

‘Sustainable tourism Development in Everest Region’

Analyzing the Linkages (Rural-Urban; Local-Global), Interactions (High Land-Low land; Development -Environment) and Potential Impacts of Mountain tourism



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Table of Contents	Page No.
Executive summary	1
1. Background	2
2. The Everest Region	4
2.1 Sociophysical setting, Infrastructure and services, Transportation linkages	4
2.2 Demographic and cultural Settings of the Region	10
2.3 Transportation Route / Trekking route	14
3. Tourism and the Dynamics of Change in Everest Region	15
4. Issues on Everest Tourism	17
5. Significant Impacts of tourism in Everest region	18
6. Global and Regional Policy linkages on mountain development	21
6.1 GLOBAL institutional linkages through program interventions	22
6.2 Local Initiatives	23
6.3 Linking Policies, Plans, Guidelines, Studies and Reviews at national level	25
7. High Land Low Land Interactions	26
8. Socioeconomic Development issues of Everest tourism	29
(Within the region – analyzing the social dynamics)	
8.1 Disparities within the region	29
8.2 Gender Dimensions	29
-Impacts of Tourism on Mountain Women	
9. Ways Forward	30
Conclusion	32
ANNEXES	33

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Executive summary

Tourism has no alternative for economic development in mountain region of Nepal. To develop tourism products in this region there is need of the Rural Urban development Linkages. In this case of ‘Tourism in Everest region’ the linkage pattern is inverse, some categories of the finished goods and services become the raw materials for the tourism products, these goods and services are provided by the urban cities e. g. Kathmandu.

Tourism has already set a strong linkage between Kathmandu (urban centre) and Everest region (High Land area which is towards urban setting in the upper belt and still having rural settings in the lower belt). Besides over viewing the already existed linkage, this paper aims to provide information on the possibilities for exploring sustainable dimensions of Rural-Urban Linkages and high land Low land Interactions.

In this paper Development linkages (administrative linkages for mountain development program), organizational and institutional networks for mountain development, global policy networks, regional; and local development initiatives and their linkages to sustainable tourism development in Everest region, ecological and economical dimensions of high land low land interactions are described in specific, while other dimensions of linkages and interactions are presented in general manner.

As this paper tend to address the issues of sustainable mountain tourism , the impacts of tourism in Everest region are analyzed with the help of facts based on evolution of mountain tourism in Nepal ,trends of development of tourism in Nepal, Impacts (both positive and Negative) to the environment, ecology, society, landscape , culture and traditions are further analyzed so as to explore the socioeconomic issues to be addressed for sustainable mountain tourism development in Everest region.

Mountain tourism in Nepal is concentrated mainly in the Annapurna, **Everest** and Langtang regions, which are protected areas. The Langtang and **Everest** regions are home to two national parks: Langtang National Park and Sagarmatha National Park. Mountain tourism in Nepal is concentrated in these areas partly because they were explored by early foreign mountaineering expedition teams and made popular through their writings.

Besides the analysis of impacts of tourism, linkages and interactions to tourism development; it tries to further specify the analysis of the resource access and distribution of benefits from the major business ‘tourism’ of the region in economic terms within the different social groups, between the upper (Khumbu) and lower belt (Solu) and to the local development of the Everest Region. The main aim is to analyze how tourism has become a source of local economic development in the Mount Everest region and the effects of this economic change on local landuse, environment, social relationships and culture.

1. Background

Today the Mt Everest area is one of the Himalaya's premier centers for mountaineering and trekking tourism, as well as a national park (Sagarmatha National Park), World Heritage Site, and the homeland of 5000 Sherpas who live within the national park in the Khumbu region and in the adjacent Pharak buffer zone. In the course of the development of mountain tourism in this region diverse, regionally varying linkages have been suggested between tourism and changing Sherpa agriculture, pastoralism, and forest use; community management of forests and grazing; the localized build up of rubbish and pollution from human waste; forest degradation; and damage to alpine vegetation (Lucas et al. 1974; Furer-Haimendorf 1975 1984; Sherpa N W 1979; Bjonness 1980a 1980b 1983; Garratt 1981; Hillary 1982; Jeffries 1982; Stevens 1983 1993a 1993b; Hinrichsen et al. 1983; Pawson et al. 1984; Karan and Mather 1985; Byers 1987b 1987c 1997 forthcoming; Sherpa L N 1988 1999; Kunwar 1989; Ives and Messerli 1989; Fisher 1990; Brower 1991b; Sherpa M N 1993; Robinson and Twyman 1995; Rogers and Aitchison 1998; Gurung 1998; Sharma 1998; LaChapelle 1998; Sagarmatha Pollution Control Committee 1998 2001; Nepal 2000; Sherpa M N (Monzo) 2000; Nepal et al. 2002 as cited by Stevens S. 2003).

Often, in the Himalayas income from agriculture is scarce and meager due to scarcity of productive land and inadequate access to irrigation. On the other hand, tourism is a major economic activity providing livelihoods to poor people. In Nepal, tourism generates about 122,745 direct employments and until recently tourism was the highest foreign exchange earning industry. Tourism's share in total foreign exchange earnings peaked at 21.4% in 1996, and then declined to 11.1% in 2004 (Sherpa, Y. 2007).

