Box 7.1 : Stakeholder and Their Interests, Power, and Influence over Phewa Lake

There are a large number of stakeholders who have different interests and stakes in Phewa Lake and its surrounding area.

1. **Individuals and private entrepreneurs** like hoteliers, shopkeepers, private land owners, and various other entrepreneurs who are benefitting directly by providing various services to the visitors who visit the lake side.
2. **Many government agencies** that have legal authority in carrying out activities in or around the lake.
3. The Ministry of Water Resources (MWR) is entrusted as the guardian of water bodies in Nepal, and hence legally MWR owns the Lake (Water Resource Act, 1992).
4. The Ministry of Forests (MOF) owns large tracts of forested area around the lake.
5. The Ministry of Agriculture has been carrying out fish research for fishery development since 1961.
6. The Department of Irrigation (DOI) operates and maintains the dams and its canal for irrigation purposes.
7. Nepal Electricity Authority (NEA) uses the lake water to generate electricity.
8. The Department of Tourism (DOT) promotes the lake as a key recreation area for tourists.
9. The Ministry of Finance is also a stakeholder since tourism generates a large amount of tax revenue from various goods and services tourists purchase in the lake side area.
10. **Political institutions at the local level** such as the District Development Committee (DDC), Pokhara Municipality, 6 VDCs, and Ward Committees are mandated to oversee and undertake local development work.
11. **Professional institutions** such as HAAN, TAAN, PCCI, Hotel Byabasai Samiti, Pokhara Tourism Committee, and NGOs are concerned about the deteriorating environment of Phewa Lake as it may affect their professional interests.
12. Finally, there are the **visitors** who come in large numbers from all over the world to visit Pokhara.
13. Local residents who use the lake side area for recreation and regularly visit the temple on the lake.

Determining Stakeholders' Interests

Some stakeholders are more obvious than others. Stakeholders will generally have many interests, more than can be covered by a project. Some stakeholders may not be able to express their interests for many reasons. Some interests expressed may be in contradiction with the project's goal. Hence, before any work starts, it is necessary to sort out each stakeholder's interest in relation to the proposed objective of the project or policy. Some useful questions to sort out interests may be as follow.

- What are the stakeholder's expectations of the policy/project?
- What benefits are there likely to be for stakeholders?
- Will the stakeholders' interests conflict with the project/policy goal?
- What resources might the stakeholder be able and willing to mobilise?

Once interests have been screened and the key stakeholders identified, it may be essential to regroup the stakeholders into homogenous groups. This grouping may be done in a variety of ways based on ethnicity, land ownership, occupation, dwelling clusters, etc. The idea here is to group stakeholders who express common concerns or expectations into one group. This may help deal with group interests and concerns rather than with individual interests and concerns. Then attempts need to be made to understand each stakeholder's commitments in terms of the resources they are willing to mobilise. Reviewing secondary information may be useful at this stage, but a participatory discussion is likely to be more revealing.

Determining Stakeholders' Power and Influence

"Power or influence refers to the effect stakeholders can have on a project or policy, for example to control what decisions are made or to facilitate or hinder its implementation" (Jacob). Understanding the power or influence set up among stakeholders helps to understand the type of support that is needed as well as find out which stakeholder is in a position to provide support. The following issues need to be investigated.

- What is the relationship between the various stakeholders?
- Who has power over whom?
- Who is dependent on whom?

- Which stakeholder has an organization?
- How can that organization be influenced or built upon?
- Who has control over resources?
- Who has control of information?
- What is the relationship between the various stakeholders "who has power over whom" and "who is dependent on whom"?
- Which stakeholder has an organization and how can that organization be influenced or built upon?

Formulating Stakeholders' Participation Strategies

Formulating stakeholders' participation strategies should take into account their interests, influence, and power as well as the level and timing of the participatory activities. These factors should be used in a series of stakeholder analyses.

Gender Analysis and Planning

Gender analysis is a key concern in the formulation and design of participatory action planning. As elaborated on an earlier session, integrating women into tourism and community development projects has a number of benefits and as such finding ways and means to increase their participation through gender analysis is an integral part of the overall participatory action planning process. Already, women are playing key roles in mountain tourism.

Gender analysis takes into account women's roles in production and management of the community and other activities. It focuses on understanding and documenting the differences in gender roles, activities, needs, and opportunities in a given context. Following the basic steps listed is useful in gender analysis.

- Identify gender based differences in access to resources to predict how different members of household groups and society will participate in and be affected by planned development.
- Develop training packages to sensitise development staff on gender issues and training strategies for beneficiaries.

Note that gender planning has to be part of the overall planning process. Gender analysis comprises of:

- need assessment,
- activity profiles,
- resource access and control profile,
- benefit and incentive analysis, and
- institutional constraints and opportunities.

Involving Stakeholders in Participatory Planning and Decision-Making

Setting objectives, creating strategies, and formulating tactics are essential steps in planning and replanning which can be carried out in both the external expert and participatory stances. In the participatory stances, these planning steps are undertaken collaboratively with relevant stakeholders. Some steps which programme designers and implementors should keep in mind are highlighted below.

Creating a Learning Mood

In designing the participatory plan, participants are likely to either take action based on what they already know or take no action because they believe that there is no hope for change. Participatory planning and decision-making should change this mood.

Information sharing on the intended interventions with stakeholders is a necessary start for their involvement. Stakeholders should be given a chance to express themselves and their questions need to be answered. Interactively, trust has to be established.

NGOs can play an effective role in this respect as they are proving effective at mobilising local people. Once trust has been established, terms and conditions for future collaboration between designers and local stakeholders begin.

Stakeholders that are to be directly affected by the intervention need to be involved directly in designing and planning decisions. Since implementation has to be carried out by these stakeholders, their commitment has to be sought. The rules of the game have to be set out at this stage.

Participatory Planning Tools' Access to Resource

The success or failure of the project depends on the method and approach of planning interventions among other things. Planning interventions should take into account those who have and do not have access to and control of resources (in the households and community). Such knowledge is essential to judge who are the potential resource contributors in the community (Box 7.2).

Task Analysis by Gender

Understanding human resources necessary for running a community is central to any community based work including tourism and in this respect, participatory analysis of tasks by gender as a planning tool assumes importance. This tool not only raises community awareness of the distribution of domestic and community activities according to gender, but also familiarizes programme designers with different tasks which women have to perform (Box 7.3).

Box 7.3: Steps in Task Analysis

- Large drawings (one each for a man, a woman, and a man and woman together) are placed separately on the ground and "task cards" with drawings of community tasks (e.g., carrying firewood, household chores, visiting the health center, etc.) are handed to the participants.
- Participants are then requested to place the cards under each large drawing depending on who they think undertakes the task.
- The facilitator then opens a discussion by asking why they distributed the "task cards" in such a way.
- The next step is to analyze the work load of men and women separately and in relation to one another.
- Finally, the discussion can be directed to identifying changes needed to improve their community life.

both cases, the focus is on classifying the goal and then analyzing the constraints and resources available before developing an appropriate plan of action.

Box 7.2: A Method Used to Assess Who Controls Resources

- On the ground, three large drawings of a man, a woman, and a couple are kept in a row.
- Cards depicting different resources owned by the community members (e.g., cattle, radio, jewellery, homes, trees, etc.) are to be scattered below each drawing.
- Participants are requested to sort out the "resource cards" and place them with the appropriate drawings depending on who they think controls the resources.
- Participants are then encouraged to conduct a discussion and the facilitator takes notes on which consensus was hard to reach.
- The facilitator then asks participants why they made the choice. Men and women can be organized in separate groups to stimulate the discussion and finally both groups should come together for a joint discussion.

Story with a Gap and Force Field Analysis

These tools are designed to engage people to define and classify goals and to make sustainable plans by working through before and after development scenarios. In the context of mountain tourism, materials for the story with a gap can be a pair of pictures, one showing the problematic situation and the other showing an improved situation in terms of sanitation and hygiene. For example, the development programme in Syaphrubesi, before and after the PQT project intervention (Box 7.4).

The same before and after effect can be demonstrated in forced field analysis through a diagram which shows the current situation in a box at the left and improved future situation on the right. In

Box 7.4: Story with a Gap

- Participants are presented with a picture depicting the before situation to begin the story.
- Participants in small groups discuss why the situation deteriorated using the picture. For example, if the picture shows unhealthy livestock, participants might suggest shortage of fodder or some other reason.
- After each group has established the baseline situation, they are presented with an after picture which shows an improved situation.
- Participants should then discuss the characteristics of the improvement.
- Next, participants fill the gap by determining the step that might have been taken to improve the situation.
- Groups of participants should get together and tell each other the story they have created. The facilitator should keep track of different characterisations and solutions, urging participants to play out the different steps to weigh the benefits and obstacles to different possibilities.

Objective

To familiarise programme designers and implementors with different planning techniques and information required for planning and developing mountain tourism.

Contents

Information Needs of Mountain Tourism
Environmentally Related or HER
Socioeconomics
Visitors
Scientific Sample Surveys
Participatory Methods for Gathering Information
Appendix: Survey Instruments

Methodology

Short presentation and group discussions

SESSION 8

DURATION: ONE AND A HALF HOURS

Information Needs and Designing Surveys

Objective

To familiarise programme designers and implementors with different planning techniques and information required for planning and developing mountain tourism

Contents

- Information Needs of Mountain Tourism
 - Environmentally Related or HER
 - Socioeconomics
 - Visitors
- Scientific Sample Surveys
- Participatory Methods for Gathering Information
- Appendix: Survey Instruments

Methodology

Short presentation and group discussions

Objective

To familiarise project managers with the different planning techniques and familiarise them with different information required for planning and developing mountain tourism

Information is essential at all stages of mountain tourism development - from the planning to the implementation stage. After planning is completed, information is essential to monitor if tourism development is achieving the objectives that were set out. There is a constant need to assess if visitors are satisfied with the tourism they are paying for. At the community level, it is essential to find out whether tourism is having the desired positive effect on the community. Likewise, the state of the environment and the critical HER needs to be constantly monitored. The negative factors and their causes need to be properly assessed from time to time, for which research becomes essential. Corrective actions can then be planned to make mountain tourism sustainable.

Information gathering is not always easy and it can be an expensive task. While the collection of baseline data requires a survey of limited duration, monitoring and evaluating mountain tourism and its sustainability require continuous assessment and data collection and processing. Information on both the demand and supply side of tourism, including key attributes of natural and cultural resources, has to be collected periodically through surveys based on scientific methods. The data collected have to be cleaned, edited, and useful studies conducted to yield important feedback for policy formation, monitoring, and impact evaluation. In tourism, research, monitoring, and impact evaluation are all related and necessary for guiding tourism to sustainability.

Research is the search for new knowledge. Knowledge is a form of capital which, over time, gradually depreciates and its productivity declines. Hence, research is necessary to find news of doing things and solving problems more effectively. Often, new knowledge is embodied in new forms of technology, the application of which contributes to improved environmental and living standards. In Session 3, it was pointed out that new knowledge and technology are essential to enhance carrying capacity. In the Annapurna area, the introduction of kerosene depots, electricity, back boiler stoves, etc. - new forms of technology - have contributed to a relatively better natural environment as well as helping to improve the quality of mountain tourism.

Information gathering can be an expensive task as well. Thus, collecting good quality information in a cost effective way is also necessary. New techniques have evolved and are still evolving in this area. Participatory techniques have proved to be effective ways to gather information that is representative and cost effective. There are several different participatory techniques for gathering information. At the same time, some older techniques based on drawing samples continue to be important in certain cases, requiring structured interviews.

Information Needs of Mountain Tourism

The information needs of mountain tourism may be broadly grouped into four major headings, namely:

- environment (HER),
- socioeconomics and community level,
- visitors, and
- tourism facilities.

These following four groups are considered separately, and the basic information needs are identified first. The various methods for collecting the information are discussed in a later section.

Environmentally Related or HER

In a previous session the need for an inventory of HER has already been pointed out. Here the essential information that needs to be covered is presented. It is not possible to provide a detail list of all the information related to HER since this would vary from place to place. The Table 8.1 provides a broad group of information related to HER that is essential to collect from any place where mountain tourism is being planned.

