

## Mountain Tourism Development

### Introduction

This chapter deals with different aspects of mountain tourism. It argues that the development of tourist facilities is not a sufficient basis for mountain tourism development. 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 harbour. Efforts to develop tourism in the mountains without duly addressing the mountain characteristics can do more harm than good to the mountain environment and its economy.

### Tourism in Mountain Areas

#### *Trekking Tourism*

Although there is no one accepted way of classifying different types of tourism, one could classify tourism into four general types, namely, leisure tourism (shopping, general observations, etc), recreational tourism (mountaineering, fishing, trekking, rafting, etc), cultural tourism (archeology, historical sites), and eco-tourism (bird and wildlife watching, photography, scenery, scientific tourism, etc). If so, mountain tourism would be composed of recreational tourism, cultural tourism, and eco-tourism. Recently, the concept of eco-tourism has gained much ground (Denman 1992; Singh 1992; Moore and Back 1992).

In the context of Nepal, however, mountain tourism includes trekking tourism and mountaineering tourism, with the former being the more popular. Rafting too is gaining popularity. All those wishing to trek must obtain trekking permits regardless of the area in which they wish to trek. Trekking tourism is, simply, trekking in a mountain area for more than a night. Hiking refers to trekking without an overnight stay. The most popular areas in the mountain regions visited by trekkers are the Annapurna, Langtang, and Sagarmatha regions (Map 1). The Sagarmatha and Langtang regions are in fact national parks and the Annapurna Region is a Conservation Area. The Makalu Region encompasses both a national park (core area) and a Conservation Area (buffer zone). Aside

from these areas, all national parks (including Sagarmatha, Langtang, and Makalu) are also opened for trekking tourism. There are other trekking areas that have been opened in the mountain regions such as the Kanchenjunga, Manaslu, Mustang, and Dolpo regions.

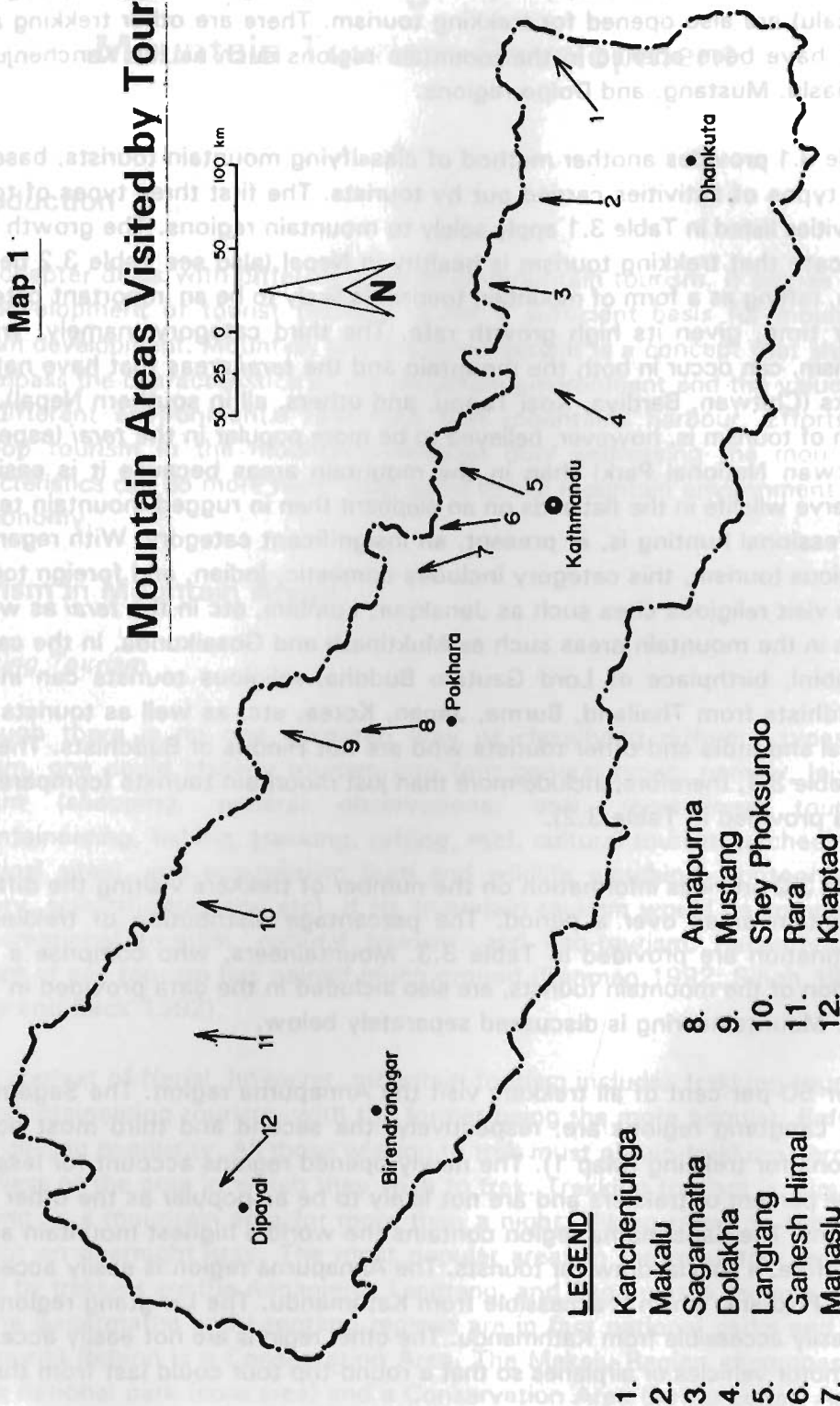
Table 3.1 provides another method of classifying mountain tourists, based on the types of activities carried out by tourists. The first three types of tourist activities listed in Table 3.1 apply solely to mountain regions. The growth rates indicate that trekking tourism is healthy in Nepal (also see Table 3.2 below). Also, rafting as a form of mountain tourism is likely to be an important category over time, given its high growth rate. The third category, namely, wildlife tourism, can occur in both the mountain and the *terai* areas that have national parks (Chitwan, Bardiya, Kosi Tappu, and others, all in southern Nepal). This form of tourism is, however, believed to be more popular in the *terai* (especially Chitwan National Park) than in the mountain areas because it is easier to observe wildlife in the flatlands on an elephant than in rugged mountain terrain. Professional hunting is, at present, an insignificant category. With regards to religious tourism, this category includes domestic, Indian, and foreign tourists who visit religious sites such as Janakpur, Lumbini, etc in the *terai* as well as sites in the mountain areas such as Muktinath and Gosaikunda. In the case of Lumbini, birthplace of Lord Gautam Buddha, religious tourists can include Buddhists from Thailand, Burma, Japan, Korea, etc, as well as tourists from Nepal and India and other tourists who are not Hindus or Buddhists. The data in Table 3.1, therefore, include more than just mountain tourists (compare with data provided in Table 3.2).

Table 3.2 provides information on the number of trekkers visiting the different mountain areas over a period. The percentage distribution of trekkers by destination are provided in Table 3.3. Mountaineers, who comprise a small portion of the mountain tourists, are also included in the data provided in Table 3.2. Mountaineering is discussed separately below.

Over 50 per cent of all trekkers visit the Annapurna region. The Sagarmatha and Langtang regions are, respectively, the second and third most popular regions for trekking (Map 1). The newly opened regions account for less than three percent of trekkers and are not likely to be as popular as the other three regions. The Sagarmatha region contains the world's highest mountain and is, therefore, a special draw for tourists. The Annapurna region is easily accessible from Pokhara, which is accessible from Kathmandu. The Langtang region, too, is easily accessible from Kathmandu. The other regions are not easily accessible by motor vehicles or airplanes so that a round-trip tour could last from three to

Map 1

# Mountain Areas Visited by Tourists



four weeks, time not often available to tourists. Thus, it is unlikely for other regions to equal the three regions in popularity in the near future, unless the supply side of trekking tourism in these areas is developed to attract a larger number of tourists. Other tourist areas in the mountains are not protected areas, but the number of tourists is curtailed by higher trekking permit fees and an annual quota system.