Reviewing the potential for mountain tourism it is found that tourism is one of the largest industries in the world economy. According to Nepal S.K., 2005, The World Tourism Organization (WTO) predicts that by the year 2010 international tourism will involve 1 billion visitors and will contribute 11.6 percent to the global gross domestic product (GDP) (WTTC, 1999). Similarly, it is estimated that by 2010 roughly 250 million people will be employed in the tourism industry and 10.6 percent of total capital investments will be made in the tourism sector (WTTC, 1999). This estimate does not take into account the value of domestic tourism, so the real economic value of global ecotourism is much greater. Although in the light of recent international events such predictions are unreliable, the significant impacts and implications of global tourism and ecotourism cannot be ignored. WTO suggested that the global turnover of ecotourism in 1997 was US\$20 billion (WTO, 1998 as cited by Nepal, S.K. 2003).

Mountain areas include more than 475 protected areas in 65 countries covering more than 264 million hectares. Additionally, 140 mountain areas have been designated as biosphere reserves by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Sagarmatha National Park is one of the major protected areas in Everest region. In Nepal, mountain tourism constitutes between 20 and 25 percent of total volume of tourism, but it is a significant income source for numerous people living in and around popular mountain destinations such as the Everest and Annapurna regions (Nepal, 1999).

Given the current trend in nature-based tourism and the popularity of mountain destinations for nature tourism, it is reasonable to assume that many mountain regions will experience a significant growth in both international and domestic tourism. However, exposure from tourism can leave mountain communities vulnerable to severe environmental consequences and

disruption of local culture and traditions, as has happened in many mountain destinations around the world (Nepal S K, 2000). Thus, it is essential that mountain tourism be based on the principles of sustainability, which emphasize sound environmental practices, equity and long-term benefits for all stakeholders balancing the linkages between the rural and urban areas and interactions between high lands and low lands.

The large concentration of visitors in some mountain destinations has resulted in alarming levels of tourism-induced environmental, socio-economic and cultural problems. In the Everest and Annapurna regions, local people are greatly outnumbered by visitors. For example, during peak tourist season in the Everest region, there may be as many as four visitors for every Sherpa resident. Human pressure - both from tourists and from seasonal migrants from neighboring villages looking for jobs - has increased fuel wood consumption in erstwhile small, traditional villages, contributing to increased loss of tree and shrub cover in adjacent forests. In autumn 1997, 9.2 tons of fuel wood were burned daily in the 224 lodges in the Everest region (Nepal, 1999). This was equivalent to 24 percent of all fuel wood consumption in the region.

Another issue that has received much attention in the Himalayas is the accumulation of garbage left behind by trekkers and mountaineers, including food cans and wrappers, bottles, empty oxygen cylinders, spent batteries and ropes. These materials accumulate quickly and pose disposal problems.

Tourism provides income not only to porters carrying goods for tourists, but also to those who carry merchandise for lodge owners and traders doing business in tourist areas.

Trail erosion caused by increased trekking traffic is also significant in this region. In a survey undertaken in 1996 and 1997, trail-related problems included excessive widening, deep incisions, exposed bedrock, exposed mineral soil, trail displacement, exposed tree roots and running water on the trail. Trails tended to be more degraded at higher altitudes, in areas where ground vegetation was poor, on steep gradients and in areas with high trekking traffic and high concentration of tourist accommodations (Nepal, 1999). Altogether, severely damaged trail sections in need of immediate maintenance added up to a total length of 10 km or almost 11 percent of the main tourist trails in Sagarmatha National Park.

2. The Everest Region

2.1 Sociophysical setting, Infrastructure and services, Transportation linkages

Everest region is, in fact, the backbone of tourism industry in Nepal. Since Mount Everest is the highest peak in the world, the significance of Everest and Everest region is undoubtedly matchless compared to other peaks and regions. One cannot deny the fact that the opportunity to see Mount Everest is the fulfillment of ones cherished desire in life.

Prior to reaching Mount Everest, the first entry point is the Khumbu area. Khumbu area is composed of highly famous areas like Namche, Syabgoche, Thame, Khumjung, Khunde and Tyangboche which are adorned with captivating natural scenery. In reality, this Khumbu area is the most prominent destination of Everest Region. From the khumbu area most of the noted peaks like Mount Everest, Nuptse, Lhotse, Tawache, Khumbila, Amadablam, Thamserku, Kusum Kangaru, Kangtega, Kwangde, Imjatse, Tashi Lhaptsa and Nangbala can be viewed at close looks (Stevens S. 2003). This area is composed of some rare wild animals, which are hardly found in any other part of the world, including musk-deer, Yak and some excessively beautiful birds like Lophophorous (danfe), pheasants, crow, eagle and vulture. Similarly, different kinds of trees including pine, fur and rhododendron are also found in plenty. This Khumbu region is inhabited mostly by Sherpas. They have their own traditional customs, festivals, dresses, language and culture. They have got their own monasteries in which they worship collectively. Bulks of the people in this community are involved in the profession of mountaineering while some of them do business in Tibet (Stevens S. 2003).