Table 8.1: Minimum Data Set - for Natural System

Variables	Source of Information	Minimum Information Required
Physical Geomorphological features	Existing government. Agencies, published literature and geological maps	Special focus on hazardous areas, epicentres, GLOF, slope stability soil creep, landslide area, etc
Soil	Secondary information community field observation/surveys	Productivity trends, erosion phenomena, soil profile, soil biology, etc
Water	Field observation, community information, government line agencies	Water sources' catchment condition, drinking water supply system, water contamination, Flood incidence
Climate	Line agency, community, meteorological station, observation/survey	Rainfall/snowfall pattern and amount of rainfall, thunderstorm events, agroclimatic zonation, natural vegetation zones
Biological Vegetation/flora	Government line agency and local office of Forestry. Secondary information, community information observation/survey	Matured forest types, regenerating forests, pristine areas/forest, grass-land types, local medicinal plants
Wildlife/fauna	Government line agency and local office of forestry. Secondary information, Community information observation/survey	Common/rare birds and animals. endangered and rare species
Cultural	Formal interviews, Information interviews, Discussions with well-informed group or individuals, Participant observation, Focussed group discussion	Ethnic composition, local taboos, cultural events and customs, artifacts, etc. heritage sites/conditions
Natural	Observation, community, local hunters, etc	Scenic and unique spots, routes and trails, water sources, wildlife and bird spotting etc

Source: Shrestha, T.B., 1995. *Mountain Tourism and Environment Nepal*. ICIMOD Discussion Paper No. MEI 95/4

Note: Some minor changes have been made from the original

Not all information needs to be collected from primary sources. As in most cases, secondary information will generally be available. Appropriate sources are to be identified also. Also, note that HER includes society's man-made assets as well, and hence are included below.

- Geomorphological: special focus on hazardous areas, epicentres, GLOF, slope stability, soil creep, landslide areas, etc
- Soil: productivity trends, erosion phenomenon, soil profile, soil biology, etc
- Water: water source catchment condition, drinking water supply system, water contamination, and flood incidence
- Climate: rainfall/snowfall pattern and amount of rainfall, thunderstorm events, agroclimatic zonation, and natural vegetation zones
- Flora: matured forest types, regenerating forests, pristine areas/forest, grassland types, and local medicinal plants
- Fauna: common/rare birds and animals and endangered and rare species
- Cultural: ethnic composition, local taboos, cultural events and customs, artifacts, etc Heritage sites/conditions
- Nature: scenic and unique spots, routes and trails, water sources, wildlife and bird spotting, etc

Socioeconomics

The socioeconomic survey aims to gather information on the socioeconomic conditions of the households. Over time, tourism and community development are assumed to bring changes in the living conditions of households. It is essential to understand what changes have occurred and whether the changes are as desired. It is essential to find out who are benefitting from tourism and how to bring an equitable distribution of benefits from tourism. A baseline survey on the socioeconomic conditions of households

is essential to conduct before any development activities are conducted. The baseline survey should cover different areas. In other words, the socioeconomic information must be collected from sample surveys. Survey instruments for conducting household and community baseline surveys are easily available and hence are not provided.

Visitors

Any tourism development must ensure that visitors are satisfied. This requires obtaining information directly from visitors through carefully conducted surveys. At the same time, periodic surveys are required to assess visitor demand. Assessing demand is highly specialised work and requires experts. Estimation of demand provides parameters that are useful for policy formulation. A list of information that needs to be collected at destinations from visitors include the following:

- nationality, age, and sex,
- annual income of visitors,
- trekker type, group size, trek duration, and total stay in the country,
- trekking arrangements and payments,
- types of facilities used during treks, number of days used, and prices paid for accommodation and food,
- porters hired and wages paid by sex,
- breakdown of expenditure made during treks
- questions related to their perception on conservation, sites, hygiene, and sanitation, etc,
- their willingness to pay more for the level of facilities available and how much, and
- questions related to tourism products and their standards and maintenance in specific destinations.

Scientific Sample Surveys

Household and visitor surveys have to be specially conducted. Several sampling techniques exist to ensure the representative sample of reasonable size. Determination of the sample size in an *ad hoc* manner often leads to unreliable/biased survey estimates (large sampling error) defeating the whole purpose of the baseline survey for programme design and the future M and E process.

The choice of techniques for getting a sample depends primarily on the nature of the problem, the cost and time factors involved, and the desired precision or reliability of the result. There is no single principle that would lead investigators to choose a particular sample scheme to the exclusion of others. Table 8.2 summarises the different types of surveys, their advantages and disadvantages, and when they ought to be used.

Participatory Methods for Gathering Information

Participation is an interactive planning and decision-making process through which stakeholders influence and share control over development decisions. Participatory planning and decision-making should start by creating a mood for learning rather than plunging directly into problem solving.

Rapid Rural Appraisal (PRA) and Participatory Rural Appraisal (PRA)

PRA is an informal technique used by development practitioners in rural areas to collect and analyse information. PRA is mainly seen as a means for outsiders to gather information. In this technique, the role of local people is passive and that of the outsider is active. In other words, information collection and analysis are undertaken by outsiders.

PRA evolved from Rapid Rural Appraisal (RRA). PRA is an approach which involves the sharing of learning between the local people and outsiders. This approach can be employed at any stage of a project cycle. PRA uses group animation and exercises to facilitate information sharing, analysis, and action among stakeholders or beneficiaries (Box 8.1). The PRA method emphasises the local knowledge and active participation of beneficiaries in a variety of issues such as:

Table 8.2 Sampling Techniques, Advantages, Disadvantages and Uses

Types of Sampling Techniques	Description of Procedures	Advantages	Disadvantages	When to Use
Random Sampling	Every element in the sampled population has an equal chance of being selected Random sampling with replacement and random sampling without replacement	The sample mean is an unbiased estimate of the population mean. Estimation method is simple and easy	Sample selected may be dispersed over a wide area thus increasing survey cost. A population list of households is needed to select the sample. If population is heterogeneous representation may not be good.	If the population is not widely spread geographically. If the population is more or less homogeneous with respect to the characteristics under study.
Systematic Sampling	Sampling wherein every K^{th} starting with 1 st is chosen at random.	Drawing of sample is easy. Easy to administer in the field. The sample is spread evenly over the population and is more precise than random sampling.	It gives poor precision when unsuspected periodicity is present in the population A population list of households is needed to select the sample	If the ordering of the population is random If there is a slight stratification in the population and when stratification with numerous data is used.
Stratified Sampling	The population is divided into groups or strata then the selection is done within each stratum: Stratified random sampling: the selection within each stratum is done randomly. Stratified systematic sampling: the selection within each stratum is done by systematic sampling with a random start.	Stratification may bring gain in the precision of the estimate Administrative convenience	A listing of the population in each stratum is needed. Cost can be high if the population is spread widely	If the population characteristics are clustered in several groups and can be stratified. If precise estimates are desired for certain parts of the population.
Cluster Sampling	It is a method of selection in which the sampling unit consists of more than one population element. Each sampling unit is a group or cluster of population elements.	A population list is not needed. Cost is not high.	The cost and problem of statistical analysis are greater Estimation procedures are difficult	Clustering is often used to save cost. If population can be grouped into a cluster.
Multi-stage Sampling	Multi-Stage sampling is sampling done in two or more stages	Cost is reduced	Estimation procedures are difficult when the first stage unit is not of the same size. The sampling procedures entail much planning before selection is done.	If no population list is available If the population covers a wide area

Box 8.1: Keep in mind

PRA depends on the facilitator acting as a convenor and catalyst without dominating the process. Facilitators must have confidence that local people, whether literate or illiterate, can carry out their own analyses. There must be commitment on the part of the facilitating organization to support the action which local people have decided to take.

- in expressing and analysing problems related to their living conditions,
- prioritising and planning actions to be undertaken to address their problems,
- monitoring and evaluating results of actions taken,
- empowering community members, and
- encouraging broader participation of community members.

Advantages of PRA

Scaling up needs to go hand in hand with nurturing community-based institutions without which PRA cannot be firmly rooted in the longer run. When PRA is carried out properly local people enjoy creative learning that comes from presenting their knowledge and realities.

Participatory evaluation is people centered and project stakeholders and beneficiaries are the key actors in the evaluation process and not mere objects of evaluation.

Lessons learned can be quickly used for corrective actions by the stakeholders.

Enhances accountability of stakeholders, programme managers, and donors.

PRA Methods and Tools

PRA employs a variety of visual methods to enable people to express and share information and stimulate discussion and analysis. Some methods commonly used are maps, flow diagrams, calendars of events such as cropping seasons etc. Other methods used for generating information are:

- focus group meetings,
- semi-structured interviews,
- participant observation,
- preference ranking,
- mapping, and
- wealth ranking.

Focus Group Meeting (Box 8.2)

A focus group meeting is a semi-structured group discussion during which participants contribute to the generation of information on specific questions being discussed. Such meetings have many uses such as:

- can serve as a forum to address a particular concern such as institutional capacity,
- can build community consensus about a tool plan,
- can provide an opportunity to cross check information for greater reliability,
- can be used to obtain a variety of reactions to hypothetical or intended interventions.

This method works best when the participants in each group are homogenous (common concerns). Group size and skill of the facilitator can determine the success or failure of focus group meetings. The information gathered and analysed is useful for planning and evaluation. Focus group meetings have been used in participatory poverty assessment work.

Participant Observation (PO)

PO is a field work technique used by anthropologies and sociologists to collect qualitative data and to develop in-depth understanding of people's motivation and attitudes. This method is particularly important for the comparison of informants action with the verbal information which they supply. The participant observer can collect a great deal of relevant information about the actual behaviour in a short time either in a community or agency setting. A participant observation study can complement all phases of the project cycle (Box 8.3).

Box 8.2: Steps in Focus Group Meeting Preparation

- Identify the need for information
- Determine specific focus and scope of investigation
- Brainstorming or preliminary analysis
- Prepare visual or interview material
- Schedule or organize facilitator

Semi-structured Interviews

The semi-structured interview is a low-cost rapid method of gathering information from individuals or small groups. These interviews are partially structured and administered. It is important to ensure that the interview stays focussed on the issue on hand taking care that participants are allowed to introduce and discuss other issues which they feel are relevant. For focussing, a number of pertinent issues and questions are prepared. This method is useful to assess organizational or institutional capacity.

Mapping

Mapping is an inexpensive tool used to gather descriptive and diagnostic information. Mapping exercises are useful for baseline data gathering, planning, extension, monitoring, and evaluation. Maps can be elaborately drawn on paper or etched in dirt or sand. Diagrams can be elaborated into maps to stress the relationship between different sites. A variety of mapping exercises are historical mapping, health mapping, social mapping, common property resource mapping, and land-use mapping. Maps are often complemented by transect walks through the radius of the site for recognition by the people. A transect is a diagram or a map drawn after a systematic tour of the community village or specific geographical area (Box 8.4).

Box 8.4: Preparing a Semi-Structured Interview

- Design an interview guide with general topics to be covered and with more specific issue within each topics which can be in a in check list form
- Establish a sample size and method to determine the interviewees.
- Pretest the method in small group
- Take notes
- compared interviewee responses on regular basis for trend and exception
- if there are several interviewers compare the results and remove inconsistencies
- discuss the result with the participant for feed back and accuracy.

Like other visual tools, wealth ranking is a simple way to involve local people in planning. It is a technique for the rapid collection and analysis of data on social stratification at the community level. Factors underlying wealth may include ownership of or use right of a productive asset, the relations of the productive units with locally powerful people, availability of the labour, indebtedness, and so on. Understanding how beneficiaries measure wealth and well being is essential for the formation of strategies for poverty alleviation.

Box 8.3: Basic Steps in the Participant Observation Technique in Beneficiary Assessment

- Investigate the project back group
- Study the general characteristics of the beneficiary population
- Strategically choose a residence among the beneficiary population
- Be attentive to the role and responsibilities of the leading social actor
- Monitoring and enquiry about issues of project concern with residents
- Conduct appropriate information interiors and surveys
- Prepare a report

Appendix: Survey Instruments

The following two survey instruments are provided as guidelines for collecting some essential baseline information from visitors and lodges. The instruments will have to be adapted to suit particular objectives to obtain additional information.