### *Group vs Individual Trekkers*

Mountain tourists can also be classified into three different groups, namely, independent trekkers (FITs), group trekkers, and mountaineers. 'Independent trekkers' are those who carry their own backpacks or hire a guide/porter to assist them and eat and sleep in local lodges or 'tea houses.' Independent trekkers travel almost exclusively in the Solukhumbu, Annapurna, and Langtang regions where lodges and food are easily available. Group trekkers come on a scheduled trip or join up with friends for a customised, self-contained trek, organised by an overseas' adventure travel company or with a Kathmandu-based trekking agency. The full service, or 'inclusive' package, includes all camp equipment such as sleeping bags, dining and toilet tents, cooking gear, three meals a day, guides, cooks, and porters. Group trekkers, being self-sufficient, can travel into wilderness areas and away from villages as long as there is water and a place to pitch tents (Lama 1991; Lama and Sherpa 1994).

Each of the three groups has 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 has implications on the local economy (to be discussed later). Published time series' information on the volume of group and individual trekkers visiting mountain areas in Nepal was not available before to 1992. The information presented in Table 3.4 indicates that the distribution of group tourists and FITs vary 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 over group trekkers. In other parks and areas less accessible, group trekkers constitute a majority.

### *Mountaineering Tourism*

Mountaineering tourists can be classified into two categories, namely, those who climb peaks above 6,000m and those who climb peaks below 6,000m. Permits are required to climb mountain peaks of any altitude. For peaks above

6,600m, permits have to be acquired from the Ministry of Tourism, and, for peaks below 6,600m, permits are issued by the Nepal Mountaineering Association.

Mountaineering is a hard and strenuous activity, requiring a prolonged stay, even up to several months. Because of its very high concentration of the highest peaks, the Nepal Himalaya constitute the ultimate and most challenging arena for mountaineering. Nepal has thus become one of the most popular areas for mountaineering expeditions since 1949. As more peaks have been steadily opened up, there has been an increase in the number of climbers as well. Table 3.5 provides information on the number of mountaineering teams, based on permits issued by the Ministry of Tourism.

There are 84 peaks in various mountain ranges from east to west opened for mountaineering. Eight peaks in the far-western region were opened in the spring mountaineering season of 1993, with a view to decongesting such activities in the eastern region and to distributing them evenly throughout the country.

#### **Royalties**

The royalties for climbing peaks were as follows (in equivalent Nepalese rupees).

FY 2040-41 (1984)

(1) Everest	Rs. 50,000
(2) Other 8,000m peaks	Rs. 40,000
(3) 7,501m - 8,000m peaks	Rs. 30,000
(4) 6,601m - 7,500m	Rs. 20,000
(5) 6,600m up to	Rs. 10,000

A compound interest rate of 10 per cent per annum was levied each year on the stipulated fee until 2048-5-3 (1992). From September 1992, a new rate in US dollars was introduced.

Peaks	For expedition including up to 9 members	For each additional member
8,000m above (except Everest)	US\$ 8,000	US\$ 800
7,501m - 8,000m	US\$ 3,000	US\$ 400
7,001m - 7,500m	US\$ 2,000	US\$ 300
6,501m - 7,000m	US\$ 1,500	US\$ 200
below 6,501m	US\$ 1,000	US\$ 100



For Mt. Everest, US\$ 10,000 was levied for a period of two years only. It was hiked to US \$ 50,000 a year in retrospect in autumn 1992 and took effect from autumn 1993. The government stipulated that this unprecedented hike in royalty is to lessen pressure and conserve the environment around Mt. Everest.

Moreover, a new garbage management rule in the Khumbu area makes it mandatory for all mountaineering teams to carry down biodegradable litter to the nearest village, or to Kathmandu to a specified agency in case of recyclable litter. Certain other waste items such as used batteries, oxygen cylinders, and used equipment are categorised as items that have to be reexported.

For teams attempting to climb any peak in Khumbu, it is mandatory to deposit from US \$ 2,000 for peaks less than 8,000m to US \$ 4,000 for Mt. Everest with the Ministry of Tourism. This is to ensure that all regulations pertaining to garbage management are complied with. Upon conclusion of the expedition, a team that complies with the provision is entitled to reclaim the deposit in full. For supervision and monitoring of the entire mountaineering activities, the Ministry of Tourism deputs liaison officers with each expedition team.

## **Mountain Tourism Development**

Although mountain tourism development is assumed to have started with mountaineering, there is no concept of mountain tourism development in Nepal. As tourists began to visit mountain areas, local people responded to meet their demands, and these 'services' appear to have been endorsed as tourism and mountain development. In newly opened areas too, development may be expected to come about by allowing in tourists and encouraging the development of infrastructure that facilitates tourists. Such a state of affairs appears to have been the experience of areas like the Swiss Alps and Himachal Pradesh (Messerli 1987; Singh 1992; Kleinschmidt and LaDow 1992; Healy 1992).

Tourism development and mountain development must be seen as different concepts that complement one another. In certain regions of the mountains, tourism can play a leading role in the area's development; in others, tourism may not play a leading role. It is, therefore, essential to assess the mountain environment resources in order to integrate mountain development and tourism development so that a larger number of people can benefit while the mountain environment remains protected. Mountain environmental resources are meant to include clean air, watersheds, biological diversity (genes, species, and ecosystems), scenic beauty, cultural heritage, human resources, and renewable resources such as firewood, fodder, and many more found in the mountains.

The Sagarmatha region has been a tourist area ever since Mt. Everest was climbed in 1953. Thousands of tourists from all over the world visit the region annually. Local people have responded to their needs for food, shelter, and energy. A similar development has occurred in the Annapurna and Langtang regions. In the Annapurna region, some effort has been made to integrate local and tourism development through the Annapurna Conservation Area Project (ACAP). In general, the lack of a concerted effort to define and link the two types of development has resulted in the overall degradation of the mountain environment, as the next chapter will highlight.

Perhaps because it has never been acknowledged, this state of affairs has not changed. It is generally assumed that opening new areas in the mountains will result in local development (whatever it means), but it is difficult to expect that such development will occur in every area opened to tourism. The Makalu, Rara, Khaptad areas, among others, though opened many years ago, are severely constrained by the accessibility factor and have, thus, not had a larger number of tourists. The other areas (Manaslu, Kanchenjunga, Dolpo, and Upper Mustang), recently opened for restricted tourism (i.e., numbers are controlled), also suffer from similar constraints. Local people expecting tourism to bring benefits to their area have, however, failed to see how this will be achieved. The development of some basic infrastructure alone will not result in tourism development in mountain areas (IUCN 1993), contrary to what is often believed and recommended.

When new mountain areas are opened to tourists, no effort is made to integrate tourism with local development, or to include the needs of local people (Upreti 1985; Kharel 1993 ; Sherpa 1988; Stevens and Sherpa 1993). Often some infrastructure is developed to encourage tourists but the needs of local people are not adequately addressed. In the Manaslu region, for example, local people are at a loss as to how they can benefit from tourism.

Mountain and tourism development has to be considered in the context of the natural environment and the area's natural resources. Tourism development has to be integrated with mountain development so that a large number of mountain people benefit from it.

There are two exceptions to what is generally a discouraging situation-the Annapurna area and the Makalu-Barun area (Bunting 1985; Stevens et al. 1993a; Shrestha et al. 1990). Both areas were opened to tourism prior to the development of any plans. The efforts of ACAP in the Annapurna area have been encouraging, but a detailed evaluation of this project remains to be

conducted to fully understand its benefits to mountain and tourism development. In the case of the Makalu Area, the Makalu Barun National Park and Conservation Area Project (MBNPCAP) is still in its initial stages of implementation and tangible results have yet to be observed. In the other older areas, such as Sagarmatha and Langtang, problems continue in spite of the efforts made (Byers and Banskota 1993; Robinson 1993; Lama and Sherpa 1994; Upreti 1985; Kharel 1993). Even in the national parks, where tourism is an important activity, a comprehensive concept of mountain tourism is still lacking (see the boxes on pages 44, 45, and 46).