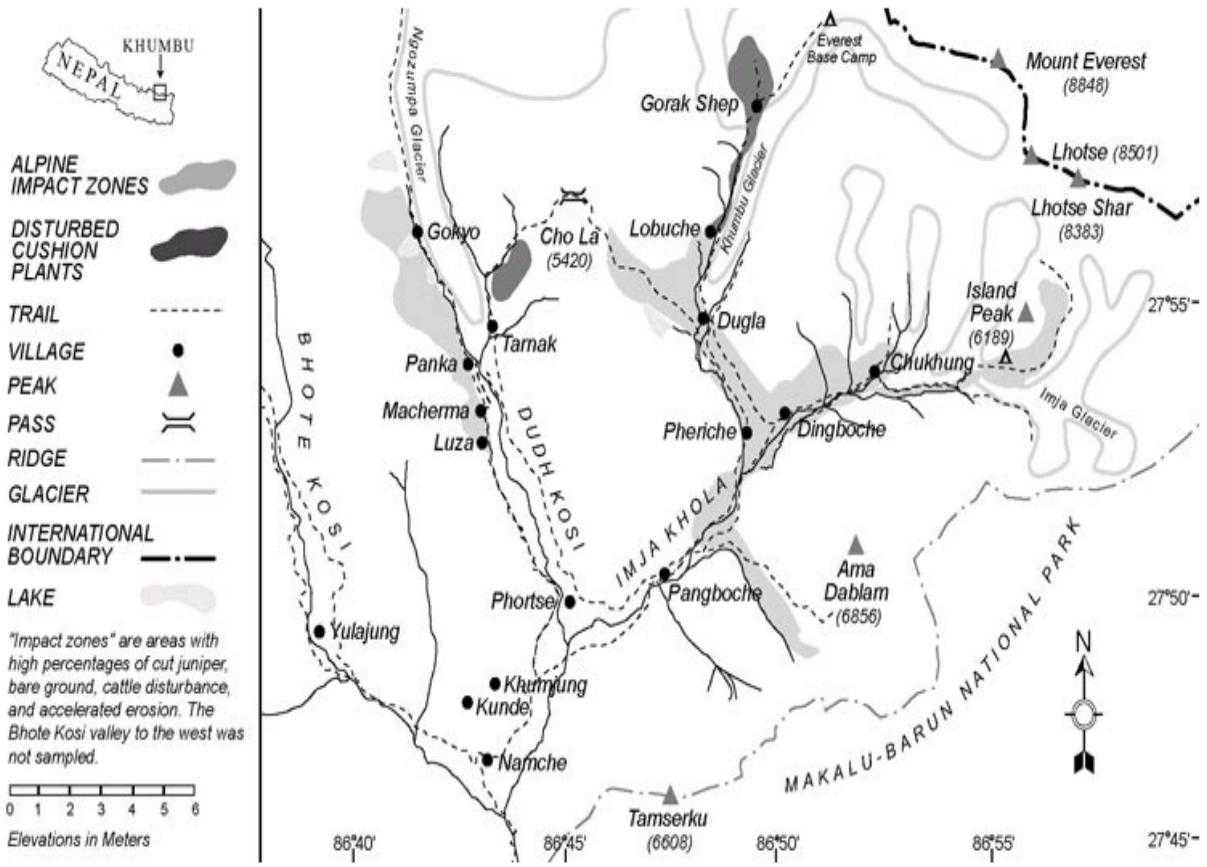
The Khumbu area of Everest region is full of rich natural beauty and vegetation. However, since there are no other means of transport available to reach this area, helicopters and planes are the only means of transportation.

Lukla (2800 m)

This place is accessible by a 45 minute plane or helicopter flight from Kathmandu. This is main entry points to Everest region. Although direct flights of helicopters are operated from Kathmandu to Syangboche Airport, this is also entry point to the Everest region. Therefore, this is also a renowned place in the trekking route.

Phakding (2830 m)

The tourist groups who come for trekking purpose to Everest region from Kathmandu to Lukla by helicopter or aeroplane can arrive here after a three hours walk (at the pace of tourists' walking). This is the only most important and suitable halting place when trekkers are going up and coming back from the Everest region trek. This place lies along the banks of the Dudh (Milk) Koshi River.



Namche Bazaar (3440 m)

It takes about 5 hours to reach Namche from Phakding. This exceedingly enchanting place is the main market place including a Tibetan market of Khumbu area. A large weekly market takes place here every Saturday. On the weekly market day people from low land bring food grains, fuel and other essential commodities to sell here and local people buy all the commodities they need for the whole week for their consumption and trade. This is a very busy market which lies within Sagarmatha National Park en-route to Namche from Phakding that can be reached after passing from Jorsalle. This is also an administrative site of Khumbu area. Many government offices including the headquarters of Sagarmatha National Park, police check post, bank, army camp, post office and clinic are located here. The National Park headquarters lies at Chorkang Danda (La) which can be reached after a 15 minutes walk. A very good museum has been established here. This museum depicts in a very interesting way all vegetation, flora and fauna including birds found in Sagarmatha National Park and the successful mountaineers who have proved successful in climbing Mount Everest so far. This is also one of the important places for trekkers going to Everest region.



Syangboche (3790 m)

Syangboche, one of the most lovely and enchanting places throughout the world, lies at the lap of Khumbila and on the top of Namche Bazaar. This place can be reached by one hour's helicopter flight from Kathmandu, one hour's walk from Namche Bazaar, three hours walk from Thame, 30 minutes walk from Khumjung, 30 minutes walk from Khunde and four hours walk from Tyangboche. The airport of World located at the highest altitude lies at Syangboche. Helicopter services operate regular air service to and from this place. There is a good provision of electricity and telephone service here. A ten minutes climb from Syangboche Airport is all a visitor needs to arrive at **Syangboche Panorama Hotel (SPH)** which has been established at the exceedingly clean, beautiful, awe-inspiring and enchanting landscape. This is the best tourist standard hotels in the Everest region. The beauty of the towering and most fascinating mountains of the world can be relished from all directions of hotel. Tourists can enjoy the rich natural landscape not only from outside the hotel but also from the hotel bed, dining hall and tower. The panoramic view of the important sights of Everest region can be enjoyed in the tranquil atmosphere of hotel.

Each Sherpa village scattered around Syangboche can be reached by one hour's walk from Syangboche. Sherpas have their own traditional culture. They observe various festivals during summer season. Therefore, tourists may visit these villages during summer season to learn about their culture and religion by organising a cultural and religious tour. This is also the most opportune moment to visit Everest region and study the wildlife, birds and vegetation found in Sagarmatha National Park Area.