Visitor Survey Instruments

To be administered to visitors who have completed their trek and are returning

Date: Month Year

1. Nationality (Country)

2. Age

3. Sex Male Female

4. Annual Income (US\$)

- i Less than or equal to 15,000
- ii 15,000 to 30,000
- iii 30,000 to 45,000
- iv 45,000 to 75,000
- v 75,000 to 100,000
- vi 100,000 or more

5. Please tell us about your trek

Trek Arranged Privately (1) through Trekking Agency (2)	Number of Fellow Trekkers	Number of Trekking days Planned	Number of Days to be Spent in Nepal
	Number	Number	Number

6. If your trekking was arranged through a trekking agency, what was the cost of the package?

7. Please provide information on the accommodation facilities you used and number of nights used. If more than one facility was used please provide appropriate information.

Type of Facility Used	Number of Nights Used
Lodges/Rs per bed	
Camping in tents/Rs per tent	
Private homes (paying guest)/Rs per guest	

8. If you used lodges or stayed in private homes how much did you have to pay for the following: For quality use one of the following codes: (good=1; fair=2, poor=3).

Services/Facilities	Price	Quality
Rs per bed		
Ra per guest in private homes		
Breakfast		
lunch		
Dinner		
Porter		

9. How many porters did you hire in total

- i Male _____ Female _____
 ii For how many days: Male _____ Female _____
 iii Daily wages: Male _____ Female _____
 iv Total wages paid _____

10. How much did you spend on purchasing other items such as tea, soft drinks, beer, fruit, handicrafts etc during your trek? _____

11. In total how much did you spent for the entire trek? Rs _____

12. Did you or any members of your group become sick during the trekking trip?
 Yes _____ No _____

12.1 If yes the reason could be due to (please tick one):

- i. Drinking water
 ii. Eating locally prepared food
 iii. Flu
 iv. Altitude sickness
 v. Fall
 vi. Others (please specify) _____

13. Is this the first time you have trekked in Nepal? Yes _____ No _____

13.1 If no, how many times have you trekked before? _____

14. Please provide your opinion on the following fees that apply to your trek?

Fees	High (1), Adequate (2) Low (3)
Trekking permit	
Conservation area	
Park Entrance	

15. Do you know that in Nepal there is a legal provision for ploughing back 30-50 per cent of Park Entrance fees into local area development, including conservation? Yes _____ No _____

16. Would be willing to pay more to enter the park/area? Yes _____ No _____

17. If yes, how much more would you be willing to pay (tick only one):

US\$2 US\$4 US\$6 US\$8 US\$10

18. Was the level of tourism you experienced in the area enjoyable (number of other tourists)?
 Yes _____ No _____

19. What was the main reason for visiting this area for trekking (please rank with 1 being the top) in terms?

Viewing scenery _____

Trekking _____

Camping _____

Experience of nature _____

Relaxation _____

Like visiting mountain areas _____

Other (please specify) _____

20. Please tell us about the garbage, littering, sanitation conditions based on your experience during the trekking trip.

21. The management of garbage needs to be: drastically improved (1); it needs little improvement (2); it is not a problem(3)

22. Your visit to the area has been (tick one):

better than expected (1); as expected (2); worse than expected (3).

Lodge Survey

Background information

Name of District _____

Name of VDC: _____

Name of Village _____

Name of Lodge Owner: _____

Lodge owned or managed:

1. On Lodge

Year Established	Number of rooms	Number of Bed:

2. Lodge Employment

	October to April		May to September		Total
	Family Members	Wage Basis	Family Members	Wage Basis	
Male					
Female					

3. Number of Visitors Entertained Last Year (October to September)

Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug

4. What is the average expenditure in Rs made by a visitor per night in your lodge on the following items?

	Room	Bed	Breakfast	Lunch	Dinner	Others
This season						
Last season						

5. What are the main items you have to purchase to serve tourists and from where do you obtain them? How much do you spend on them annually?

Items	Locally (in Rs)	From Outside (in Rs)
Rice		
Flour		
Vegetables		
Meat/fish		
Eggs		

6. What are the main energy sources used in your lodge to provide different services to visitors?

Energy source	Yearly consumption		Unit price
	Qty	Units	
Firewood			
Kerosene			
Electricity			
Solar			
Gobar gas			
Other (specify)			

7. Do you use any of the following gadgets in your lodge?

8. Have you or any member of your household who manages the lodge received any training related to tourism? Yes (1); No (2)

Gadgets	Yes (1) No (2)
Improved stove	
Kerosene stove	
Solar heater	
Space heater	
Rice cooker	
Others (specify)	

8.1 If yes in what areas have you or other members received training?

Member's sex _____ Area in which training was received.

(If more than one member has received training or a member has received training more than once please note.)

9. Have you found the training to be useful? Yes (1); No (2)

SESSION 9

DURATION: ONE AND A HALF HOURS

Monitoring and Evaluation

Objective

To familiarise project managers with the importance and utility of monitoring and developing an approach to a sound monitoring system

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Objective

To familiarise project managers with the importance and utility of monitoring and developing an approach to a sound monitoring system.

A large number of projects continue to be implemented in developing countries, which directly or indirectly aim to improve the living condition of the rural poor. Despite a large number of projects that have been implemented, many have failed to achieve their stated objectives. If projects are considered in terms of the provision of services delivery and impacts after their implementation is over, evidence suggests even less success. Over time as resources get increasingly scarce, the interest to understand more about successful past projects, how they were implemented, to find cost reducing methods, delivering benefits more effectively, and interest in monitoring and evaluation take on a new awakening.

The need for monitoring and evaluation in development work of any nature have been realized to be important elements of the development process itself. With growing concern over sustainable development, in which the environment is an important focus, monitoring development has become even more necessary as well as complex. However, lessons learned to date suggest that the more monitoring and evaluation are integrated into the project and built on the existing information system, the more the real objective of improving the project's performance can be achieved. Experience also suggests the need for flexibility in the M and E system to ensure better performance of the project over time through corrective actions based on M and E findings.

A sound M and E system should not only rely on quarterly reports and ongoing evaluations, which has generally been the case, but also on participatory evaluation conducted by the beneficiaries of the project. Both monitoring and evaluation are tools used to better manage a project, and they are basically meant to ensure that a project is progressing according to plan and that the objectives (purposes) are being realized as scheduled and desired.

Generally, development projects involve multiple components. These components are carried out by different institutions during different time periods and require different inputs. Often activities of one institution become inputs to activities carried out by other institutions. For the successful execution of activities, it is important to pinpoint inadequacies in the ways activities are carried out. Such information becomes subsequently important when taking remedial action. Hence, monitoring becomes important in checking mistakes and designing remedial actions. Furthermore, a sound monitoring system should also serve as a warning mechanism for project management.

Trying to monitor everything will never be possible, and hence, there is a need to set priorities by monitoring selected attributes of the mountain environment that are of primary relevance to mountain tourism. The critical factor approach already discussed provides a strong basis for developing monitoring indicators.

Monitoring and Evaluation

Monitoring is usually understood to mean the following. (Box 9.1)

- The process of providing timely information on the progress and problem of the project in the process of implementation.
- It is the continuous assessment of both the functioning of the project activities in the context of implementation schedules and the use of the project inputs by a targeted population in the context of the design expected.
- The assessment of the efficiency with which the programme is implemented, including the measurement of the quality and timing of the input delivered and output produced.
- The tracking of both the financial and physical activities through regular quantified reports.

Evaluation is considered as the assessment of the result of implementing the programme. It determines how effectively a project and its components are in attaining the project goal. It is customary to distinguish between ongoing evaluation, terminal evaluation, and ex post evaluation.

Box 9.1: Different Components of Project Monitoring: Purpose and Timing

Study	Purpose	Time
Performance monitoring	To track the use of project inputs and production of outputs and to identify delays and problems	Report produced monthly or quarterly throughout the period of project implementation
Financial monitoring	To monitor the correct use of fund disbursement and internal cash flow and implement cost effectiveness.	Weekly, monthly, quarterly, and annually.
Diagnostic studies	To understand why implementation and sustainability problems have occurred and propose solutions	Follow-up to examine problems identified in performance monitoring or conduct examinations periodically to assess implementation performance.
Mid-term assessment	To assess the overall progress of the project in order to identify key issues and required project changes.	Mid-point of the implementation phase.
Project completion report and project audit	To assess project implementation performance of the executing agency followed by an extent to which loan agreement terms are being met	PCR prepared within six months of the final loan disbursement; audit follows submission of PCR
Monitoring operation, maintenance, and sustainability	To assess the capacity of projects to continue delivering intended services and benefits throughout its planned economic life	Once a project's operational studies can be conducted on a periodic basis or at one point in time (for example after 5 years).

Ongoing evaluation takes place when the project is ongoing. Its major concern is to analyze the continuing relevance, efficiency, and effectiveness of activities. The primary goal of an ongoing evaluation is to provide managers and policy makers with information about the individual and community affected and provide corrective action to make the programme more effective.

Terminal evaluation takes place at the termination of the project when external funding is over. It is usually carried out six to 12 months after the project is terminated. Sometimes terminal evaluation also serves as a substitute for ex post evaluation.

Ex post evaluation is conducted when the completed project or programme is assessed for its overall impact and achievement. In contrast to monitoring and terminal evaluation, ex post evaluation requires a substantial amount of data, sophisticated methodology for data collection and analysis, and considerable financial and computing resources. Because of these reasons, ex post evaluation is not considered to be a function of the monitoring and evaluation unit.

The only type of monitoring that exists is the end of project evaluation for a development project. There exists so far no systematic monitoring system that can act as a mechanism to guide the development process and identify constraints and critical issues. Experience shows that an inadequate monitoring system is commonly associated with:

- a poor system design (poor selection of monitoring indicators and its institutionalisation);
- inadequate staffing;
- inability to initiate an early baseline study; and
- substantial delay in data processing and analysis.

Even if all these deficiencies are avoided monitoring techniques often remain largely unused by the project staff for undertaking suitable adjustments (feedback) in the plans, approaches, and strategies necessary for achieving the objectives.

Effective impact monitoring and evaluation, however, requires the participation of all those who are involved in the programme or project. Experience reveals that when people are consulted, when they

participate, and when their needs and priorities are given primacy in project identification, design and implementation and monitoring economic and social performance are better and development becomes more sustainable (Chambers 1991).

The method and approach to monitoring generally differ among the projects depending on how the following critical aspects of monitoring are pursued:

- What is to be monitored? (the selection of the indicators that will reflect the effect of the project);
- How and how often should the project be monitored? (the methods and instruments to be used in collecting monitoring information and their periodicity).
- Who is to do the monitoring? (people's self-evaluation and internal and external monitoring).

Management Objectives of Monitoring

Carrying capacity is a relative concept that varies according to management objectives and standards (or management parameters) among other things. It therefore becomes important to define management objectives and parameters before operationalising carrying capacity and effectively monitoring its different attributes that are influenced, to a large extent, by management. It is important to distinguish 'change' (actual impact) and acceptability of 'change' in order to prevent further degradation or erosion of areas and resources. Limits of acceptable change are often used to define how much and what type of change may occur and what management action is required to control it. Determination of limits of acceptable change involves basically four steps (Box 9.2).

Box 9.2: Limits of Acceptable Change

Limits of acceptable change (LAC) are often used to define how much and what type of change may occur, what level of impact is tolerable/acceptable, and what management action is required to control it. Determination of LAC basically involves four steps.

1. Identify relationships between existing conditions and those judged acceptable:
 - inventory of resources and socioeconomic conditions, and
 - specification of standards for resource indicators and socioeconomic indicators.
2. Specify acceptable and achievable resource parameters:
 - identification of critical factors;
 - description of opportunities; and
 - selection of indicators of resources and social conditions.
3. Identify management actions for:
 - alternative opportunities;
 - selected alternatives; and
 - selection of alternatives based on their evaluation.
4. Implement actions and monitor the environment and socioeconomic conditions.

The above paragraphs suggest the need for a management unit, which we refer to as the critical institution. 'Limits of acceptable change' are therefore a management concept calling for a combination of zoning, standards, and monitoring to prevent degradation. As an initial step, a detailed inventory of environmental and socioeconomic conditions of the areas, including a number of special surveys related to different aspects of the economy, wildlife, habitats, botany, and so on, needs to be carried out in order to establish baseline conditions. Such studies will not only provide the basis for defining the management zones and setting standards for environmental and socioeconomic conditions, but will also provide a bench mark for future monitoring and evaluation of programme intervention as well as for developing indicators. In other words, a basic picture of Figure 3.7 (Session 3) and its various areas will emerge.