## **Mountain Environment**

The existing approach to mountain tourism development has failed to benefit a wide area and to achieve sustainable mountain development (Keinschmidt and LaDow, 1992; Shah and Panday 1992; Moore and Back 1992; Byers and Banskota 1993; Stevens et al. 1993b; Healy 1992). In order to develop a concept of mountain development in which tourism has a role, it is first essential to identify the importance of a mountain area in terms of its resources and their value from a local, national, and an international perspective. Clean air, watersheds, biological diversity (genes, species, and ecosystems), scenic beauty, cultural heritage, human resources, and renewable resources such as firewood, fodder, and many more, found in the mountains, may all be called environmental resources. Clearly, Nepal abounds in these environmental resources; some of them form the basis for mountain tourism. These resources have immense value to present-day mankind as well as to future generations. Whenever an individual or a group derives satisfaction or fulfills a need from something, value is said to be generated. Economic value arises when satisfaction is derived from consuming resources directly or indirectly. The economic value of the mountain environmental resources is believed to be far in excess of what is currently realised (McNeely 1988; Winpenny 1991; Wells 1993).

Despite the abundance and potential value of the resources found in the mountain areas, their inhabitants lead subsistence lives. A large portion of the benefits are not retained in these areas but accrue to people and places far away. The mountains are a store of unique environmental resources that have no close substitutes. Some important reasons for conserving the environmental resources of Nepal's mountains are given below (Thorsell and Harrison 1993).

1. The mountain environment provides a home to over 10 million people with a rich, diversified cultural heritage who depend on the environmental resources for their livelihood.



2. For centuries, these people have managed the environmental resources; thus, they possess a wealth of human traditions that can provide solutions to the conservation of these environmental resources. Also, these people have a vast knowledge of the different values of a wide variety of endemic plants.
3. Mountain environments are the stronghold for many endemic and threatened species whose potential value to mankind may be enormous.
4. Mountain areas provide aesthetic value; more recently, environmental resources have been found to have high recreational value.
5. Mountains are highly fragile and unstable where human disturbances lead to environmental degradation.
6. Mountain environments have immense downstream values in terms of soil erosion control, watershed protection, and hydropower generation.

Since the mountain environment is characterised by a sensitive ecology, with meagre tolerance and limited carrying capacity, mountain experts have long stressed the need to develop a model of mountain tourism that is compatible to the overall objective of promoting mountain development that is in harmony with the mountain environment. A key to achieving this goal is the need for community involvement in all the conservation and development processes. Tourism development in the mountain areas must be able to provide increased income and employment to a large number of people. The area's production potential, based on its resources, must be assessed to develop new production units with appropriate technology that should be linked to other sectors. Also, the community's basic needs must be addressed. New skills and training are required. Environmental education must be an important part of this overall development. The area's resources must be valued in terms of their local, regional, and international benefits, and ways and means must be explored to internalise these benefits to ensure sustainable mountain and tourism development.

## **Protected Areas in the Mountain Environment and Conflicts**

### *Protected Area*

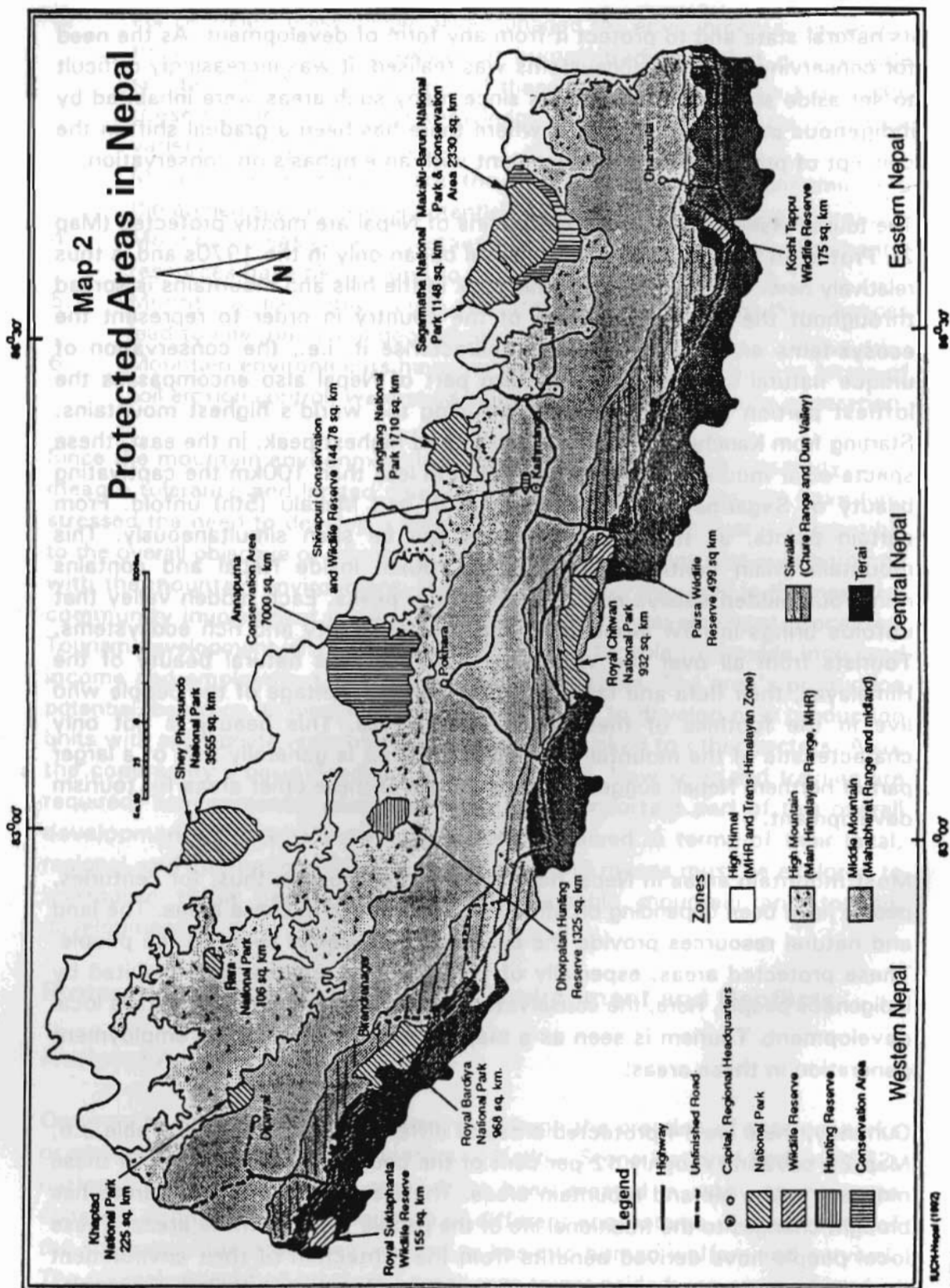
One way to conserve the environment is through the creation of national parks or protected areas. Since the creation of Yellow Stone National Park in 1872, national parks or protected areas have been created in many countries to conserve or protect a wide spectrum of different ecosystems. Conservation of the ecosystem has now been realised as basic to human welfare and survival. The original concept of protected areas was to set aside huge areas of land in

its natural state and to protect it from any form of development. As the need for conserving different ecosystems was realised, it was increasingly difficult to set aside such wilderness areas since many such areas were inhabited by indigenous people - as in Nepal, where there has been a gradual shift in the concept of protected area management with an emphasis on conservation.

The tourist-visited areas in the mountains of Nepal are mostly protected (Map 2). Protected area management in Nepal began only in the 1970s and is thus relatively new. The protected area network in the hills and mountains is spread throughout the east to the west of the country in order to represent the ecosystems and biodiversity that characterise it, i.e., the conservation of unique natural systems. The northern part of Nepal also encompasses the loftiest portion of the Himalayas, including the world's highest mountains. Starting from Kanchenjunga, the world's third highest peak, in the east, these spectacular mountains extend west, and in less than 100km the captivating beauty of Sagarmatha (1st), Lhotse (4th), and Makalu (5th) unfold. From certain points, all these world towers can be seen simultaneously. This mountain chain continues west some 700km inside Nepal and contains numerous hidden valleys and towering snow peaks. Each hidden valley that unfolds brings in new wonders of spectacular beauty and rich ecosystems. Tourists from all over the world are drawn by this natural beauty of the Himalayas, their flora and fauna, and the cultural heritage of the people who live in the foothills of these mighty Himalayas. This beauty is not only characteristic of the mountain protected area but is generally true of a larger part of northern Nepal, suggesting the potential of these other areas for tourism development.