Thame (3780m)

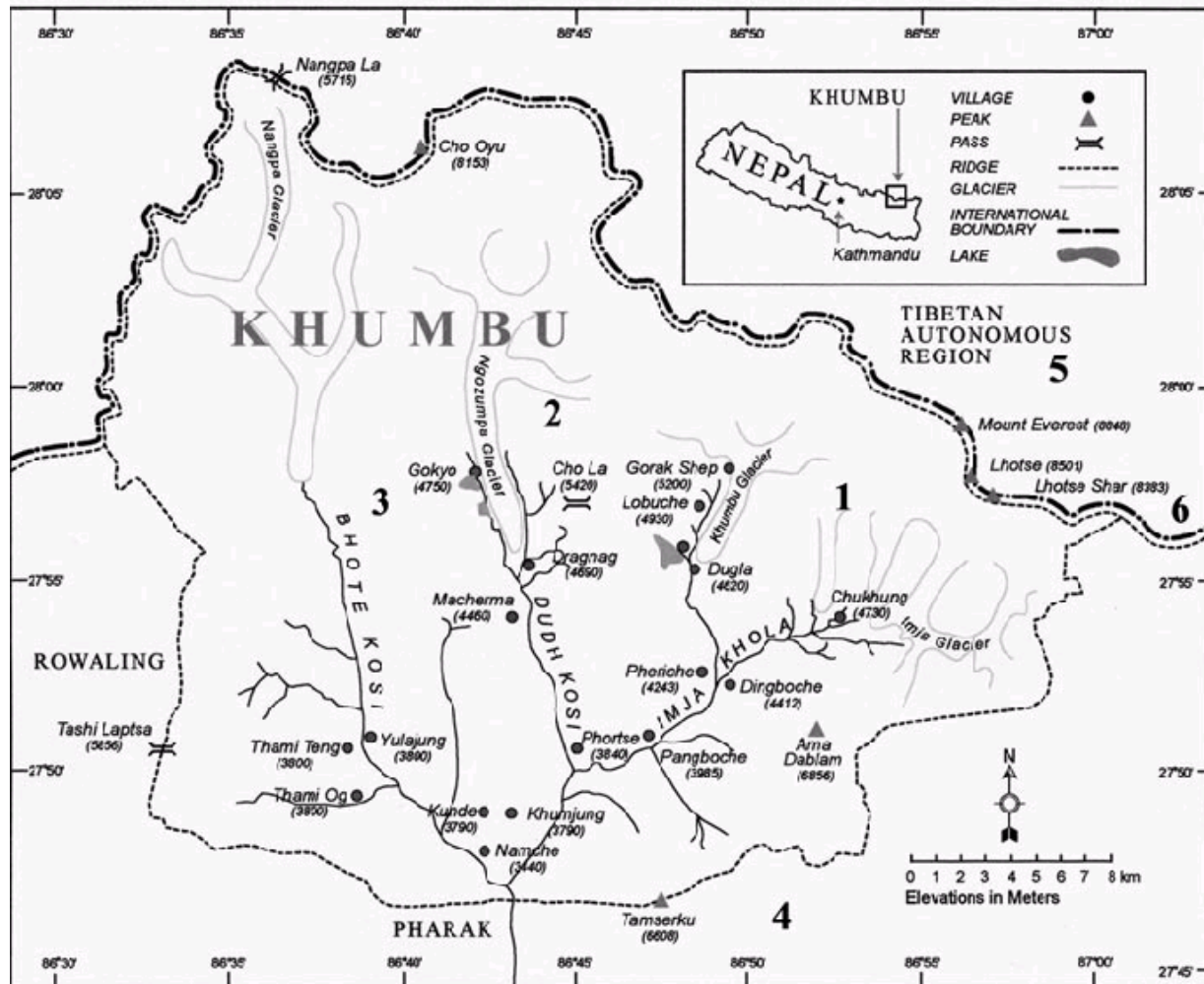
The Sherpa village named Thamo can be reached after one and half hour's walk from Namche Bazaar. This is where the head office of Khumbu small Hydro-electricity Project (KBC) is located which supplies electricity to the whole Khumbu area. After the sight-seeing of the Sherpa villages around this project, we can reach Thame after one and half hour's walk. This is also a Sherpa village, a beautiful village lying in the Nepal-Tibet border area. One hour's walk up the slope is enough to arrive at Thame Gumpa lying near a big precipice. This is the way to Tibet and a restricted area for tourists. A police check post has been established here.

Gongla (5120m)

Tourists who cannot go to the Everest Base Camp and Kalapathar or those who have very little time at their disposal may clearly see all the views from Syangboche itself. Likewise, the scenery of Gongla will be highly useful for tourists who cannot go to Gokyo peak. It takes two hours to reach Gongla from Syangboche SPH. It is from here that the mountains and peaks, particularly of Thame side can be viewed and also Gejockbuk and some awe-striking and huge precipices.