Establishing safe minimum standards for both environmental and socio-economic infrastructural facilities is essential for monitoring the changes and in order to be able to take timely management action (Box 9.3). Minimum breeding stock to guarantee the survival of unique and endangered animal species, minimal residuals of viable plants for revival of valuable plant species, and maximum rate of erosion per year are some examples of safe minimum standards for natural resources. Similarly, minimum standards

should also be set for infrastructure and tourist facilities (sanitation and safety standards for lodges and campgrounds) as well as for tour operators and travel agencies. Such minimum standards imply the avoidance of physical conditions that would make it uneconomical to reverse depletion. All these standards need to be established based on expert opinion and after a detailed assessment of the environmental and socioeconomic conditions of an area. Such standards should also indicate the extent to which mountain tourism and community development are integrated into the natural and cultural environment.

Box 9.3: Establishing Safe Minimum Standards

Safe minimum standards imply the avoidance of physical conditions that would make it uneconomical to reverse depletion. Safe minimum standards for both environmental and socioeconomic infrastructural facilities are essential for monitoring the changes and in order to be able to take timely management action. Some examples of safe minimum standards are given below.

Natural resources: minimum breeding stock to guarantee the survival of unique and endangered animal species, minimal residuals of viable plants for revival of valuable plant species, maximum rate of erosion per year, etc

Infrastructure and tourist facilities: sanitation and safety standards for lodges and camp grounds as well as for tour operators and travel agencies — All these standards need to be established based on expert opinion and after a detailed assessment of the environmental and socioeconomic conditions of an area.

Additionally, a number of feasibility studies with potential development in different pockets needs to be conducted based on the principle of comparative advantage of the area and plans formulated from the feedback. Exploitation of such potential development or economic opportunities is essential for enhancing the economic carrying capacity of the area and promoting economic growth.

Developing a base standard against which monitoring various attributes will mark the beginning of the monitoring and evaluation process. Without a base standard it will not be possible to indicate the change. Both qualitative and quantitative standards can be used. However, developing qualitative standards may take a long time, and the initial monitoring process may have to rely on qualitative assessments. Therefore, initially, a baseline study that assesses the existing condition, identifies the 'critical factors', and develops the 'limits of acceptable change' should be carried out. The carrying capacity can then be assessed by analysing the demand and supply situation qualitatively. Both carrying capacity and limits of acceptable change are interdependent despite their respective merits and limitations. Both are useful as part of an ongoing process to monitor change in environmental and socioeconomic indicators.

It should be further pointed out that technical issues that require elaborate studies should be subject to periodic evaluation, for which the management should be sensitive. For example, the need to assess the conditions of habitats or biodiversity may not have to be part of regular monitoring exercises, since changes in these parameters of environment are not likely to occur within short periods of time. An evaluation that is conducted once every five years or so may suffice. Similarly, establishing change in the socioeconomic conditions of the host population may also be part of a periodic evaluation conducted at similar intervals. It is the role of the management to identify and prioritize the necessary studies that have to be conducted at different periods of time. It should be said that identifying "critical opportunities" (factors) cannot be part of a monitoring exercise. Such opportunities should be identified through feasibility studies. Thus, in what follows below, only monitoring indicators that are subject to changes over shorter periods of time are discussed.

For sustainable development of the mountain environment, carrying capacity of HER needs to be constantly monitored, for if the health of the mountain environment deteriorates not only tourism (MTD) but also local people (MCD), whose very existence depends on these resources, will suffer.

Since carrying capacity varies according to management objectives and standards (or management parameters) among other things, it becomes important to define management objectives and parameters

before monitoring it. It is important to distinguish 'change' (actual impact) and acceptability of 'change' in order to monitor the status of different types of carrying capacity (environmental; economic; and social or behavioural).

Indicators that have been developed for monitoring purposes encompass both quantitative and qualitative dimensions of MCD and MTD and their linkages. Periodic surveys of households, lodge owners, and visitors in different areas need to be conducted in order to monitor changes and impact. The management parameters or standards discussed earlier may also be important in this context, i.e., several supply side indicators relating to environmental resources need to be developed by the management unit after inventory surveys — as stated above.

Mountain Community Development

Firewood and fodder are the main natural resources demanded by households, and their excessive and unmanaged consumption is believed to be the prime cause of forest degradation. To decelerate or retard the process over time, various community level programmes have been initiated in different parts of the country that encourage private tree plantation, protection of community forest, changes in ownership rights from the government to the community, and dissemination of fuel-efficient and alternative sources of energy. There have also been awareness generation programmes relating to forest conservation and the negative impact of forest and pasture degradation on soil erosion and other downstream effects.

At the community level, therefore, if the above programmes have been effective, there ought to be a decreasing reliance of households on community forests for firewood and fodder. This can happen only if more households have private resources from which they can meet their fuelwood and fodder requirements. Additionally, a greater supply of firewood from private sources implies less travel time to collect firewood. Similarly, fodder collection time is also reduced and stall feeding practices will increase, thereby reducing open grazing to some extent.

In tourist areas, there has been increasing awareness on the part of many lodges and tourists about the need to use kerosene. Where electricity and kerosene are available, households are beginning to use these alternative energy sources. These factors, along with the private tree plantations, therefore, may be assumed to reduce pressure on public forests and hence promote conservation. Conservation of forests enhances watershed conditions and habitats. Development, including tourism, it has been argued, erodes cultural values and religious traditions, and the need to protect these has received a great deal of attention.

Therefore, the indicators identified to monitor the effectiveness of conservation programmes are as follow.

- Per capita firewood consumed per annum
- Share of annual firewood requirement met by households' private sources
- Share of annual fodder requirement met from households' private sources
- Percentage of households using kerosene and electricity for cooking and lighting
- Percentage of households using improved stoves and other appliances
- Percentage of households reporting better forest conservation
- Percentage of households reporting more wildlife than before
- Percentage of households reporting better watershed protection
- Percentage of households reporting less open grazing practices
- Percentage of households reporting better protection of cultural sites
- Percentage of households reporting better protection of religious sites
- Percentage of households reporting more crime and theft in their community
- Percentage of households reporting more poaching

Another dimension of community development is the development of community infrastructure. In particular, drinking water schemes, schools, health posts, trails, and bridges have received and continue to receive a great deal of priority in the mountain areas. Some of these types of infrastructure reduce travel time and travel risk and others simply make such facilities relatively more accessible to households. For example, in the absence of a bridge, many children would have to travel long distances to school, so that

the construction of bridges can greatly improve accessibility. Drinking water projects have made water more easily available to households. Likewise, trail and bridge construction have also facilitated marketing and trade in different parts of the country. Hence, one of the benefits that accrues to households from such development infrastructure can be judged from the time saved.

Percentage of households indicating less time for:

- water collection,
- travelling to markets,
- travelling to schools,
- travelling to health posts,
- litreacy rate by sex (6 yrs and above) and age, and
- percentage of household members that have received training through some project.

Development infrastructure, in addition to saving travel time, has boosted income by making markets accessible. Trail and bridge construction facilitate trade with households gaining access to modern agricultural inputs for increasing production and possibly marketable surplus. Households are also gradually cultivating cash crops where accessibility and markets have improved. This impact of community development is reflected in per capita incomes and income shares accruing from various sources, both farm and off-farm ones. Additionally, such infrastructure has also increased tourism potential in some areas, and tourism has in turn contributed to household income. Once tourism comes to mountain communities, households find employment, even if it be for short periods, and also have the opportunity to sell different products to tourists and tourist-related markets.

It is important, however, to gauge households' perceptions of development impact. If households perceive development impact positively, this will provide a basis for its sustainability; otherwise households will be unwilling to participate in development. Often some forms of development, it has been argued, only increase the burden on women. Also, development has been blamed for inflation. Tourism has been thought to drive away labour from local areas, thus creating labour shortages in some places. Hence, some of the indicators identified for monitoring other aspects of community development are as follow.

- Per capita income and share distribution of income
- Ratio of cash crop area to total area
- Shares of income from farming, livestock, pensions, tourism, other off-farm activities, etc
- Share distribution of household expenditure
- Average days worked in tourism in the last season
- Percentage of households reporting sale of home produced goods to tourists
- Percentage of households reporting that tourism is good for the community
- Percentage of households reporting that tourism has helped increase local income
- Percentage of households reporting inflation.
- Percentage of households reporting more off-farm employment opportunities (by sex)
- Percentage of households reporting labour shortages in their community
- Percentage of households reporting that women's work burden has decreased
- Percentage of households reporting that women's income has increased

In mountain communities, where poverty is rampant, relatively poor people become marginalised and are unable to benefit from development. Poverty mitigation has to be an important goal of sustainable development. The worst form of poverty in mountain areas may be considered to be the lack of food. Many households are unable to meet the annual food needs of their families. Such households need to be identified and special income-generating programmes should be directly targetted at such households. The indicators identified in this case are the following:

- percentage of households reporting food deficits and
- average number of food deficit months.

There have been other community programmes that have attempted to generate awareness of various aspects of the community in the context of cleanliness, hygiene, and sanitation. In many parts of the country, NGOs have been active in encouraging households to keep their villages clean and construct pit latrines. An important aspect of this dimension of community development is an increase in the visual

appeal of an area. Such programmes are important in terms of both community well-being and tourism. Thus, the indicators identified for monitoring this dimension of community development are:

- percentage of households having pit latrines and
- percentage of households reporting that their village is clean.

Mountain Tourism Development

Although mountain tourism has potential for development in many parts of the mountain areas of Nepal, it has currently developed in only a few pockets. The development of tourism will require an understanding of visitor perceptions on a variety of issues. This section discusses some important issues and identifies monitoring indicators.

It is first essential to monitor the number of visitors that visit the area monthly. Although the general practice has been to report visitor numbers on a monthly or annual basis, such information is useless for understanding different aspects of tourism at the local level. Thus, information on visitor numbers by routes and destinations should be collected.

The number of lodges existing in a given area is not easily available. The number of lodges and their capacity (rooms and beds) are important to know in order to understand the supply side of tourism in an area. Despite almost three decades of tourism in Nepal, there is no published information on these supply components of mountain tourism. Tourists are also known to stay with local families as paying guests. Group trekkers enjoy camping and determining the number who use camping grounds is important. This information is crucial for understanding occupancy rates and helps policy-makers regulate the flow of tourism and also the expansion rate of facilities in an area.

Some indicators developed for monitoring these aspects of mountain tourism are as follow.

- Number of visitors to key destinations by season
- Number of lodges along main circuits and at destinations
- Capacity (beds and rooms) of lodges along main circuits and at destinations
- Total visitor days and occupancy rates of lodges along main circuits and at destinations by season
- Percentage of visitors reporting the number of days spent at key destinations
- Percentage of visitors reporting number of days spent in lodges, on camp grounds, and in private homes.

Tourism has been unjustly blamed for accelerating deforestation in many parts of the mountains. It is the responsibility of the area management to define policies and provide incentives to local communities to use alternative energy sources or firewood efficient technologies while catering to tourists. The management must be responsible for enforcing and monitoring energy use which has direct implications for conservation. For example, although kerosene use is mandatory for all group trekkers, its enforcement is not believed to be effective.

Therefore, in order to monitor those aspects of mountain tourism relating to conservation, the indicators identified are as follow.

- Percentage of lodges using firewood, kerosene, and electricity for lighting and cooking by season
- Average daily consumption of firewood, kerosene, and electricity per lodge by season
- Percentage of lodges reporting decreased use of firewood

Tourism has been able to increase off-farm employment in areas where it has been developing. Women in these areas have proved to be good lodge managers. Thus, off-farm employment has been generated. During peak seasons, lodge managers are known to hire labour and make up for deficits incurred by household members.

- Number of family members and hired employees per lodge by sex and season.

Prior to the ACAP project, there was considerable variation in prices of rooms, beds, and meals in the area and thus lodge owners were not realising normal profits from their lodges. Hence, a standard price-

setting mechanism is an important aspect of a well-organized tourism community. It facilitates matters for tourists, who will not need to bargain, and also helps lodge owners to make normal profits from their investments. However, while prices may appear to be justifiable to lodge owners (sellers), visitors (buyers) may think otherwise. Such tensions in the mountain tourism market are undesirable and need to be monitored.