Most mountain areas in Nepal have soils of poor quality; thus, for centuries, people have been depending on other resources found in these areas. The land and natural resources provide the basis for subsistence living to the people. These protected areas, especially of the mountain regions, are inhabited by indigenous people. Here, the conservation of the environment also entails local development. Tourism is seen as a major source of income and employment generation in these areas.

Currently, there are 14 protected areas of different status in Nepal (Table 3.6, Map 2), covering roughly 12 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 life of the people living in these areas. These local people have derived benefits from the protection of their environment though, at the same time, conflicts have also arisen between Park authorities



and tourism (Shrestha et al. 1990; Sherpa et al. 1986; Stevens and Sherpa 1993; Yonzon 1993). In Nepal's case, protected area management is carried out by the Department of National Parks and Wildlife Conservation (DNPWC).<sup>1</sup>

### *Khaptad National Park<sup>2</sup>*

Gazetted in 1985, this park protects the unique ecosystem of the western mid-mountain ecosystem and represents religious significance. Because the area is sparsely populated, major conflicts between people and park have not arisen. Conflicts in seasonal grazing are a major problem. A buffer zone concept has been suggested to lighten this pressure. Tourism, virtually non-existent now, has potential for development.

### *Langtang National Park*

This was the first national park to be gazetted in the mountain region in 1976. This park lies on the crossroads of the more humid eastern Himalayas and the drier west Himalayan region. The flora and fauna are thus mixed. The representative value of this park is at higher elevations. There are a number of endangered and rare biological species protected in the park. Currently, it is the third largest park in the mountains that attracts tourists. It also has religious significance because of the Gosaikunda lake. There are opportunities to conduct biological research at higher altitudes. The cultures of the Tibetan and the Tamang people are pronounced among park residents. Conflicts related to access to resources by local people living inside and outside the park emerged when the park was created and continues to the present day (Kharel 1993). There are limited rights and concessions to local people. Poaching of wildlife species is also frequently reported (Yonzon 1993).

### *Lake Rara National Park*

This park was gazetted in 1976. It protects the mid-western ecosystem and provides beautiful scenic beauty around Lake Rara. It protects endangered species, e.g., the snow leopard and the musk deer. Conservation education to local people and a revised management plan have been recommended. Currently, tourism is insignificant in this national park.

---

1 See Kharel (1993) for details on the evolution of the DNPWC.

2 Only national parks will be briefly discussed here since Shivapuri and Dhorpatan Hunting Reserve have been created with specific purposes. Furthermore, there is little information on these protected areas. Also, the national parks in the *terai* will not be discussed.



### *Shey Phoksumdo National Park*

This park protects the unique ecosystem of a Trans-Himalayan region. It is the habitat of threatened species, e.g., the snow leopard, musk deer, wolf, and wild dog. Natural assets of the park are the turquoise Lake Phoksumdo, crystal clear mountains, and the Shey Gumpa. Tourism is insignificant.

### *Sagarmatha National Park*

This park is famous for Mt. Sagarmatha, the world's highest peak, and a number of other peaks above 8,000m. It is the home of the *Sherpa* people. The entire park is situated at an altitude of over 3,330m. The Tengpoche Monastery and a number of other monasteries give the park a high cultural value. In the park are found the habitats of endangered species, e.g., the musk deer and the Himalayan bear (see Box 2).

### *Annapurna Conservation Area*

This area is a conservation area where a "people participatory approach" is being carried out to develop the area and tourism (see Box 1). The development focusses on a wide variety of things. Nature conservation and tourism development are simultaneously addressed and the efforts so far are considered to be successful. It contains the famous Mt. Machhapuchare and the Annapurna Range. The area supports some rare species such as the snow leopard, musk deer, red panda, and blue sheep. Over a hundred variety of orchids and many endemic medicinal plants are also found in this area.

### *Makalu-Barun National Park and Conservation Area*

This park is a contiguous region of the Sagarmatha National Park. Many species of wildlife found in the SNP have winter habitats in the Makalu region (see Box 3). In addition, protecting this area protects about 25 per cent of the Arun river watershed. The area has one of the richest diversity of flora and fauna found in Nepal. The conservation area is inhabited by *Rai*, *Sherpa*, and *Bhotia* people who have rich cultural heritages. The conservation area is a buffer zone where development activities will be carried out. Tourism is a small activity in the area. The park also contains the world's fifth highest mountain, Mt. Makalu (Shrestha et al. 1990).<sup>3</sup>

---

3 If the proposed Arun III hydroelectricity project is implemented, a larger value of the protection of this area will most likely be realised.

The large number of national parks and protected areas conserve an enormous wealth of environmental resources, some of which are not found in any other part of the world. The creation of protected areas has generally meant changes in traditional land use practices (timber, firewood, and other forest products, harvest, grazing). There have been changes in cultivation practices, in some cases through policy initiatives, in others through private initiatives. Changes have occurred in the traditional lifestyles of the local people and, to some extent, in traditional hunting. Based on the literature, the main areas of conflict between local people and park authorities can be summarised as follow: (Upriy 1985; Kharel 1993; Yonzon 1993; Stevens et al. 1993a and 1993b; Sherpa 1988):

- 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 protected area's wildlife; and
- 3) the absence of local people's participation in the management of the area.

Firewood collection has been regulated by park authorities. In many protected areas, households are becoming increasingly aware of the growing scarcity of forest and other resources. They have responded to this scarcity by afforestation programmes on public and private lands and community management of forests. Collection of leaf litter is not allowed. In some parks, grass cutting is allowed on a seasonal basis. Livestock grazing has been curtailed and only people living inside the park are allowed seasonal grazing rights. Timber for house construction is also permitted and regulated. Wildlife hunting is strictly controlled, although poaching continues to be a problem in most of the protected areas.

Crop and livestock depredation by wildlife is an important source of the conflicts between local people and park staff. Wildlife depredation is a common phenomenon and no mechanism exists to compensate local people for losses incurred. Although various recommendations have been made to minimise depredation, no mechanisms have yet been tried out by the park authority (Kharel 1993). In general, the conflict in land use and the associated nature of cost and benefits associated with the different uses can be argued as the chief source of conflicts. In other words, the divergence in the public and private interest is the source of conflict (McNeely 1988; Winpenny 1991).

### Box 1: Annapurna Conservation Area (ACAP)

The Annapurna Conservation Area Project started in 1986 with the objective of developing an innovative approach to prevent environmental degradation by the creation of a sustainable balance between the immediate survival need of local people, tourism management, and nature conservation. Currently, in its first phase, it covers an area of about 800sq. km., which will be extended to cover a much larger area over the years. ACAP takes a grassroots' approach, by which the conservation authority works closely with the local people in the management of mountain environmental resources, including tourism. A multiple land use and zoning practice, consisting of a protected core area, buffer zone (protected forests and seasonal grazing area), and an intensive use area (settlements, agriculture, tourism, and other heavily impacted areas) provide the basis for combining environmental conservation with community development. ACAP started a pilot programme in Ghandruk, a highly impacted area, on the way to the Annapurna Sanctuary. The project helps to improve the quality of life of the local people by empowering them with appropriate skills, knowledge, and technical and financial assistance. The population of the area is about 40,000, consisting of a variety of ethnic groups, most of which are *Gurung*, *Magar*, and *Thakali*. Further north are the *Bhotia* and *Sherpa*. The chief occupation of most people is subsistence agriculture and animal husbandry. This area is also famous as a former recruitment centre for Gurkha soldiers. The Annapurna area is surrounded by some of the world's highest peaks and has the world's deepest gorge - the Kali Gandaki Gorge.