Khumbu Valley

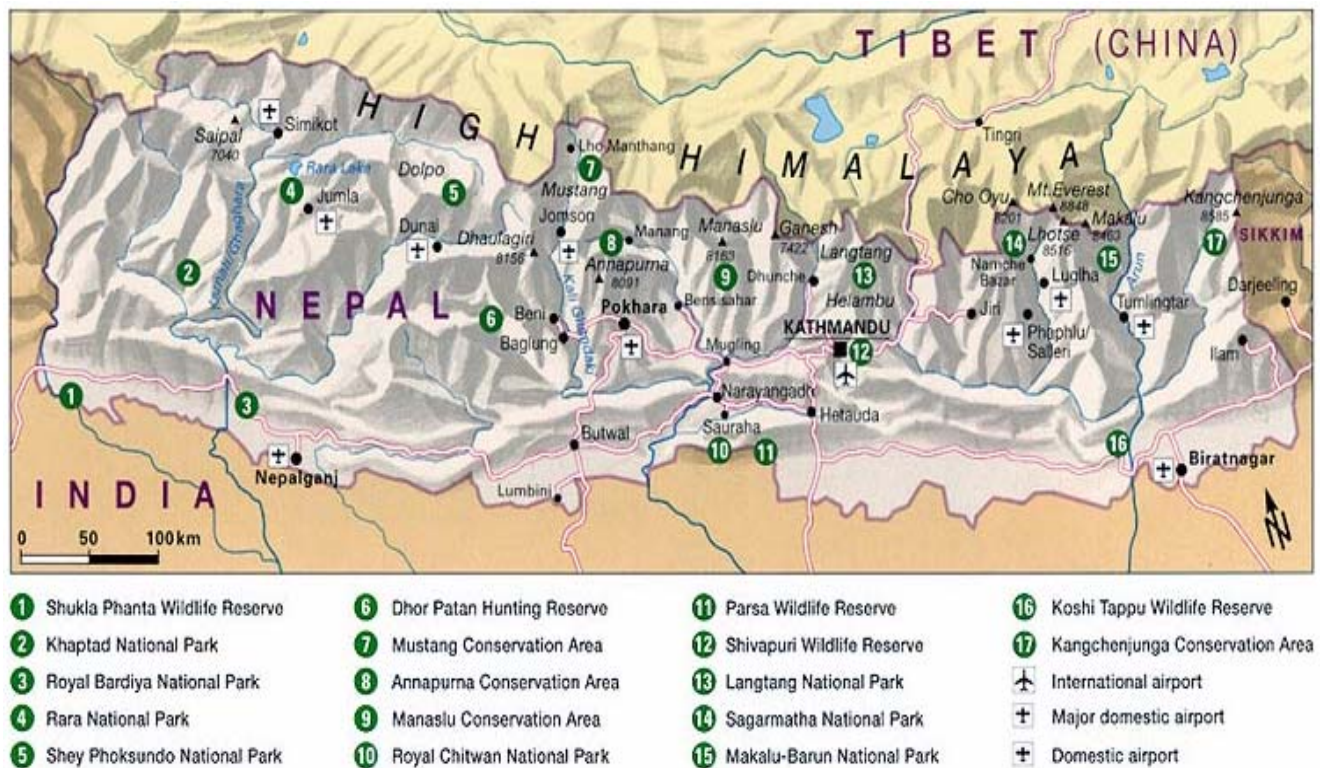
Everest region is famous all over the world from tourism point of view. Khumbu valley located in this region is quite renowned among the Sherpa villages. Khumbila Mountain (5761 m) in this area has been regarded by local residents as a holy peak. There is a local tradition of worshipping Khumbila every year in various ways to achieve different objectives. Khunde and Khumjung villages lie in this Khumbu valley which is located at the lap of Khumbila Mountain. Khunde is a Sherpa village which lies at an altitude of 4000 meters. A hospital equipped with modern amenities has been established here with the co-operation of Himalayan Trust run by Sir Edmund Hillary.



Tyangboche (3867m)

This area where Tyangboche Gompa has been located is one of the most attractive places of Everest region for natural and religious sight-seeing. It takes four hours to reach here from both Syangboche and Namche. The route from Syangboche is so engrossing to the mind because of the beautiful natural landscape that tourists arrive at their destinations without realising how fast the time has passed. This is a very busy place for tourists. Though there are some local lodges, they fall far short of needs of the tourists. But since our hotel makes arrangement for tents for us when we are there we don't have to face any problem. We can have a magnificent view of many Himalayas from Tyangboche also.

Sagarmatha National Park in Everest Region, One of the major protected areas of Nepal, is located near the Everest region, containing parts of the Himalayas and the southern half of Mount Everest. The park was created on July 19, 1976 and in 1979 was inscribed as a Natural World Heritage Site.



Since Sagarmatha National Park (1148 km²) was gazetted in July 1976, the park has protected the natural environment including forests, and wildlife such as musk deer, the Tibetan wolf, and some 36 breeding bird species for which Nepal may have significant populations (Thapa J. 2006). The park's small lakes at higher altitudes are important as staging points for migrating water bird species. The park has attracted world-wide attention primarily because of Sagarmatha (Mt. Everest 8848 m), the world's highest mountain, and the Sherpa communities. It has been declared a World Heritage Site.

Climate

The climate of Namche Bazar is semi arid subtropical, with seasonal monsoon rains during some 56% of past years, and a temperate dry season which has occurred twice yearly for 35% of past years (Joshi, 1982 as cited by UNEP, 2007). On average, 80% of the annual precipitation falls during the monsoon between June and September; the remainder of the year is fairly dry, the clearest weeks being in early May and late September. Fires are a hazard in spring. Precipitation is low as the Park is in the rain shadow of the Karyalung-Kangtega ranges to the south. Garratt in 1981 quoted figures for three nearby locations: 733mm in Khumjung, 984mm in Namche Bazar, and 1043mm in Thyangboche; but the Chinese side of the mountains in the rain shadow of the crest, is almost desert. Winters are cold: the mean temperature of the coldest month, January, is minus 0.4°C and there are occasional heavy snowfalls.