- Average price per room and bed by season
- Average price per meal by season
- Porter wages
- Entry fee
- Trekking permit fee
- Percentage of lodge owners reporting increased profit from tourism
- Percentage of lodge owners reporting they have received training
- Percentage of lodge owners reporting that tourists are pleasant
- Percentage of lodge owners reporting that tourists obeyed the code of conduct

One key factor affecting tourism carrying capacity will be the quality of services provided by the lodges. Measuring the quality of services provided is not an easy task. The perceptive judgements of tourists have to be relied upon. There have been concerted efforts by NGOs as well as the government to provide training to local lodge managers on various aspects of services designed to improve the overall quality of tourism. Such efforts will be meaningless if tourists do not perceive the quality of services to be good. Such information will be useful for management in identifying areas of tourism services that need improvement. Moreover, price-setting mechanisms for the services provided can be facilitated by such information.

The conservation awareness programme discussed above in the context of community development is also important for tourism development. Aside from the economic linkages of tourism with community development, conservation programmes are important for tourism development as conservation increases amenity values which most tourists come to enjoy. Thus, it is important to know the perceptions of tourists. The following list identifies a variety of indicators to monitor these aspects of mountain tourism development from the visitor's perspective.

Percentage of visitors reporting the following (good, fair or bad):

- quality of meals,
- quality of accommodation,
- quality of service provided by lodges,
- quality of service provided by tour operators,
- quality of campgrounds,
- quality of trails, and
- quality of bridges.

Garbage, littering, and sanitation conditions in the following were either good (fair) or bad:

- lodge rooms,
- dining area,
- lodge area,
- trekking routes,
- scenic spots,
- villages, and
- campsites.

A percentage of visitors reported that there were too many tourists, by trail circuits and destination.

Tourist attitude towards lodges and local people:

- percentage of tourists reporting that the hospitality shown by lodges was good or bad,
- percentage of tourists reporting that the hospitality shown by local people was good or bad,

- percentage of tourists reporting that other tourists obeyed the code of conduct,
- percentage of tourists reporting that lodges obeyed the code of conduct,
- percentage of tourists reporting that tourist information provided was helpful,
- percentage of tourists reporting that tourist information provided was adequate,
- percentage of tourists reporting that the quality of the environment was good or bad, and
- percentage of tourists reporting that their trip was enjoyable as expected.

Community and Tourism Linkages

For mountain tourism to be sustainable, it will need to be strongly linked to community development. Tourism provides different opportunities to trade. In places like the Annapurna area, a large percentage of lodge purchases are made outside the region. Many items required to cater to tourists can be produced locally. Thus, knowing the different items which lodges purchase and where they purchase them can provide an idea of the strength of the linkage between mountain community and tourism. Leakages arise when items purchased by lodges are not locally produced but have the potential to be locally produced, and are often relatively cost effective. For example, many food items imported from Pokhara by lodges in Ghandruk and Ghorepani can be locally produced, and thus leakages can be minimized. Household incomes will increase as new markets for produce become available and employment is generated.

Another factor that can develop a strong link between community and tourism development is tourism product diversification. When new products are developed, local people will find new opportunities to obtain income and employment, although this may also cause local shortages of labour (discussed above). Some indicators identified for understanding the linkage and leakage of mountain tourism with mountain communities are given below.

- Percentage of households reporting the sale of products to tourists and lodges - by type of products sold in the previous season
- Value of the products sold to tourists and lodges - by household and by type of product sold in the previous season
- Percentage of hired labour in lodges - by season and sex
- Percentage distribution of food and other supplies purchased by lodges - by source (local or imported) and season
- Ratio of the local food and other supplies purchased - by lodges to total lodge purchases by season
- Percentage of household members reporting occupational linkages with tourism
- Percentage of households reporting the sale of products to tourists - by type of products in the previous last season

Critical Institution

Finally, it is important to emphasise the need for a critical institution responsible for carrying out the above tasks. Management objectives and strategies have to be clearly defined and coordination established with other agencies and local communities and other institutions. Studies have to be carried out, a baseline inventory is required, standards have to be set (rules and regulations, safe minimum standard and code of conduct, indicators have to be developed, etc), and an initial carrying capacity assessment has to be conducted. Only after all these activities are conducted by a critical institution can the monitoring process then begin.

However, over time, this responsibility for development, monitoring, and evaluation has to be passed on to local communities. An additional role of this critical institution, therefore, lies in developing grass-roots' institutions and training the members of these institutions to carry out the monitoring process themselves. Finally, monitoring as an ongoing process is in itself a planned feedback system insofar as project management is responsive and flexible enough to modify the project management process based on the monitoring process and monitoring findings.

Institutionalisation of monitoring and evaluation activities generally implies a two-pronged approach: institutionalization at the local institutional level (local people organization) and at the level of partner organizations (sponsor). At the local institutional level, an organization tries to enhance the capacity of these groups to monitor and follow up on their planned activities as well as to enable them to assess their

self-help performance. Participatory monitoring (PRA and RRA) and evaluation are used to help local people analyse their own achievements as well as their situation and that of their community (Box 9.4).

Box 9.4: Conventional versus Participatory Monitoring

	Conventional	Participatory
Purpose	<ul style="list-style-type: none"> To collect information for planning and evaluation 	<ul style="list-style-type: none"> To empower local people to initiate action
Goal	<ul style="list-style-type: none"> Predetermined 	<ul style="list-style-type: none"> Evolving
Approach	<ul style="list-style-type: none"> Objective standardised Uniform and blueprint to test hypothesis 	<ul style="list-style-type: none"> Flexible, diverse, local adaptation, holistic, changes encouraged
Mode of operation	<ul style="list-style-type: none"> Focus on information generation 	<ul style="list-style-type: none"> Focus on human growth & empowerment
Focus of decision-making	<ul style="list-style-type: none"> Centralised external 	<ul style="list-style-type: none"> Local people with or without facilitators
Technique	<ul style="list-style-type: none"> Highly structured focus statistical analysis 	<ul style="list-style-type: none"> Open ended, sorting, scoring, ranking, drawing
Role of researcher	<ul style="list-style-type: none"> Controller, manipulators, dominant objectives Sample target respondent 	<ul style="list-style-type: none"> Catalyst, facilitators, visible initially, latter invisible
Role of local people	<ul style="list-style-type: none"> Sample target respondent, passive 	<ul style="list-style-type: none"> Participant active, creative generators of knowledge
Ownership of result	<ul style="list-style-type: none"> Result owned by outsiders 	<ul style="list-style-type: none"> Owned by local people
Output	<ul style="list-style-type: none"> Report publication, possible policy changes 	<ul style="list-style-type: none"> Enhanced local action and capacity, local learning Result may not be recorded cumulative

Experience shows that adequate attention is not given to the specifications of crucial capacity building related indicators and, even if such attention is paid, the general tendency has been to focus more on quantitative indicators that often do not reflect the intended process of change. Participatory monitoring involves various issues related to the decision-making process, degree of participation, transparency, self-reliance, etc. It is customary to adopt the scaling technique to measure the different degrees of response on ordinal multipoint (usually five point) scale ranging from the worst outcome to the most desirable outcome (See example below on Monitoring Grassroots' Institutions).

Given the different spirals of the capacity building process, the underlying indicators may not always be relevant for monitoring, and thus need to be changed with the stage of capacity building of a particular group. In view of this problem, together with other inherent limitations of the method used in soliciting such qualitative information, it is proposed that only a possible list of key indicators underlying each dimension of capacity building will be developed along with the method and instrument.

An Example: Monitoring Indicators for Grassroots' Institutional Capacity Building from Arjun Chaupari and Sri Krishna Gandaki VDCs, Syangja District, Nepal

This part of the chapter makes an attempt to identify and assess a set of indicators underlying various dimensions of institutional development at the grassroots' level based on the information obtained from 16 Village Organizations (VOs). Information on both quantitative and qualitative dimensions of capacity building of grassroots' institutions (social capital formation) were solicited through participatory group discussions held among the members of each VO using a pre-structured questionnaire. In order to better capture and measure the degree of perceptive judgment of VO members on various qualitative dimensions of social capital formation, all VO members in participatory discussions were asked to rate their opinions on a scale of five to one. The maximum score of five was given to the most favourable response and the minimum score of one to the least favourable outcome, with the intermediate responses lying between these two extremes.

Qualitative Indicators: Measurement and Interpretation

Measuring varied attributes of social empowerment or social capital is not easy and the process is still evolving. Measuring social capital therefore relies on the qualitative aspects of the institutional capacity building process and involves a process of mapping aspects of one domain on to another according to some rule of correspondence. It is expected that such a scoring method can help judge the relative position of different VOs in terms of various attributes of social capital.

The perceived degree of opinion on different issues (indicators) is aggregated and ranked. The method involves multiplying the actual response count of each issue by its respective predefined score. The total score value of each indicator so obtained can be either ranked directly for comparison or it can be further normalised to fix a range of value to a certain limit to obtain an indicator. If the total score is divided by the maximum possible responses, the upper limit of the value of the index will be unity. Likewise, it can also be set to range between one to five if the simple average of total score is taken.

The various dimensions of institutional building are participation, transparency, social benefits, coordination and interdependency, social empowerment, etc. For example, the degree of participation in each VO can be measured as the sum of score divided by the maximum possible score. Some key features of participation are: decision-making, making rules, programme selection, programme implementation, and O and M. The maximum possible response in this case is therefore 25 (5*5) and the minimum response possible is five. The maximum value of an index has been set at unity by normalising the sum of the actual score by its maximum possible response (25).

It is worth mentioning that a relatively higher institutional capacity building status of VOs observed in terms of the indicators does not necessarily ensure that such VOs will always have similar rating over time. Many changes in the course of institutional development are likely to occur as the level of awareness, economic aspirations, and relationship among individual members of VOs change. The success or failure of a project will therefore depend on how well awareness creation and other social and economic activities are balanced at each stage or spiral of institutional building. It is thus important to monitor the process and progress of grassroots' institution building through the participatory approach.

One inherent limitation of participatory monitoring at this stage of institutional development is that the presence of village leaders in group meetings influences the response of the other less aware and shy members. This is especially true in the case of the PAP programme where the modality adopted for group formation does not have a target group focus. It is therefore reasonable to expect that as the level of awareness of the poor increases over time, the domination of more powerful members of VOs over more vulnerable members in the decision-making process will tend to decrease and everyone in the group is likely to participate more effectively in the decision-making process. In the early stage of institutional building, there are therefore good reasons to believe that favourable responses elicited from a VO may have been overstated.

Keeping in mind these inherent group response biases in the initial stage of institutional development, it was felt necessary to ask similar sets of questions related to institutional building individually at the household level to obtain a more comprehensive idea of the state of social capital formation. The extent

to which the perceptive judgment of the VO members is influenced by the dominance of members of the group who have higher levels of awareness can be better judged from the results obtained from household responses. Essentially, the assumption is that individuals may be more willing to elicit their true feelings when approached individually than in a group, as many of the members in the group may feel too shy or dominated to express their true feelings.

Finally, one should be cautious while interpreting qualitative information. First, the subjective nature of recording and observation have to be taken into account. Second, the differing levels of ability and awareness of VO members and project agents will influence the quality of information obtained. Third, social capital formation or institutional building can be a slow process with the implication that many indicators may unfold slowly, and hence continuous monitoring and research become necessary. Finally, without some kind of initial statement (baseline group profile), it will be impossible to interpret future outcomes or even understand the process of institution building.

A similar set of perception-related questions were further asked of household members (376) independently to judge whether the results varied significantly from those obtained from the participatory method in a group. The result showed some differences in the responses.

One should be cautious while interpreting the qualitative information and data.

- First, the subjective nature of recording and observation will need to be taken into account.
- Second, the differing level of ability/awareness of VO members and project agents will influence the quality of information obtained.
- Third, social capital formation or institutional building can be a slow process with the implication that many indicators may unfold equally slowly, and hence observation may lack substance.
- Finally, without some kind of initial statement (baseline group profile), it will be impossible to interpret outcomes in relation to previous situations.

Assessing Institutional Capacity Building

The Decision-making Process in VO Meetings

The proper understanding and monitoring of how decisions are made in village organizations become important for long-run sustainability of the grassroots' institution. There is good reason to believe that, if decisions are not made through full participation and consensus of VO members, other crucial attributes of institutional capacity building are unlikely to emerge. Hence, monitoring qualitative indicators of the decision-making process may involve members' participation during meetings in decision-making with regards to rules and regulations/penalties, programme selection, and its implementation.