Traditional rights over grazing, forests, and local institutions are respected and strengthened. ACAP relies heavily on local participation and local management of natural resources, including that of managing tourism impacts. Conservation and the local development of the ACAP area are funded partially by the entry fees collected from tourism. The King Mahendra Trust for Nature Conservation, the managing NGO of the ACAP area, also procures funding from international bodies to support other development plans in the area. In sum, a broader concept of local community and tourism development operates within the framework of mountain environmental management.

Some of the ACAP programme activities include forest conservation, alternative energy, conservation education, tourist awareness programmes, community development projects, community management committees, and research and training. Four new programmes, e.g., women's development, integrated agriculture, eco-tourism, and agroforestry, have also been added during phase one. In most project activities, ACAP and the local people share the costs on a 50 per cent basis.

It is increasingly acknowledged that, without the participation of local people, conservation may be a difficult goal to realise. Experiences in the ACAP and Sagarmatha (Box 2) area have shown that. The primary difficulty arises from reconciling local development priorities and the goal of protected area management. The process of involving local people has not been easy. It took a long time for ACAP to gain their trust. Continuous interaction with the local people and periodic reviews of the plans have been necessary to accommodate changing aspirations, goals, local values, and conservation objectives. On the whole, the experience of ACAP suggests that local development and conservation can coexist. With active support from ACAP, tourism as an alternative source of income was promoted through the provision of a mobile lodge owners' training programme. Fuel efficient devices were popularised to conserve scarce forest products and mini-hydros were installed at places in collaboration with local people.

Most of the 60 Village Development Committees under ACAP have their own forest committees which decide on the judicious use of forest products for the village people. Renamed the Conservation and Development committees, some of these committees are very active in mobilising the support of the local people. In recognition of the forest conservation effort of Ghandruk VDC, the Conservation and Development Committee was awarded the J. Paul Getty Award in 1992 and the Global 500 Environment Award in 1994.

ACAP intends to hand over the project to the local people. The experience indicates that by giving local people appropriate incentives to manage the resource base within traditional practices, and providing conservation education and financial and technical support, local development and conservation become mutually reinforcing.

## Box 2: Sagarmatha Pollution Control Project

Khumbu is spread over an area of roughly 1,000sq.km. and contains the world's highest mountain -Mt. Everest (8,884m). The Dingboche and Pangboche villages lie around 4,000masl. The region is entirely inhabited by the *Sherpa* who are believed to have migrated from Tibet in the 16th century. Over recent years, the population of Khumbu is believed to have declined - due to migration and decline in fertility. The sex ratio is in favour of females as adult males generally migrate.

Prior to 1960, there was no modern schooling available in the Khumbu region. There are now more than 20 schools supported by the Himalaya Trust, established by Sir Edmund Hillary. Overall, literacy has increased.

The Himalaya Trust also runs a hospital in Kunde village in the Khumbu region. Before its establishment, modern health services were not available in the region. This hospital also maintains a trekkers' aid post at Pheriche during the trekking season.

Khumbu society is based on agriculture, grazing, and trade, and, more recently, on tourism. Only one agricultural season is possible due to the Khumbu's cold climatic conditions. Buckwheat, barley, and potato are the main crops cultivated. Farming activities begin in April-May and harvesting is over by early October. Women continue to attend to agriculture, while many adult males find employment in the tourism trade. Hired labourers from the south, mostly *Magar*, prepare the fields for plantation and work during harvesting. Over the years, agriculture has almost become secondary to tourism in some parts of the Khumbu. Traditional farming practices have virtually disappeared at higher altitudes. Vegetable cultivation in kitchen gardens has increased over the years.

Animal husbandry, which used to be a major occupation of the region, too, has been replaced by tourism. The difficulty of obtaining herdsmen is a primary reason. Many prefer to raise pack animals that can be hired for trekking and mountaineering than to breed other types of livestock because of the relatively higher cash returns pack animals fetch.

Ever since the first 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 in this area.

Originally started in 1991 with support from WWF, this project has received funding from the 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)
- cultural conservation (cultural studies, monuments, *gompa*, etc)

Two fuel-efficient incinerators have been set up at Lukla and Namche. Rubbish pits and public toilets have been set up at various places as have visitor information service centres at 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 are 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. So, only suitable NGOs can closely work to boost the morale of these people and to get their cooperation.



### Box 3: Makalu Barun National Park and Conservation Area (MBNP/CA)

Officially gazetted in 1991, the Makalu-Barun National Park and Conservation Area project covers an area of 2,330sq.km. within the Solukhumbu and Sankhuwasabha districts of Nepal. This newly created Makalu-Barun National and Conservation Area adjoins the Sagarmatha National Park on the latter's eastern border. The two areas are contiguous. While the SNP area on average lies almost over 3,000masl, the MBNP/CA has a variety of climatic conditions that range from temperate to alpine. Thus, the MBNP/CA provides life support to a variety of mammals from the SNP during the harsh winter season.

A total of 32,000 people from a variety of ethnic groups reside in the conservation area. They depend heavily on subsistence agriculture and pastoralism (over 80%), supplemented by use of forest products, seasonal trade, and migration.

The *Rai* are predominant in the area, but there are sizeable populations of *Sherpa* and *Bhotia* in the Conservation area. The average household size is 5.71 members, and the female population exceeds that of males. The literacy rate in the area is reportedly around the national average, but not all reported as enrolled in school actually attend school on a regular basis. Thus, the overall illiteracy rate in the area is about 73 per cent, with female illiteracy being as high as 89 per cent.

A majority (98%) of the households operate *bari*<sup>4</sup> and only about 45 per cent own *khet*<sup>5</sup>. Over 84 per cent of the farm households own less than 1.02ha of land in size. A very small percentage of the households use high-yielding seeds (4%) and chemical fertilisers (8%). Given the harsh climatic conditions and poor soil quality, a large majority of the households cannot produce sufficient food to meet their own annual needs. The food shortage problem is most severe among the *Bhotia* households (93%), followed by the *Rai* (73%) and *Sherpa* (58%).

Sheep and pigs dominate the livestock composition of households. All grazing animals depend heavily on public lands and pastures in the area. Stall feeding practices are rarely observed. Livestock productivity is also believed to be low and most of the products are consumed domestically.

The MBNP/CA has only begun implementation, and, therefore, the effectiveness of its management plan in fulfilling conservation and local development goals is yet to be seen. It shares broad similarities in its management plan to the ACAP's. One major difference between the two is that one implemented by an NGO (KMTNC), while the MBNP/CA's is implemented by the Department of National Parks and Wildlife Conservation (DNPWC), which manages other national parks in Nepal. The role of tourism in the MBNP/CA is not likely to be as important as in the ACAP area, although the potential to increase it beyond current levels is enormous (Shrestha et al. 1990; Byers and Banskota 1993).

4 *bari* - rainfed agricultural land

5 *khet* - irrigated agricultural land

With the degradation of resources (see next chapter on tourism impacts on these areas) occurring rapidly, tourism development alone cannot be seen as a remedy for mountain development. Harnessing and nurturing renewable environmental resources will provide the key to mountain tourism development. The environmental resources are currently being used to attract tourists, but these renewable resources are also being degraded. People are forced out of their traditional mountain homes, their culture and traditional means of livelihood are threatened. Ancient systems of conservation are abandoned, leading to greater loss or deterioration of the environmental resources. Biodiversity and endemic species are increasingly threatened. The aesthetic and recreational values are diminished, too. The drying up of watersheds, soil erosion habitat loss, and other negative downstream effects increase (Byers and Banskota 1993; Robinson 1993; Stevens and Sherpa 1993; Yonzon 1993; Wells 1993).

There is growing concern that Nepal's protected areas are inadequately managed and that the financial resources for their management are also inadequate. Currently, however, the Department of National Parks and Wildlife Conservation's (DNPWC) budget does not benefit from the fees charged. Other fees in the form of trekking permit and mountaineering royalties do not go to the DNPWC, though most of the mountaineering and trekking are conducted inside these protected areas. The concession fees raised by the DNPWC are almost a negligible amount in the mountain protected areas. The direct costs of park protection and management exceed the revenues collected considerably. Also, a large portion (over  $\frac{2}{3}$ rds) of the annual budget for most protected areas is actually spent on administration and army protection. Through appropriate management, economic benefits, including those from tourism, can be generated to provide the right incentives for their effective management (Lawrence 1992; Romero 1992; Cacha, 1992).