2.2 Demographic and cultural Settings of the Region

The Mt Everest region is the homeland of several Sherpa groups, the northernmost two of which inhabit the Khumbu and Pharak regions around the headwaters of the Dudh Kosi (Milky River) on Nepal's border with Tibet (Furer-Haimendorf 1964 1975 1984; Ortner 1989 1999; Fisher 1990; Kunwar 1989; Lama 1999; Zangbu and Klatzel 1995; Brower 1991b; Stevens 1993a as cited by Stevens S. 2003). The 1100 [km.sup.2] region that Sherpas call Khumbu is the highest Himalaya (Plate 1). Mt Everest (8850 m.a.s.l.) and a score of 6000-8000 m.a.s.l. peaks demarcate the border with Tibet and nearly encircle the several valleys where Khumbu Sherpas live in some of the highest-altitude settlements in Nepal.

Approximately 3000 Sherpas (1991) inhabit eight major Khumbu villages and more than 80 smaller settlements, most of which are seasonal herding bases. Nauje, at an altitude of 3400 m.a.s.l., is the lowest of the villages; herding settlements are situated as high as 5700 m.a.s.l. South of Khumbu, in the 165 [km.sup.2] region of Pharak, 1800 Sherpas (1991) live in more than 30 settlements in the Dudh Kosi gorge at altitudes between 2600 and 2800 m.a.s.l. They now share some settlements with Tamangs and Rais who have migrated to the region since the late 1970s, and non-Sherpas now constitute 24% of the total 1991 regional population of 2400 (Niraula and Khanal 1996 as cited by Stevens S. 2003).

A major expansion of the regional airport at Lukla in 2001 was intended to accommodate 60 000 visitors a year. Well-defined tourist routes have developed. The airstrip at Lukla in Pharak has become the main gateway to the region (Hillary 1982; Fisher 1990). From Lukla visitors hike north through Pharak and into Khumbu. From the Khumbu tourist centre of Nauje a well-beaten track leads east to two major tourist destinations - Kala Patthar (5545 m.a.s.l.), a knoll that offers a close view of Mt Everest, and Everest Base Camp (5364 m.a.s.l.). In the 1980s a second major route developed which diverged from Nauje to ascend the upper Dudh Kosi valley to the yak-herding settlement of Gokyo (4750 m.a.s.l.) and a nearby hill that offers a view of Mt Everest and Cho Oyu (8201 m.a.s.l.). By the 1990s the Gokyo route had become as heavily developed as the Mt Everest trail.

Cultural heritage

The Sherpas are an unusual culture. They originated in Salmo Gang in the eastern Tibetan province of Kham, some 2,000 km from their present homeland and probably left it in the late 1400s or early 1500s to escape political and military pressures. They crossed the Nangpa La into Nepal in the early 1530s.

They separated into two groups, some settling in Khumbu and others further south in Solu. The two northern clans Minyagpa and Thimmi are divided into 12 subclans. The high-altitude Sherpas lived mainly on barley until about 1850 when the potato was introduced to Khumbu and revolutionised their economic life. Both the population and the monasteries took a dramatic upturn soon after. Another influence on Sherpa life has been the mountaineering expeditions which have been a constant feature of life in the Khumbu since the area first opened to westerners in 1950. The Sherpas belong to the Nyingmapa sect of Tibetan Buddhism, which was founded by the revered Guru Rimpoche who was legendarily born of a lotus in the middle of a lake. It is to him that the ever-present prayers and mani wall inscriptions are addressed: Om mani padme hum - "hail to the jewel of the lotus" (Garratt, 1981, cited by UNEP, 2007).

Local population

In 2004 there were an estimated 3,500 Sherpas in the Park with over 3,000 head of livestock (Som et al.,2007) who live in 63 settlements, mainly in the south (Milne,1997). The traditional economy is subsistence agro-pastoralism, supplemented by barter trading with people of the middle hills of Nepal and of Tibet up the Bhote Kosi valley and over the Nangpa La pass. The main activities are potato and buckwheat farming and raising yaks for wool, meat, manure and transport. More recently the local economy has become dependent upon tourism, and activities such as the provision of guides, porters, lodges and trekking services provide employment (Garratt, 1981; Jeffries, 1982, 1984; Sherpa, 1985, 1987; Milne,1997 as cited by cited by UNEP, 2007).

Visitors and visitor facilities

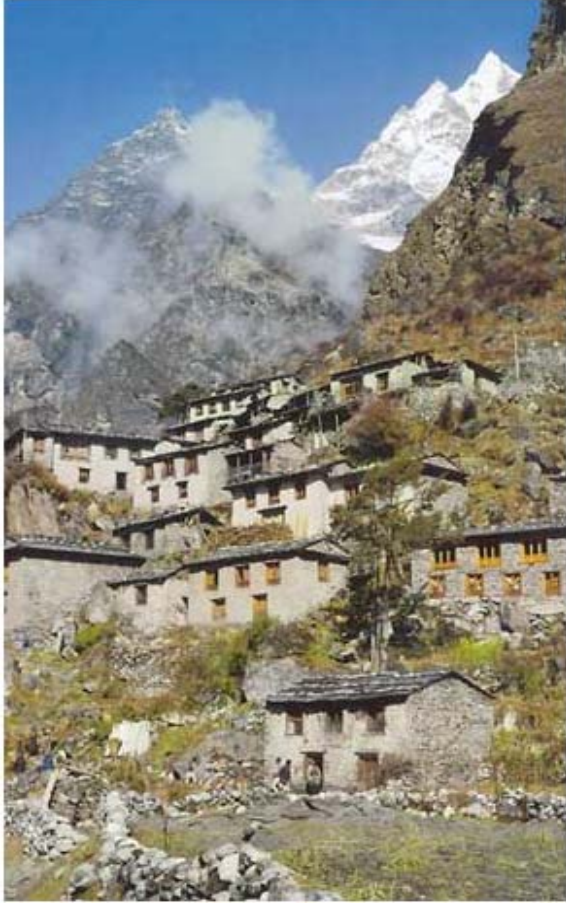
Since the first scaling of the mountain in 1953, the number of visitors has increased greatly: from about 1,400 in 1972-3, 7,492 in 1989 and 25,925 in 2000-1, to 14,000 in 2002 after the civil conflict (DNPWC, 2003) and to more than 20,000 in 2004 (Som et al.,2007). Entry fees range from US\$1,500-10,000.