Degree of Participation

The degree of participation is influenced by organizational growth, group behaviour, and group self-reliance. Since participation evolves over time, it is important to monitor and interpret participation accordingly under different phases or stages of the programme (initial phase, intermediate phase, and principal/consolidated phase). At the initial stage of organizational development, participation can be assessed in terms of its role and degree of participation in planning, implementation, and maintenance of the project's infrastructure including its participation in making rules and regulations.

Programme Knowledge/Transparency

Social capital formation also depends very much on the degree of transparency in project information and in the decision-making process among members of each Village Organization. Each member of the VO must be fully aware of the programme goal, they must be informed of the sources and uses of their VO fund, and the overall decision-making process has to be transparent.

Women's Development

Participatory development should see women as partners and an equal constituent of the rural people.

This first requires a change in the perception of male domination in development practice which will then enable them to improve the basis of their livelihood. Perceptive judgment of the VO members on gender sensitive indicators such as awareness among villagers towards women's rights, habit of listening to women's problems, women's skills and income enhancement opportunities, their participation in community development activities, etc, becomes important. Gender-sensitive indicators have the special function of pointing out gender-related changes in society over time. The usefulness of GSI lies in their ability to point to changes in the issues and role of women and men over time, and therefore measures whether gender equity is being achieved.

Leadership

The success or failure of village organizations as long, enduring participatory institutions depends among other things, on how honest, devoted, responsible, and efficient these leaders are in managing group activities in a more sustained way.

Coordination and Interdependencies

Sustainability and the self-help capability of an organization can also be judged from the extent to which village organizations have established their relationship and coordination with other organizations both vertically and horizontally for support and sharing of resource experience, knowledge/information, and for collective action.

Social Behaviour and Welfare

Building social capital involves new forms of relationship between individuals through change in custom, habit, and behaviour among individuals. Group ability to settle internal disputes is also an indication of the process of social capital formation. Other issues related to social welfare were also included in the analysis.

Reduced Dependency/Self-reliance

The cycle of dependency on money lenders due to the lack of access to alternative credit sources has been one of the deep-rooted causes of poverty and marginalisation in rural areas. Likewise, the long-term dependency of self-help groups on project agents has also its implication on self-governing institutions. While the role of project agents as key animators, facilitators, and intermediaries in promoting participatory institutional development can not be overemphasised, success indicators of social mobilisers are based on how quickly such agents can prove their redundancies through creating the conditions whereby local people can begin to get involved in the participatory development practice. Hence, the gradual reduction in household dependency, on both money lender and social mobiliser, is one crucial indicator of participatory development.

Quantitative Indicators

Qualitative indicators alone are not entirely adequate for monitoring the whole process of grassroots' institutional development. The use of quantitative indicators provides a solid framework for at least understanding one dimension of the institutional building process. Membership composition and its growth over time, group meetings and attendance rates, group capital building and its lending operation, and members' contribution to implementation and maintenance of community development works, etc are such indicators.

Comparative Ranking on the Different Indicators of Institution Building Based on Responses Provided by VOs and Households in Arjun Chaupari and Srikrishna Gandaki VDCs, Syangja

Indicators for Institution Building Matched	Household Scores	Ranked VO	Indicators for Institutional Building Matched	VO Scores	Ranked VO
Rules and Regulations	4.37	4.38	Rules and Regulations	4.38	4.37
Manager Honesty	4.17	4.25	Community Development	4.31	2.60
Chairman Honesty	4.17	4.13	Manager Honesty	4.25	4.17
Manager Average	4.11	4.22	Manager Responsible	4.25	4.08
Money Lender	4.10	4.00	Operation and Maintenance	4.25	3.40
Manager Efficient	4.09	4.19	Programme Selection and Implemented	4.25	2.99
Manager Devoted	4.09	4.19	Manager Average	4.22	4.11
Manager Responsible	4.08	4.25	Manager Efficient	4.19	4.09
Chairman Average	4.07	4.06	Manager Devoted	4.19	4.09
Improved Access to Credit	4.06	4.00	Chairman Honesty	4.13	4.17
Mutual Understanding	4.05	4.00	New Habit, Custom, and Behaviour	4.13	3.82
Chairman Devoted	4.05	4.06	Chairman Average	4.06	4.07
Chairman Efficient	4.04	4.00	Chairman Devoted	4.06	4.05
Chairman Responsible	4.04	4.06	Chairman Responsible	4.06	4.04
Helping One Another	3.99	4.00	Women's Awareness	4.06	3.87
Self-confidence	3.89	3.81	Conflict and Quarrels among Villagers	4.06	3.86
Inspiration and Encouragement	3.89	4.00	Alleviation of Untouchable Feelings	4.06	3.45
Women's Awareness	3.87	4.06	Transparency Average	4.06	2.58
Conflicts and Quarrels among Villagers	3.86	4.06	Money Lender	4.00	4.10
Social Welfare Average	3.83	3.98	Improved Access to Credit	4.00	4.06
New Habit, Custom, and Behaviour	3.82	4.13	Mutual Understanding	4.00	4.05
Habit of Listening to Women's Problems	3.81	3.94	Chairman Efficient	4.00	4.04
Recognition of Rights	3.75	4.00	Helping One Another	4.00	3.99
Women's Participation in the Community	3.73	3.50	Inspiration and Encouragement	4.00	3.89
Social Mobilizer	3.73	3.94	Recognition of Rights	4.00	3.75
Availability of Services	3.71	3.88	Participation Average	4.00	2.49
Empowerment Average	3.71	3.90	Social Welfare Average	3.98	3.83
New Knowledge and Skill	3.70	3.81	Habit of Listening to Women's Problems	3.94	3.81
Skill and Capability Enhancement	3.68	3.81	Social Mobilizer	3.94	3.73
Coordination with other VOs	3.66	3.69	Empowerment Average	3.90	3.71
Capability	3.66	3.81	Availability of Services	3.88	3.71
Women Average	3.65	3.73	Programme Selection	3.88	3.10
Income Generating Opportunities	3.60	3.81	Rules and Regulations	3.88	3.09
Coordination with VDC	3.58	3.63	Decision Making Average	3.88	3.08
Drinking Water Status	3.56	3.19	Implementation	3.88	3.06
Confidence Average	3.53	3.51	Self-confidence	3.81	3.89
Alleviation of Untouchable Feeling	3.45	4.06	New Knowledge and Skill	3.81	3.70
Mothers' Club	3.43	2.63	Skill and Capability Enhancement	3.81	3.68
Women's Skill Enhancement	3.43	3.50	Capability	3.81	3.66
Women's Income Opportunities	3.40	3.63	Income Generating Opportunities	3.81	3.60
Operation and Maintenance	3.40	4.25	Saving & Disbursement of VOs' Fund	3.81	2.85
Irrigation Status	3.28	3.06	VOs' Rules and Regulations	3.81	2.83
Cooperation with DDC	3.25	3.38	Women Average	3.73	3.65
Interdependence Average	3.22	3.31	Coordination with Other VOs	3.69	3.66
Education Status	3.22	3.06	Programme Goal	3.69	2.89
Community Forestry	3.21	3.13	Coordination with VDC	3.63	3.58
Health Status	3.16	3.13	Women's Income Opportunities	3.63	3.40
Programme Selection	3.10	3.88	Seed Capital Fund	3.56	2.29
Rules and Regulations	3.09	3.88	Confidence Average	3.51	3.53
Decision-making Average	3.08	3.88	Women's Participation in the Community	3.50	3.73
Implementation	3.06	3.88	Women's Skill Enhancement	3.50	3.43
Programme Selection and Implementation	2.99	4.25	Cooperation with DDC	3.38	3.25
Programme Goal	2.89	3.69	Interdependency Average	3.31	3.22
Saving & Disbursement of VOs' Fund	2.85	3.81	District Line Agencies	3.25	2.09
VOs' Rules and Regulations	2.83	3.81	Drinking Water Status	3.19	3.56
Community Development	2.60	4.31	Community Forestry	3.13	3.21
Transparency Average	2.58	4.06	Health Status	3.13	3.16
Participation Average	2.49	4.00	Irrigation Status	3.06	3.28
Seed Capital Fund	2.29	3.56	Education Status	3.06	3.22
District Line Agencies	2.09	3.25	Mothers' Club	2.63	3.43
VDC Fund to VOs	2.01	2.63	VDC Fund to VOs	2.63	2.01
Overall Average	3.51	3.80	Overall Average	3.80	3.51

Source: Banskota, K.; Sharma, B.; Neupane, I.; Gyawali, E.; and Pote, R., 1996. *Living Conditions of Households in Selected VDCs of Syangja*. Centre for Resource and Environmental Studies (CREST) for UNDP (Subject: RAS/94/500). Kopundole, Kathmandu, Nepal.

EDUCATING VISITORS

What visitors need to know

It is important to inform tourists about various things such as local environmental conservation policies and rules, local customs, acceptable social behaviour, minimum environmental impact codes, how to conduct themselves in religious places courtesies to observe in taking photographs and other matters showing respect for local values and culture. Information for tourist should be available about places they are visiting - the attraction, facilities and services. Tourist themselves also have obligation to seek information. On the whole the visitors information system should be designed and used in such a way that tourist should be conscious of how best to promote sustainable tourism in their travels.

Tourist need to be informed in various ways

Brochures

- Make them colourful, attractive and interesting
- Must allure visitors
- Must describe how reach the place, identify any special requirements such as reservations, permits, equipments etc
- Must outline cost, conditions and facilities available in and around the site or destination
- Must provide a map and list of regulations

Visitor Information Center

- Have a Visitor Information Center to display exhibits (photos, maps, diagrams, etc)
- Have as much information as possible of destinations and site being promoted through the Centre
- Have books, souvenirs etc on sale
- Preferable to have class or discussion session equipped with audio visual equipment

THE HIMALAYAN CODE OF CONDUCT

Camp Site

Remember that another party will be using the same camp site after you have vacated it. Therefore, leave the camp site cleaner than you found it.

Limit of Deforestation

Make no open fire and discourage others from doing so on your behalf. Where water is heated by using scarce firewood, use as little as possible. When possible, choose accommodation that uses kerosene or fuel efficient firewood stoves. You will help the cause greatly by taking with you some saplings and planting these on the trail.

In a Safe Place Burn Paper and Packets

Bury other waste paper and other biodegradable materials, including food. Carry back all non-biodegradable litter. If you come across other people's rubbish, remove their rubbish as well.

Keep Local Water Clean and Avoid Using Pollutants Such as Detergents in Streams or Springs

If no toilet facilities are available make sure you are at least 30m away from water sources and bury or cover wastage.

Plants Should be Left to Flourish in Their Natural Environment

Taking cuttings, seeds and roots is illegal in many parts of the Himalayas.

Help Your Guides and Porters to Follow Conservation Measures

Do not allow the cooks or porters to throw garbage in the nearby streams or rivers.

When Taking Photographs Respect Privacy

Ask permission and use restraint.

Respect Holy Places

Preserve what you have come to see, never touch or remove religious objects. Remove shoes when visiting temples and shrines.

Refrain from Giving Money to Children Since It Will Encourage Begging. A donation to a project, health centre, school is a more constructive way to help.

Respect for Local Etiquette Earns You Respect

Loose light clothes are preferable to revealing shorts, skimpy tops and tight fitting action wear. Hand holding or kissing in public are disapproved by local people.

The Himalayas may change you, please do not change them.

Adapted by Union International Des Association D= Alpinisme (U.I.A.A.).

Questions for Discussion

Session 1	Overview of Tourism
Session 2	Mountain Tourism Impacts
Session 3	Sustainable Mountain Tourism Development
Session 4	Planning and Management of Sustainable Mountain Tourism Development
Session 5	Technologies for Mountain Environment Management
Session 6	Promoting Community Participation in Mountain Tourism Planning
Session 8	Information Needs and Designing Surveys
Session 7	Participatory Planning
Session 9	Monitoring and Evaluation

Session 1: Overview of Tourism**Objective**

to provide an overview of tourism focusing on tourist flow, its origin, purpose etc and its contribution to the national economy

1. Review the importance of tourism in Nepal in general and in mountain areas in particular.
2. Why is understanding the demand side of tourism important for the host country?
3. In what way can the host country influence tourism demand? What do you think Nepal has been doing in this respect?
4. What do you think the 'Visit Nepal 1998' campaign is attempting to do?
5. What are the main reasons for tourists visiting Nepal?
6. What are Nepal's main tourism markets and how are they likely to change in the coming century?
7. Which tourist markets should Nepal focus on?
8. What are the important factors that influence tourists' expenditure and duration of stay?
9. What can be said about the quality of services being offered to tourists in the mountain areas?
10. Has the contribution of tourism to the Nepalese economy been encouraging?