Much of the attention has gone to evaluate the impacts from tourist expenditure rather than to evaluate the economic value of protected areas. This oversight has resulted in a greater retention of tourism benefits at the source where tourism originates than at the point where tourism is actually consumed (Wells 1993). From the public point of view, the creation of national parks has been a major success, with the private sector having a valid role in the development and management of activities in such areas (Fowkes and Fowkes 1992). Currently, though the benefits from these areas have not been maximised, their very creation has helped conserve a variety of ecosystems, flora and fauna, and religious sites. If these protected areas had not been created, it is possible many unique natural features would have been degraded or destroyed.

There are many reasons why greater economic benefits have not been realised (Kharel 1993; Lawrence 1992). Some of these areas are in one of the most remote regions of the world. Promoting tourism requires investments, and, without proper management, promotion can lead to destruction rather than benefits (Sneed 1992). Now that Nepal has over 20 years' experience in protected area management, it is time to look closer at maximising benefits, based on scientific assessments.

New methods have evolved in the management of protected areas (Sneed 1992; Sherpa et al. 1986; Shrestha et al. 1990). The Annapurna Conservation Area is managed by a national NGO, the King Mahendra Trust for Nature Conservation (KMTNC). The newly-created Makalu-Barun National Park and Conservation Area management plan, drafted by a task force after extensive study of the area and consultation with the local people, is being implemented by the DNPWC. It has been increasingly realised that protected areas should contain a buffer zone in order to shield the core area, on the one hand, and to promote resource conservation in the buffer zone to meet the local people's needs on the other. Also, the need to involve the local people in the management of protected areas is acknowledged as essential (Shrestha et al. 1990).

## **Tourism Revenue Generation from the Mountain Environmental Resource**

Mountain environmental resources can be assumed to generate a substantial amount of revenue. This revenue is generated in the form of the expenditure tourists make to visit the mountain areas of Nepal. However, not all this revenue comes to Nepal. In the first place, a considerable amount of the expenditure made by tourists is spent in international air travel, a large part of which does not accrue to Nepal. Also, local expenses while making travel arrangements are incurred in the country from which the tourists originate. These expenditures cannot be captured by Nepal, although there is scope to maximise income from these sources. Setting aside these above sources of income, there is considerable scope to maximise and retain the expenditure incurred by tourists, once they enter Nepal, by minimising import leakages.

Mountain environmental resources generate income in various forms that accrue to Nepal directly. First, tourists desiring to visit Nepal for trekking, mountaineering, or other purposes in the mountains must acquire a visa to enter Nepal. Once the tourists arrive in Kathmandu, at least a day has to be

spent in the city before they begin their journey to the mountain regions. During their stay in Kathmandu, tourists spend on accommodation, food, transport, and on other purchases. The magnitude of such expenses has to be assessed, and the percentage retained in Nepal and that which leaves Nepal in the form of leakages have to be evaluated. Whatever, the percentage retained in Nepal is attributable to the mountain environmental resources where tourists whose purpose is to visit the mountain areas are concerned.

Travel to reach the mountain destination may be by air transport or other forms, which also incur expenditure. Other expenses during the journey involve expenses on local transport, airport tax, etc. Additionally, all tourists visiting mountain areas, irrespective of their purpose, are required by law to obtain a trekking permit or a park or conservation area permit, all of which incur fees. In some newly-opened routes, the trekking permit fee varies by area as well as duration of stay. Mountaineers pay royalties, which vary depending on the peak they want to climb. Other tourists travel to Nepal for the purpose of rafting, which also requires a payment of fees. Often, tourists visiting Nepal who do not visit the mountain areas opt for the 'mountain flight,' another source of revenue generated by mountain environmental resources. Yet another contribution of these resources comes from the sale of books, postcards, etc on Nepal's mountains.

Investments made by local people in the mountain areas to cater to tourists is virtually unknown. In the absence of such parameters, it is impossible to derive reliable estimates of the income generated by the mountain environmental resources. This information is important in deriving parameters for policies related to a variety of issues in terms of policy weaknesses, inadequacies, market failures, distribution of income, as well as in assessing the value of mountain resources and many more (see Chapter 6). Unfortunately, there is no agency, including the Ministry of Tourism or the Department in Nepal, that appears to have a time series' record on the various information related to fees, investments, etc in the mountain areas.<sup>6</sup> Finally, once in the mountains, porters are hired and local accommodation and food outlets are used, generating further income.

Although the lack of adequate information on various forms of user charges related to mountain tourism activities by destination and composition of tourist

---

6 . A considerable amount of time was spent in digging out the basic parameters but no agency seems to have any record. Many indicated that the records were misplaced or lost. One would expect the Ministry for Tourism and Civil Aviation to have such records, but, unfortunately, this agency does not.



expenditure does not enable precise computation of revenue generated from mountain tourism, an attempt has been made to provide estimates of such revenue based on available information and assumptions. Some simplifying assumptions made are as follows.

1. The annual number of tourists visiting mountain areas by destination has been desegregated into group and individual trekkers, using the weight factors reported in Table 3.4. Such disaggregation is necessary in view of the differential user's charge and impacts associated with these two types of tourists. Of the total mountain tourists, 44 per cent are assumed to be group trekkers, the rest individual trekkers.
2. Support staff hired by both group and individual trekkers (porters, *Sherpa*, etc) generate income in the form of wages in mountain areas. In order to estimate this income, the average number of support staff per trekker is assumed to be four per group tourist and 1.5 for an individual trekker, with the duration of employment being assumed to be two weeks on average for both categories. The time series' data on wage rates for different types of support staff reported in CEDA (1988) have been used to derive the average growth rate in the daily wage rates of the different types of support staff. The average weighted wage rate was then derived using the information reported in Table 4.14. Of the total support staff, 72 per cent are assumed to be porters, the rest fall under other categories.
3. To estimate tourist expenses on food and lodging, individual trekkers are assumed to spend a flat US \$10 per day, based on Banskota and Upadhyay (Table 17, 1989). There is no such information available for group trekkers, although group trekkers also incur expenditure on fuelwood, vegetables, eggs, meat, etc in local areas. A flat rate of US\$ 5 per day is assumed. The US\$ values are converted to Nepalese currency, using the exchange rate in mid July reported by NRB.
4. Royalties and fees for mountaineering, trekking peaks, trekking, and park and conservation area entrance are the various forms of user charges levied on the consumption of mountain resources. The trekking peak fee and the number of permits issued were collected from Nepal Mountaineering Association. The rates for trekking peak have remained constant since 1981 at US\$ 300 per climber.
5. Trekking permit fees vary with the length of stay and have not been accounted for because the length of stay in any area is not reported. All trekkers are assumed to trek for 14 days, which is a conservative estimate.

The revenue generated by mountain environmental resources has been grouped into wages earned by porters; expenditure on food and accommodation; mountaineering teams' expenditures and royalties paid; and fees from trekking peaks, trekking, and park and conservation area entrance. The results are presented in Table 3.7.

The total revenue generated from mountain tourism in 1992 is about Rs 640.662 million compared to 73.911 million in 1980, representing an average annual growth rate of 22 per cent. In US\$, the earnings in 1980 were about 6.2 million dollars; in 1992 they had increased to about US\$ 15 million.

Of the total revenue generated, wages paid to porters and other support staff constituted about 23 per cent on average over the entire period. It is difficult to say what percentage of the income earned in the form of wages is actually retained in the local area. It is unlikely that all of it is retained in the local area as a sizeable number of porters hired during treks belong to other areas (Banskota and Upadhyay 1989).

Food and accommodation expenditure appears to account for nearly 50 per cent of the total mountain revenue. Such expenditure is also subject to some leakage as different lodges serve food that requires imported items for preparation. There is scope for increasing the retention of income in local areas if local production units can be developed and linked with tourism.