The summer monsoon makes travel difficult and the winters are cold. The clearest weeks to visit are in late September and early May – important for mountaineers who rely on calm breaks in the uncertain mountain weather. The traffic in climbing groups is heavy, but many tourists also come to trek. The trail up the Khumbu valley to Kala Pattar peak is popular for its views of Everest. The Everest View Hotel and associated Shyangboche airstrip above Namche Bazar are sophisticated but do not provide for many visitors. A lodge has been built at Thyangboche providing beds with detached kitchens and toilets, as well as basic food and drinks. There were in 2002 some 380 lodges and Sherpa village inns, especially in Namche, and most villagers take in guests (DNPWC, 3003; Nepal, 2005).

At Namche there are a visitor centre with information and interpretative services and a Sherpa cultural museum. A handbook has been produced for the Park (Jefferies & Clarbrough, 1986). There is an airstrip at Lukla, south of the Park, which has a regular air service from Kathmandu and provides the most popular means of access.

Ethnic Dimensions

According to TRPAP- STDG, 2008, most festivals in this region are of religious nature and center on the temples and monasteries, with rites conducted by lamas (priests). These festivals are spread out through the full-moon days of May, June, July, August and November in different sections of the Himalayas. While the Sherpas are the most predominant people of Solukhumbu, in the lower region of Solu, the Khaling Rai culture prevails as well.



House of sherpas near Rolwaling

Khaling Rais

Khaling Rais have their own language and practice both joint and nuclear family ties. Chhang (locally fermented millet/rice wine) is an indispensable part of their food and culture. Some of their more important rituals are the Bhume dance, the Chandi dance and the Naghi puja. The Khaling Rais believe that in order to continue human existence, it is necessary to worship their ancestors and the earth deity. Some degree of Shamanism can also be seen in this culture. Although the Khaling Rais belong to the Kirant ethnic group and have their own festivals, they celebrate the Hindu and Buddhist festivals as well.

Sherpas

Though best known for their accomplishments as high-altitude porters and mountain guides, the Sherpa people have traditionally been traders, herders and subsistence farmers. The best known and most admired of all of Nepal's ethnic groups, the Sherpas migrated to the high valleys south of Mt. Everest from eastern Tibet about 450 years ago. The name Sherpa means "people from the east." Their Tibetan origins are reflected in their language, customs, and religion. Ancient mountain gods, the most sacred of these being Numbur in Solu and Khumbu-ila in Khumbu, dominate the Sherpa homeland. The development of mountaineering and trekking has become an added source of income and a means to international recognition for the Sherpa people.



Heavily eroded slopes near Chukung village, a result of years of shrub juniper cutting for fuelwood for the local trekker lodges



Lodge owners in Chukung discuss ways to reverse the trends of environmental degradation in the fragile Everest alpine zone



Mt. Everest (8850 m) and the upper Imja Khola alpine zone, Sagarmatha National Park, Khumbu, Nepal

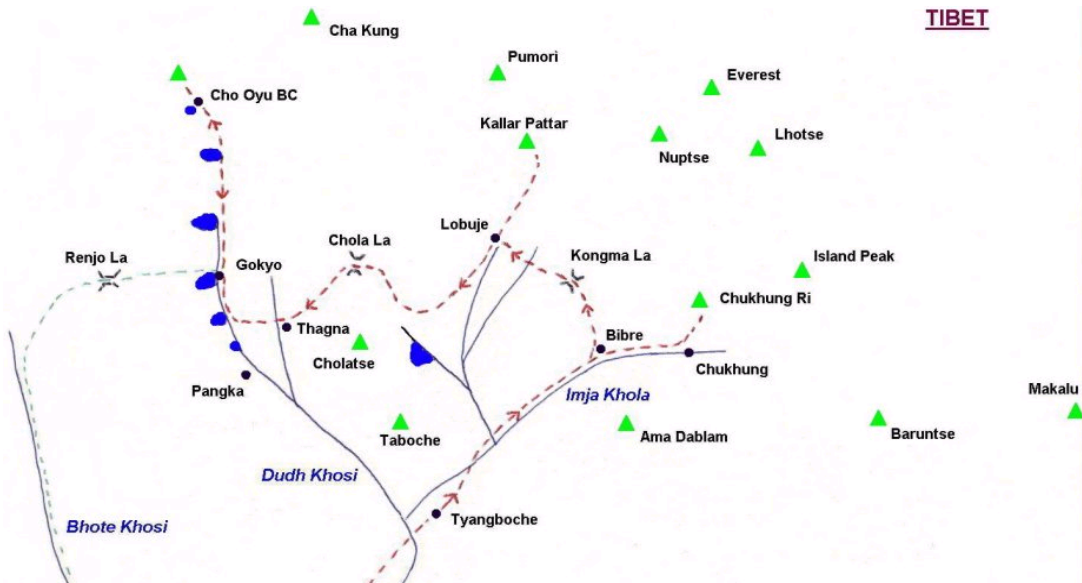


Shrub juniper, which can take 100 years to reach a diameter of 5 cm, continues to be harvested for fuelwood. Efforts to ban this practice began in May, 2004 with the formation of the region's first Alpine Conservation Committee in the upper Imja Khola valley