Session 2 Mountain Tourism Impacts**Objectives**

Highlight the main impacts of mountain tourism

1. What is meant by mountain tourism?
2. What are its different forms?
3. How can mountain tourist be classified and what types of mountain tourists are more popular in Nepal?
4. What have been the major impacts of mountain tourism in mountain areas?

Environmental Issues

5. What are the principal environmental effects associated with mountain tourism?
6. How serious are these problems?
7. What are the main reasons for the observed negative impacts?
8. To what extent can the observed negative environmental impacts be attributed to tourism?
9. How do the negative environmental impacts affect mountain community's welfare?
10. Does the fact that mountain tourism is seasonal have any effect on the mountain environment?
11. How and why does environment play an important role in mountain tourism?

Economic Issues

12. How does the tourism development in mountain area help poverty alleviation?
13. What are the major direct the indirect economic impacts of tourism in the mountain areas?
14. What are the main impacts of tourism in mountain areas?
15. Which group do you think benefits more the mountain communities and in what ways?
16. Which groups has stronger negative impacts in mountain areas and why?
17. Who do mountain communities benefit from mountain tourism?
18. How does society bear costs of the negative impacts of mountain tourism?
19. What are some important reasons for the poor economic impacts of mountain tourism?
20. Are the linkages between tourism and mountain communities strong?
21. How can the economic impacts of mountain tourism be enhanced (linkage, leakage, tourist expenditure, duration of stay, seasonality).
22. Why do you mean by tourism multipliers and how they are related to leakages?

Sociocultural Issues

23. What have been the observed sociocultural impacts of mountain tourism?
24. Have these impacts been positive or negative? What has been learned?
25. How have women been affected by mountain tourism?

Policy and Institutional Issues

26. Do existing government policies on tourism give importance to mountain tourism?
27. What are the main impediments to the sustainable promotion of tourism in mountain areas? (List the main policy weaknesses and institutional bottlenecks).
28. What should be the role of government in overcoming these problems?
29. Are there any institutions responsible to mountain tourism development?
30. Do you think there should be such an institution in the government? Why?

Session 3 Sustainable Mountain Tourism Development

Objectives

Meaning of sustainable development and sustainable mountain development

To identify and emphasize the importance of HER as the important assets which are unique in the world and that many international visitors come to enjoy HER.

To demonstrate how mountain tourism can provide a strong stimulus to mountain community development

1. What are some of the significance of HER at the local, national and global levels?
2. What are the three key dimensions of sustainable development?
3. What is meant by sustainable mountain tourism development (SMTD) and what is the goal and objectives of sustainable mountain tourism development in the context of Nepal?
4. What are the guiding principles?
5. What is meant by HER?
6. What do we understand by saying that HER have economic value?
7. What are different types of value associated with HER in the context of mountain areas?
8. Why is carrying capacity important for achieving the goal of SMTD?
9. What do you mean by potential carrying capacity and what can be done to harness it?
10. What are the critical factors underlying the different dimensions of carrying capacity and how they are interrelated?
11. What factors influence how much change the host community and visitors are prepared to accept?
12. "Carrying capacity is a rather a dynamic and relative concept that varies according to the management objectives and standards." How can this be explained?
13. Why is it important to address mountain community and mountain tourism development simultaneously? Is this always possible?
14. How is carrying capacity influenced by regional, national, and global factors?
15. How is carrying capacity influenced by knowledge and technology?
16. What alternative measures are there to cope with the saturation of carrying capacity?
17. Since carrying capacity is difficult to measure, what alternative approach is there?
18. Review the three key dimensions of carrying capacity using examples from Annapurna, Lo Manthang, Phewa Lake and Syaphrubesi, based on the critical factors' approach.
19. Carrying capacity analysis is both an art and science. Explain this.
20. Why is it important to measure carrying capacity?

Session 4 Planning and Management of Sustainable Mountain Tourism Development

Session 4 Planning and Management of Sustainable Mountain Tourism Development

Objectives

To familiarize programme designers and implementors on basic essential knowledge in designing mountain tourism site and destination plans

To familiarize programme designers and implementors with different components of tourism products and provide an idea about how to carry out the feasibility studies necessary for mountain tourism development.

1. What are the necessary steps involved in planning and management of the tourism products?
2. Why is management of objectives important to achieve sustainable tourism development goal?
3. Why is it important to understand the planning scale at different levels for design and management of tourism for mountain community development?
4. What is a tourist product and why is it different from other market products?
5. Why is it important to develop all supply components of tourism simultaneously?
6. Why is EIA needed in development of tourist products and what are the basic steps involved in EIA?
7. What methods are generally used to identify the environmental impact in EIA?
8. How can local people be involved in EIA process?
9. What are the basic steps involved in carrying out financial and economic analysis in the development of tourist product (at the feasibility stage of EIA)?
10. What are relative strength and weakness of different measures (IRR, BCR, NPV) of project worth?
11. "An economically viable project may not be financially viable and vice versa." Explain.
12. What tourism products do you think can be developed in mountain areas? Please provide answers in relation to carrying capacity, linkages, feasibility.

Session 5 Technologies for Mountain Environment Management

Objective

Highlight the major negative impacts of mountain tourism on the environment and identify suitable technologies that help mitigate the negative impacts

1. How does the participatory approach differ from the conventional approach in project planning?
2. Why is community participation necessary in each stage of the tourism development project in mountain area? What are its merits?
3. What are some potential areas of community participation in mountain tourism development especially for the disadvantaged poor and women?
4. What are the major obstacles in promoting community participation in mountain areas?
5. What are some guiding principles of promoting community participation in tourism planning and management in mountain areas? How can participation be promoted (incentives)?
6. Why is grass root institutional building necessary for promoting the community participation?

Session 8 Information Needs and Designing Surveys

Objectives

To familiarize project managers with the different planning techniques and familiarize them with different information required for planning and developing mountain tourism.

1. What types of information (surveys) are needed for tourism planning and management at the destination and site level?
2. What is the importance of the different types of information?
3. Why is the inventory of HER important for planning and management decision-making?
4. Why is sample survey needed to be scientifically designed? And what are some critical criteria for the selection of a suitable technique?
5. What are the utilities of using participatory data collection tools? How can they be institutionalized?

READING MATERIALS

Objectives

To familiarize project managers with the importance and utility of monitoring and approach to developing a sound monitoring system.

1. How are monitoring and evaluation different and how are they related?
2. Why are they both essential for promoting sustainable mountain tourism?
3. What are the major impediments to ensuring effective monitoring and evaluation system in many development projects including mountain tourism?
4. How are indicators generally classified in logical framework of a project? Give an example of input process output effect and impact indicators of tourism development project?
5. What are some key indicators of monitoring linkage of mountain tourism with local economy?
6. Why is management objective important in monitoring carrying capacity in tourist destination?
7. Who should set the carrying capacity standards? Manager alone or all stake holders? Why?
8. Why is participatory monitoring important and what can be done to institutionalize such a system?

Banskota, K. and Sharma, S., 1993a. *Performance of the Tourism Sector*. ADP Series No. 4. Kathmandu, NIMON.

This study provides a comprehensive review of the literature and addresses a variety of issues on the issues related to tourism in Nepal. The study synthesizes various other studies and provides a comprehensive picture of Nepal's tourism industry and policy issues.

Additional

Banskota, K., Sharma, S., Neupane, L. and Crawell, B. 1995. *Evaluation of the Partnership for Quality Tourism Project*. Prepared for THE United Nations Development Programme, Centre for Resources and Environmental Studies (CRESO).

Nepal Nature Park, 1990. *Income and Employment Generation from the Tourism Sector in Nepal*. Kathmandu, Nepal, NPB.

Khadka, S.K., 1993. *Tourism and Economic Development in Nepal*. Ph.D. Dissertation, Development and Project Planning Centre, University of Bradford.

Session 2 – Mountain Tourism Impacts

Main

Banskota, K., Sharma, S., 1993a. *Mountain Tourism in Nepal*. In *Charters*. International Centre for Integrated Mountain Development, Discussion Paper Series No. ADP 93/7.

Chapter 4 – Mountain Tourism Impacts

Chakraborty, K. and Upadhyay, M., 1993b. *Impact of Rural Tourism on the Development, Income, and Employment in the Mahale Parkland Region 17, The Mahale Parkland Development Project*. Kathmandu, Department of National Parks and Wildlife Conservation, The Ministry's Government and Woodlands Management Institute.

This comprehensive study summarizes the impact of mountain tourism in terms of income, employment, land use, deforestation, etc. The study is based on comprehensive use of information. It was part of an overall study on the subject carried out by the Mahale Management Plan for the Mahale Parkland Region, Nepal and India.

Additional

Boyer, A.J. and Butskova, K., 1993. *Environmental Impacts of Back Country Tourism in the Alps of Europe*. In *World Heritage Places*. Bern: Swiss Federal Institute for Space, Earth and Environmental Sciences.

READING MATERIALS

Session 1 Overview of Tourism

Main

Banskota, K. and Sharma B., 1995a. *Mountain Tourism in Nepal: An Overview*. Kathmandu: ICIMOD. Discussion Paper Series No. MEI 95/7.

Chapter 2: On the Demand and Supply Side of Tourism

Chapter 3: On Mountain Tourism Development

Chapter 5: On Objectives and Policy

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Nepal Rastra Bank, 1990. *Income and Employment Generation from the Tourism Sector in Nepal*. Kathmandu, Nepal, NRB.

Khadka, K.R., 1993. *Tourism and Economic Development in Nepal*. Ph.D. Dissertation. Development and Project Planning Centre, University of Bradford.

Session 2 Mountain Tourism Impacts

Main

Banskota, K.; Sharma, B., 1995a. *Mountain Tourism in Nepal: An Overview*. International Centre for Integrated Mountain Development, Discussion Paper Series No. MEI 95/7.

Chapter 4: Mountain Tourism Impacts

Banskota, K. and Upadhyay, M., 1991b. *Impact of Rural Tourism on the Environment, Income, and Employment in the Makalu-Barun Area*. Report 17. The Makalu Barun Conservation Project. Kathmandu, Department of National Parks and Wildlife Conservation, His Majesty's Government and Woodlands Mountain Institute.

This comprehensive study summarizes the impact of mountain tourism in terms of income, employment, land use, deforestation, etc. The study is based on secondary sources of information. It was part of an exercise the authors carried during the drafting of the *Management Plan for the Makalu Barun National Park and Conservation Area*.

Additional

Byers, A.C. and Banskota, K., 1993. 'Environmental Impacts of Back-country Tourism on Three Sides of Everest'. In *World Heritage Twenty Years Later*. Switzerland and Cambridge U.K.: IUCN.

Case histories of three protected areas in the vicinity of Mt. Everest are reviewed focussing on contemporary fuelwood and refuse disposal problems encountered in the approaches to the Everest and Makalu base camps. Included are discussions of Sagarmatha National Park, Nepal (established in 1976), Rongbuk glacier area of Qomolangma Nature Preserve, Tibetan Autonomous Region (est. 1988), and Makalu Barun National Park and Conservation Area, Nepal (est. 1991). Regardless of current conditions, however, it is suggested that all three sites will continue to face chronic problems of energy (fuelwood) supply, concurrent landscape degradation, and garbage disposal alternatives. Existing and proposed solutions to these problems are discussed.

Gurung, H., 1990. *Environmental Management of Mountain Tourism in Nepal*. Paper presented at an ESCAP Symposium on Tourism Promotion in the Asian Region. Hangzhou, China, 1990.

This study examines the damage caused by tourists to the natural environment in the mountain areas of Nepal. It assesses the carrying capacity of selected mountain areas and identifies possible environmental protection measures such as regulation, regional dispersion, energy supply, pollution control, management, and finance. Finally, the study suggests an action programme to quantify the number of tourists that can be catered to within the carrying capacity of mountain areas.

Robinson, D.W., 1993. *Sociocultural Impacts of Mountain Tourism on Nepal's Sagarmatha (Everest) World Heritage Site: Implications for Sustainable Tourism. In World Heritage Twenty Years Later* compiled by Jim Thorsell. Switzerland and U.K., IUCN (Gland) and Cambridge.