Mountaineering expenditure is a category that is not defined. It is likely to include substantial expenditure on imported food purchased in Kathmandu and some locally. It also includes payments to porters and other support staff, which is not accounted for under the wages' category discussed above. Mountaineering royalties account for less than two per cent on average, although the hike in royalties in 1992 has increased its share to about five per cent. The share from the various permit fees has been decreasing steadily over the years and is less than the share contributed by trekking peak fees.

Also reported in Table 3.7 is the per trekker expenditure per day in local and US currencies. Although there appears to be a growth (nominal in terms of the local currency), the per trekker, per day expenditure in US\$ has remained virtually constant. The same trend was also observed in the case of tourists visiting Nepal in general, as discussed in Chapter 2.

As indicated earlier, the estimates made in Table 3.7 are lower than they should be for reasons pointed out above. It is difficult, however, to quantify the

margin underestimated. To fill this gap, information from the different sources identified above will have to be collected. Despite this underestimate, it is nevertheless fairly clear that mountain environmental resources generate a substantial amount of income and there is scope to increase this income. The various user fees charged are on an *ad hoc* basis, since no proper study has been conducted to price these user fees based, for example, on tourists' willingness to pay. Willingness to pay is an expression of preference that reflects how much tourists are willing to pay over and above the actual cash-cost of consumption of the environmental resources. To obtain total economic benefit, the willingness to pay is the appropriate concept to use. In the context of Nepal, so far no study has been conducted to estimate the willingness to pay. Appropriate user fees could be stipulated on the basis of willingness to pay.

## Issues

### *Role of Tourism in the Context of Mountain Development*

The above discussion suggests that despite the growing and important role played by tourism in some mountain areas of Nepal, there is yet no clearly defined role of tourism in the context of mountain development. Opening new areas and building some rudimentary infrastructures have been the sole basis for tourism and mountain development. As a result, only small pockets have benefitted. In newly-opened areas, where only group tourists are encouraged, local people are finding it difficult to derive benefits from tourism. Group tourists are generally self sufficient in food and other necessities and depend little on local resources and facilities.

### *Institutional Mechanism and Participatory Approach*

The involvement of local people in areas where tourism occurs has been minimum. In the ACAP area, and in the MBNP/CA, this has changed. But the lack of an evaluation of the new approach in the ACAP area makes it difficult to conclude how well the new process is contributing to mountain and tourism development. In the MBNP/CA, the process has only begun, so it is too early to judge. In the Sagarmatha area, the pollution control programme has been initiated, but here too, it is too early to judge its merits. There is also no institutional mechanism at the national level that addresses mountain tourism, which will be seen in Chapter 5.

There has been no concerted effort by the government to view the mountain areas as potentially rich in a variety of unique natural resources. The value of these resources needs to be identified and their potential role in mountain development needs to be assessed. Furthermore, the role of tourism in mountain development needs to be clearly identified. This lack of perspective in the case of Nepal appears to have led to a demand-induced tourism growth pattern that has not resulted in a sustainable basis for mountain tourism.

The lack of vision regarding mountain environmental resources and their role in mountain and tourism development needs to be understood. The need for conservation will be easier to appreciate if the environmental resources of the mountain areas are clearly defined. A mountain and tourism development plan can then be initiated that has the active participation of local people. Complementary investment packages can be identified to reinforce mountain as well as tourism development.



**Table 3.1: Natural Resource Tourism: Numbers and Growth Rates (1987)**

Type of Activity	Number of Tourists	Growth Rate per Annum
Mid-altitude trekking (up to 6,000masl)	47,275	11%
High-altitude mountaineering	796	1.1%
Rafting	3,612	320%
Wildlife tourism	25,844	rapid
Professional hunting	12	static
Religious tourism	30-60,000	?

Source: ERL 1989, Annex C Table 1.1.2(a)

**Table 3.2: Mountain Tourism By Destination (1980-1992)**

Year	SNP	LNP	ACAP	Others	Total	Share	Total Arrivals
1980	5836	4113	14332	3179	27460	22.47	122205
1981	5804	4488	17053	215	27560	24.46	112694
1982	6240	4535	19702	1855	32332	26.67	121247
1983	6732	4030	21119	417	32298	24.98	129303
1984	7724	4792	25422	3268	41206	34.94	117917
1985	8347	4610	18960	813	32730	25.75	127109
1986	9900	5250	33620	805	49575	29.49	168136
1987	8998	6107	30914	1256	47275	25.00	189116
1988	11366	8423	37902	3582	61273	31.60	193885
1989	11836	8563	36484	3975	60858	30.95	196661
1990	11314	7826	36361	6591	62092	31.82	195121
1991	11862	9603	39107	5198	65770	32.80	200489
1992	12325	9457	42553	7104	71439	31.36	227779

*The Makalu area has been opened for many years, but, prior to 1992, trekking permits issued for the Sagarmatha region included the Makalu region as well. The Dolpa and Kanchenjunga regions have been recently opened for group tourists only. The Manaslu region has been open for group tourists since 1993. In the Kanchenjunga region, visitor numbers since 1988, when the area was opened, are as follow until 1992: 87, 590, 620, 502, and 436. The Dolpa region was opened in 1990; the number of visitors to this area are as follows: 585, 698, and 698 in 1992.*

Source: Makalu region trekkers from Banskota and Upadhyay, 1991b; others from the Department of Tourism, 1992, and Jagat Police Post (Manaslu area), 1994

**Table 3.3: Percentage Distribution of Trekkers by Region**

Year	SNP	LNP	ACAP	Others	Total
1980	21.25	14.98	52.19	11.58	100
1981	21.06	16.28	61.88	0.78	100
1982	19.30	14.03	60.94	5.74	100
1983	20.84	12.48	65.39	1.29	100
1984	18.74	11.63	61.69	7.93	100
1985	25.50	14.08	57.93	2.48	100
1986	19.97	10.59	67.82	1.62	100
1987	19.03	12.92	65.39	2.66	100
1988	18.55	13.75	61.86	5.85	100
1989	19.45	14.07	59.95	6.53	100
1990	18.22	12.60	58.56	10.61	100
1991	18.04	14.60	59.46	7.90	100
1992	17.25	13.24	59.57	9.94	100

Source: Same as Table 3.2

**Table 3.4: Percentage Distribution of Group and Individual Trekkers Visiting Different Areas**

Percentage Distribution		Area	Source
Group	Individual		
65	35	Makalu-Barun Region	Banskota & Upadhyay 1990
61	39	Sagarmatha Region	Banskota & Upadhyay 1990
26	75	Langtang Region	Banskota & Upadhyay 1989
70	30	Sagarmatha Region	Bjonnness 1980
52	48	Sagarmatha Region	Central Immigration 1983
70	30	Sagarmatha Region	Baumgartner et al. 1978
68	32	All Nepal	ERL 1989
43	57	All Nepal	Dept. of Tourism, 1992
56	44	Sagarmatha Region	Dept. of Tourism, 1992
33	67	Langtang Region	Dept. of Tourism, 1992
36	64	Annapurna Region	Dept. of Tourism, 1992
100	0	Dolpa trek	Dept. of Tourism, 1992
100	0	Kanchenjunga trek	Dept. of Tourism, 1992

Notes: Region is meant to include broader areas since tourists not only visit the park areas (SNP, LNP, MBNP, ACAP), although their final destination may be these areas, but also other places in the region.

Source: Banskota and Upadhyay 1991b

**Table 3.5: Number of Mountaineering Teams Granted Permission by Season**

Year	Number of Teams			Total
	Spring	Autumn	Winter	
1978	18	24	-	42
1979	21	26	-	48
1980	32	25	7	64
1981	34	40	5	79
1982	32	43	9	84
1983	30	46	12	88
1984	34	49	19	102
1985	26	49	16	91
1986	31	49	14	94
1987	27	58	13	98
1988	30	50	12	92
1989	48	60	17	125
1990	29	80	11	120
1991	37	82	11	130
1992	34	69	10	113
1993	29	58	9	95

Source: Ministry of Tourism, personal contact. Also see Appendix 1

**Table 3.6: Protected Areas in Nepal**

Name	Area (sq.km.)	Location	Gazetted
<b>Hill and Mountain</b>			
Rara National Park	106	High mountains	1976
Shey Phoksundo National Park	3555	High himal	1984
Annapurna Conservation Area <sup>1</sup>	7000	High mountain to high himal	
Langtang National Park	1710	High mountain to high himal	
Sagarmatha National Park	1148	High himal	1976
Makalu-Barun National Park & Conservation Area <sup>2</sup>	2330	High mountain to high himal	1992
Shivapuri Watershed Protected Area <sup>3</sup>	144	Mid mountains	
Dhorpatan Hunting Reserve	1325	High mountain	1987
Kaptad National Park	225	High mountain	
<b>Terai or Inner Terai</b>			
Royal Sukla Fata Wildlife Protected Area	305	Terai	1976
Royal Bardia National Park	968	Terai	1988
Royal Chitwan National Park	932	Terai	1973
Parsa Wildlife Protected Area	499	Terai	1984
Kosi Tappu Wildlife Reserve	175	Terai	1976

Source: Master Plan for the Forestry Sector Project (MPF 1988), main report

1. The Annapurna Conservation Area is managed by the King Mahendra Trust for Nature Conservation (KMNTC) - as an autonomous non-government organisation - under an Act. Recently (1993), the Trust has acquired additional area for management in the Mustang Region.
2. The Makalu-Barun Area contains a conservation area of about 830sq.km. (Shrestha et al. 1991).
3. Although it is proposed that this watershed be managed by the DNPWC, no action has been taken yet.

**Table 3.7: Income Generated By Mountain Environmental Resources**

in '000'

Year	Wages (NRs)	Food (NRs)	Mountaineering		Trek & Park NRs	Peak Fee NRs	Total Mountain Revenue NRs	Expendi- ture Per Trekker per day NRs
			Exp (NRs)	Royalty (NRs)				
1980	16328	35558	15827	843	3295	2121	73972	192
1981	18595	39073	18217	5281	3525	1760	86452	210
1982	22811	47206	17504	1036	3880	2108	94545	209
1983	24836	52414	18575	1150	3876	2521	103372	229
1984	36343	74121	20169	2752	4945	3104	141434	245
1985	31483	64272	17870	3298	3928	3646	124497	272
1986	52485	117298	28854	4063	5949	5602	214251	309
1987	55596	115481	34020	4330	5673	7770	222870	337
1988	81310	159630	42582	5079	7353	8523	304477	355
1989	89938	184416	63976	7222	7303	1389	354244	416
1990	103952	197112	68368	7266	7451	1605	385754	444
1991	120225	309618	156363	8929	7892	13053	616081	669
1992	146663	332838	101355	30351	8573	20883	640662	641

### Shares

Year	Wages (NRs)	Food (NRs)	Mountaineering		Trek & Peak		Total
			Exp (NRs)	Royalty (NRs)	Park NRs	fee NRs	
1980	22.07	48.07	21.40	1.14	4.45	2.87	100.00
1981	21.51	45.20	21.07	6.11	4.08	2.04	100.00
1982	24.13	49.93	18.51	1.10	4.10	2.23	100.00
1983	24.03	50.70	17.97	1.11	3.75	2.44	100.00
1984	25.70	52.41	14.26	1.95	3.50	2.19	100.00
1985	25.29	51.63	14.35	2.65	3.15	2.93	100.00
1986	24.50	54.75	13.47	1.90	2.78	2.61	100.00
1987	24.95	51.82	15.26	1.94	2.55	3.49	100.00
1988	26.70	52.43	13.99	1.67	2.41	2.80	100.00
1989	25.39	52.06	18.06	2.04	2.06	0.39	100.00
1990	26.95	51.10	17.72	1.88	1.93	0.42	100.00
1991	19.51	50.26	25.38	1.45	1.28	2.12	100.00
1992	22.89	51.95	15.82	4.74	1.34	3.26	100.00



## Appendix 1- Mountaineering permits issued by the Ministry of Tourism

Name of Peak	No. of Team	Name of Peak	No. of Team
<b>Spring 1986</b>			
1. Annapurna I	3	33. Lhotse	2
2. Lhotse	2	34. Purnori	3
3. Annapurna II	2	35. Ama Dablam	3
4. Makalu	1	36. Annapurna + Tilicho	1
5. Makalu II	1	37. Gangapurna + Annapurna II	
6. Mt. Everest	2	38. Chamlang	2
7. Cho Oyu	3	39. Langtang Lirung	2
8. Dhaulagiri I	2	40. Annapurna IV	1
9. Dhaulagiri II	1	41. Tukuche	1
10. Manaslu	1	42. Thamserku	1
11. Langtang Lirung	1	43. Himalchuli	2
12. Kanchanjungha	1	44. Kangtega	1
13. Gangapurna	1	45. Kumbha Karna	1
14. Ganesh I	1	46. Baraha Shikhar	1
15. Ganesh II	1	47. Tripura Hiunchuli	1
16. Tilicho	1	48. Kangchung Tse	1
17. Annapurna IV + Lamjung	1	49. Gauri Shankar	1
18. Kangtega + Ama Dablam	1	50. Annapurna III	1
19. Nuptse + Kangtega	1	51. Kirat Chuli	1
20. Ama Dablam	1	52. Kangchung Tse	1
21. Langsiri	1	53. Cho Oyu & Nago Zumbakang	1
22. Bhrikuti	1	54. Mt. Everest + Lhotse	1
23. Gychungkang	1	<b>Sub-total</b>	<b>49</b>
<b>Sub-total</b>	<b>31</b>	<b>Winter 1986</b>	
		55. Annapurna I	2
<b>Autumn 1986</b>		56. Dhaulagiri I	2
24. Mt. Everest	2	57. Makalu I	1
25. Cho Oyu	2	58. Mt. Everest	2
26. Makalu + Lhotse	1	59. Manaslu	1
27. Makalu I	3	60. Purnori	2
28. Dhaulagiri I	3	61. Ama Dablam + Choltre	1
29. Annapurna I	3	62. Nuptse	1
30. Kanchanjungha	1	63. Himal Chuli	1
31. Manaslu + Annapurna I	1	64. Lobuche	1
32. Manaslu	1	<b>Sub-total</b>	<b>14</b>

- The Annapurna Conservation Area is managed by the King Mahendra Trust for Nature Conservation, a non-governmental organization, since its inception in 1991. The Trust manages and administers the management in the Annapurna region.
- The Makalu-Barun Annapurna Conservation Area of about 820sq.km. established in 1991.
- Although it is proposed that the area be managed by the DNPWC, as per the plan for <1> yet.

Name of Peak	No. of Team	Name of Peak	No. of Team
<b>Spring 1993</b>			
1. Ama Dablam	1	22. Kumbha Karna	1
2. Annapurna I	1	23. Khangserkang	1
3. Baruntse	1	24. Kangtega	1
4. Cho Oyu	2	25. Lhotse	2
5. Dhaulagiri I	2	26. Makalu I	4
6. Gangchanpo	3	27. Makalu II	2
7. Kanguru	1	28. Manaslu	4
8. Makalu I	2	29. Manaslu north	1
9. Manaslu	1	30. Pumori	5
10. Mt. Everest	14	31. Mt. Everest	3
<b>Sub-total</b>	<b>29</b>	32. Tilicho	1
		33. Tripura	1
11. Ama Dablam	10	<b>Sub-total</b>	<b>58</b>
12. Annapurna I	3		
13. Annapurna IV	1	<b>Winter 1993</b>	
14. Baruntse	5	34. Ama Dablam	3
15. Bhrikuti	1	35. Cho Oyu	1
16. Cho Oyu	4	36. Cholatse	1
17. Cholatse	1	37. Gun Karpo Ri	1
18. Churen	1	38. Langtang Lirung	1
19. Dhaulagiri I	4	39. Mt. Everest	1
20. Kanjirobo	1	33. Tripura	1
21. Kanchaniungha	1	<b>Sub-total</b>	<b>9</b>

Source: Ministry of Tourism