Nepal is among the most popular of adventure tourism destinations. However, while international tourism in Nepal is enjoying unprecedented growth, serious concerns are being expressed about the changes brought by long term, negative sociocultural and environmental impacts of mountain tourism in this country. This paper reports on the perceptions and attitudes of western tourists on the impact of their behaviour on the local mountain people and mountain environment of developing countries. The major conclusion of the study is that tourism significantly improved the quality of life of the Sherpa people, that the volume of tourists should increase, and there is no need for increased government-imposed controls to lessen impacts.

Sharma, P., 1989. *Assessment of Critical Issues and Options in Mountain Tourism in Nepal*. Kathmandu: ICIMOD.

This study addresses the critical issues related to mountain tourism. It argues that a big problem in mountain tourism is the lack of an organization and management system that is able to deal adequately with mountain tourism. There is yet no route policy. The trekking agencies are run not by professionals knowledgeable about the broader implications of mountain tourism. Enhancement of organizational ability at the local level has been a completely neglected aspect in the promotion of mountain tourism in Nepal. With the exception of some innovative work in the Annapurna region, participation of the concerned community in activities and decision-making regarding tourism is virtually absent. The study concludes that mountain tourism can be an important source of off-farm employment only if a number of complementary activities are undertaken. The success of mountain tourism depends on the push it can provide and the conditions it can create for sustainable development of mountain areas. In Nepal, tourism has not been seen in terms of these multifaceted linkages and coordinated packages of location/region-specific policies and programmes.

Sharma, P.R., 1995. *Culture and Tourism, Defining Roles and Relationships*. MEI Discussion Paper Series 95/2. Kathmandu: ICIMOD.

This was a study commissioned by ICIMOD to analyze the impacts of mountain tourism

on culture. The study synthesizes reports from various past studies and argues that tourism may not be helpful in preserving cultural diversity as it leads to conspicuous consumption. Tourism brings prosperity and can help preserve culture in a more static, appreciated, or valued way than preserving it aesthetically. Local people need to find their own terms to deal with tourism.

Session 3 Sustainable Mountain Tourism Development

Main

Banskota, K. and Sharma, B. *Tourism for Mountain Community Development: Case Study Report on the Annapurna and Gorkha Regions of Nepal*. MEI Series No 95/11. Kathmandu: ICIMOD.

Chapter 2: Sustainable Tourism Development: Methodological Considerations

Chapter 3: Annapurna Conservation Area and the Annapurna Conservation Area Project

Chapter 4: Impact and Implications of Tourism and Carrying Capacity in the Annapurna Region

Banskota, K. and Sharma, B. *Capacity Building for Mountain Tourism and Management: Study Methodology and Case Study Reports*. Centre for Resource and Environmental Studies (CREST) for International Centre for Integrated Mountain Development (ICIMOD), 1997.

Banskota, K.; Sharma, B.; Sharma, U.; and Rijal, A. *Royal Chitwan National Park After Twenty Years: An Assessment of Values, Threats and Opportunities*. Study Submitted to the King Mahendra Trust for Nature Conservation by CREST, February 1997.

This study is the first of its kind in the context of Nepal's national parks. The study analyzes the three major stakeholders of the park, namely households, the visitors, and the lodges. Although the park has been able to generate benefits, there still remains some nagging problems which the park authority has not been able to address effectively. Because of increasing demand for firewood and fodder, the pressure on the park is increasing. There is increasing incidence of livestock degradation by wildlife. Government polices are found to be weak in addressing the problems. Despite the problems, there is evidence that visitors are willing to pay more to enter the Park. Recommendations have been suggested to mitigate the problems.

Sharma, P., 1995. *Tourism for Local Community Development in Mountain Areas: Perspectives, Issues and Guidelines*. *Proceedings of the Hindu Kush-Himalayan Regional Workshop on Mountain Tourism for Local Community Development*. International Centre for Integrated Mountain Development (ICIMOD).

This report synthesizes the studies conducted in the member countries (India, Pakistan, and Nepal) on mountain tourism for local community development. It then distills a set of guidelines for sustainable mountain tourism development on three major areas, namely: policy, linking tourism with local community development, and establishing monitoring parameters for assessing impacts. In addition the report also provided overviews of mountain tourism policy on other ICIMOD member countries namely, Bangladesh, Bhutan, China, and Myanmar.

Shrestha, T.B., 1995. *Mountain Tourism and Environment in Nepal*. International Center for Integrated Mountain Development, Discussion Paper Series No. MEI 95/4.

This paper makes an attempt to present a framework to assess carrying capacity of tourism in mountain areas. Its main focus is to address one dimension of carrying capacity, namely natural or environmental based on communicable indicators. These communicable indicators express qualitative changes in quantitative dimensions of different aspects of nature.

Additional

McNeely, J.A., 1988. *Economic and Biological Diversity: Developing and Using Economic Incentives to Conserve Biological Resources*. Gland: IUCN.

This book provides an excellent exposition to the economics of biological diversity. It develops economic principles to address biological resources in a simple and straightforward manner. Case studies selected from a wide range of issues provide an understanding of how economic tools can be used to address resource conservation and conservation of biological resources.

Winpenny, J., 1991. *Values for the Environment: A Guide to Economic Appraisal*. London Overseas' Development Institute.

The book provides a state of the art methodology and practice of economic appraisal of environmental effects. It covers a broad range of topics such as wildlife, wetlands, biodiversity, watersheds, forests, etc. It provides a comprehensive appraisal of the different techniques used to value environmental commodities. It provides useful case studies as well.

Serageldin, Ismail, 1996. *Sustainability and the Wealth of Nations: First Steps in an Ongoing Journey*. Environmentally Sustainable Development Studies and Monographs Series No. 5. ESD, The World Bank, Washington D.C.

Session 4 Planning and Management of Sustainable Mountain Tourism Development**Main**

Gunn, C.A., 1994. *Tourism Planning: Basics, Concepts, Cases*. Washington D.C.: Taylor & Francis.

This book is a handbook for professionals interested in tourism planning. The book provides basic concepts and gives numerous examples in designing sites and destinations. It discusses sustainable tourism development at length. However, the examples in the book concentrate on more developed countries.

Additional

IUCN, The World Conservation Union, 1996. *EIA Training Manual for Professionals and Asian Managers*. Nepal Regional Environmental Assessment Programme. IUCN.

This training manual provides a step by step guideline for EIA. The concepts introduced are generally followed by good examples from Nepal and hence the manual is easy to follow. With the increasing importance given to EIA, this manual is a must for all those working in the area of development.

Session 5 Technologies for Mountain Environment Management**Main**

Manual on Technology with Implications for Mountain Tourism, 1996. Centre for Rural Technology for International Centre for Integrated Mountain Development.

Additional

Banskota, K. and Sharma, B., 1996. *Impact of Alternative Energy Technology in Reducing Pressure on Forest Resources in Ghandruk*. Centre for Resource and Environmental Studies (CREST) for International Centre for Integrated Mountain Development (ICIMOD).

Banskota, K. and Sharma, B., 1997. *Overview of the Nepalese Energy Sector*. Centre for Resource and Environmental Studies (CREST) for the International Centre for Integrated Mountain Development (ICIMOD).

Water and Energy Commission Secretariats (WECS), 1994. *An Alternative Energy Technology Assessment, Perspective Energy Plan (PEP)*, Supporting Document No. 8, His Majesty's Government of Nepal, Kathmandu.

Session 6 Promoting Community Participation in Mountain Tourism Planning

Session 7 Participatory Planning

Session 8 Information Needs and Designing Surveys

Main

The World Bank. *World Bank Source book on Participation: Environmentally Sustainable Development Environmental Department, December 1994.*

Prepared for World Bank task managers in supporting the participatory process in economic and social development, this source book seeks to persuade development practitioners to use participatory approaches in his or her professional work. Chapter 1 provides examples of how the World Bank used or helped others to use the participatory approaches in bank supported operations through the work of three years of bank wide learning groups on participatory development. Drawing largely from vast experiences in participatory approaches, Chapter 2 provides clear guidelines to managers through various steps of participatory planning and decision making. Chapter 3 discusses some of the common barriers to the participation of disadvantaged groups of stakeholders - the poor - and discusses ways and means to enable them to participate. Finally, it also contains a rich annexure describing several participatory techniques used in chapter one examples.

Narayan, Deep, 1995. *The Contribution of People's Participation: Evidences from 121 Rural Water Supply Projects*. Environmentally Sustainable Development Occasional Paper Series No 1.

This study highlights the importance of local participation and social organization in the context of 121 successful rural water supply projects based on the systematic quantitative and qualitative analysis funded by many different agencies throughout the developing countries. The results of the study have profound implications for all development practitioners in planning and implementing development programmes using the participatory approach. Among the lessons learned from this study are: a) obtaining local participation in decision making is a sound business practice and special measures are needed to ensure the participatory process; b) participation can happen only in a right policy environment in which user demand is primary; and c) even when participation is assured in planning, agencies (sponsors) must listen and learn as projects are implemented.

Jacob, Susan, 1996. *Social Assessment and Participation: Methods and Tools*. Social Policy and Resettlement Department, The World Bank.

This reference guide is designed to answer the practical question about social assessment and participation: Where do we start and how to proceed? Social assessment as developed by World Bank staff provides an integrated framework for incorporating participation and social analysis into bank operational and analytical work. This document is intended for technical specialists who help managers design social assessments and participatory aspects of the World Bank projects. The study first describes the conceptual framework designed to assess the participatory process. Given the different levels of participation or stakeholder involvement in the project cycle, the documents describe a series of participatory methods and tools that are commonly used in the method.

Okkley et Al, Peter, 1991. *Project with People: The Practice of People Participation in Rural Development*, ILO World Employment Program. Oxford and IBH Publishing Co. Private Ltd.

The books illustrate a wide range of experiences in which genuine attempts are made to promote participation by the people with the broad framework of development projects. The author builds up elements of strategy and methodology for promoting and evaluating participation. While reflecting the diversity, of interpretation the analysis contributes significantly to an understanding of the steps and instruments needed to turn participation into a live momentum. This book will provide guidance to development practitioners on how to move forward in promoting people participation in development projects.

Banskota, K.; Sharma, B.; Neupane, I.; and Gyawali, P.; 1995. *Evaluation of the Partnership for Quality Tourism Project*. Prepared for United Nations Development Program, Centre for Resource and Environmental Studies.

Undertaken for UNDP with the objective of assessing its pilot experiment in Swayambhu (urban heritage site) and Syaphrubesi (village tourism), this study provides an excellent reference guide to programme managers to understand and assess the critical factors (both success and failure) underlying the sustainability of the pilot tourism activities carried out in the two places. The evaluation team has made attempts to address the issues of sustainability fairly rigorously based on UNDP guidelines for Sustainable Human Development (SHD). The project design concept, implementation strategy as well as participatory local institutions have all been dealt with in addressing social experiment, social innovation and social learning - the crucial dimensions of sustainability under the SHD approach. The major conclusion of the study is that despite the overall progress made by the project in its first phase, there are important issues that need to be addressed in the second phase in order to propel the pilot activities towards a sustainable path.

Additional

Chamber, R., 1992. *Rural Appraisal Rapid and Participatory*: Institute of Development Studies Discussion paper 311 Sussex.

Theis, J. and Grady, H., 1991. *Participatory Rapid Appraisal for Community Development*. London, Save the Children Fund.

Session 9 Monitoring and Evaluation

Valadez, J. and Bamberger, M., 1994. *Monitoring and Evaluating Social Programs in Developing Countries: A Handbook for Policy Makers, Managers, and Researchers*. EDI Development Studies. Washington D.C.: The World Bank.

Prepared for a broad audience of policy makers, project managers, trainers, and researchers, this book provides a comprehensive review of the available techniques for monitoring and evaluating social programmes in developing countries. The book especially discusses such topics as methods of evaluating socioeconomic projects, methods of participatory and rapid assessments, quasi experimental designs, the relationship between qualitative and quantitative evaluation, stakeholder analysis, sustainability analysis, and the cost effective method of estimating project impacts. The book also identifies potential beneficiaries and their information needs and discusses the role of NGOs in evaluating development projects.

Banskota, Kamal; Sharma, Bikash; Neupane, Iswori; Gyawali, Prithvi; and Pote, Radhakrishna; 1996. *Living Conditions of Households in Selected VDCs of Syangja*. Centre for Resource and Environmental Studies (CREST) for UNDP (Subject: RAS/94/500). Kopundole, Kathmandu, Nepal.