Education will be key to protecting and restoring alpine environments in the Everest region, as well as throughout the high mountain world

2.3. Transportation Route / Trekking route



3. Tourism and the Dynamics of Change in Everest Region

– Trends, Resources development, Institutions, regional development Linkages and interactions

Tourism development in Khumbu: a chronology of events		
Year	Event	Number of visitors
1950	First Westerners led by C. Houston in Khumbu; H.W. Tilman reached Kala Pattar	
1953	First ascent of Mt. Everest by E. Hillary and Tenzing Norgay	
1956	Mt. Lhotse, the fourth highest peak in the world, is scaled by a Swiss Expedition	
1964	Luglha airstrip built; first trekking agency established in Kathmandu	20
1965–69	Mountaineering expeditions banned	
1971	First Sherpa lodge in Namche	1406
1976	Establishment of National Park; medical post in Pheriche established by Himalayan Rescue Assoc.	4254
1980	Sagarmatha National Park declared World Heritage Site	5310
1985	Outburst of glacial lake above Thame	5840
1988	Launch of new Thame hydro plant funded by Austria	8430
1990	Hotel Everest View reopened; first hotel chain – Sherpa Guide Lodges – started	7954
1991	SPCC established; dental clinic opened in Namche	10,343
1993	First helicopter service for passengers and cargo	
1994	Khumbu Bijuli (Power) Company founded	12,824
1995	Completion of Thame Austrian-Nepali power plant; electricity supplied to eight villages	14,151

Source: Nepal (1999)

Courtesy: **Great Himalaya.** (http://www.alpineresearch.ch/alpine/en/great_himalaya.html#)

Following table shows the trend in the northern part of Solukhumbu (Khumbu valley) , where the worlds highest peak Sagarmatha (Mount Everest) is situated

Year	2002	2003	2004	2005	2006*
Visitors to Northern Solukhumbu	13,766	19,300	21,396	19,063	13,781

* Up to September, 2006, TRPAP

Total garbage removed from Khumbu (in tons)

Fiscal Year*	Disposable garbage	Non-disposable garbage	Total garbage
1994/95	75.6	50.8	126.4
1995/96	145.1	44.8	189.9
1996/97	174.9	68.1	243.0
1997/98	171.4	38.1	209.5

Note: * Nepal's fiscal year runs from 1 Srawan (16 July) until 30 Asadh (15 July).

Source: SPCC (1998)

Institutional arrangements for protected area management

Institutions involved	Approach	Protected area managed	Program emphasis (in order of importance)
Government: DNPWC	Top-down, traditional management	All national parks and reserves, except listed under rows 2, 3 and 5	Wildlife conservation Tourism Buffer zone management
NGO: KMTNC (ACAP)	Community-based, participatory	Annapurna Conservation Area (ACA)	Community development Local institutional capacity-building Tourism Wildlife conservation
Government and NGO: MoTCA and KMTNC (UMCDP)		Upper Mustang, part of ACA	Quality tourism Community development Wildlife and heritage conservation
Government and NGO: DNPWC/TMI	Community-based, some governmental control	Makalu-Barun NP	Community development Local institutional capacity-building Ecotourism Wildlife conservation
DNPWC/WWF-USA		Kanchenjunga CA	Biodiversity conservation Community development Ecotourism

Characteristics of mountain regions and implications for tourism		
Main characteristics	Attributes	Implications for tourism
Difficult access	Remoteness Isolation from markets Insular economy and culture	High value Activities that take advantage of relative inaccessibility
Fragility	Resources vulnerable to rapid degradation	Niche tourism Employment in environmental conservation Restricted use of biological hot spots Carrying capacity considerations
Diversity	Micro variations in physical and biological attributes Interdependence of production bases	Use of specific comparative advantage Linkage with local production systems Small-scale technological innovation Revival of traditional activities
Niche	Location-specific attractions Endemic wildlife and flora Area-specific resources/production activities	Special interest tourism Niche marketing Skill-based or culturally specific crafts Area-specific tourist goods and services
Marginality	Limited local resources Marginal concern to decision-makers Unfavorable terms of trade	Optimal/judicious use of tourism resources Local-level, participatory decision-making Mandatory reinvestment of tourism revenues Institutional capacity and manpower development Monitoring mechanism

Courtesy: **Great Himalaya.** (http://www.alpineresearch.ch/alpine/en/great_himalaya.html#)

4. Issues on Everest Tourism

Mountain Tourism helps to create employment and income for the community through tourist catering services such as trekking, guiding, touring and entertaining and so on. Besides, rural tourism can generate indirectly other non-farm economic activities such as micro business enterprisers, local art and crafts, food processing enterprises, teashops and other in the community. (Poudyal, 2005 as cited by Upadhyay R. 2007).

But the tourism promotion and management is highly influences by the vested interests of the limited groups of people in such areas. According to the study of Adhikari, P.2007, local participation and involvement in the promotion of tourism, decision-making within the various communities is powerfully dominated by local businessmen and educated elites, with vested economic interests. Meanwhile the prospects for advancement and engagement are limited for certain sections of society; notably women and families from marginalized villages with low education levels or low involvement in the tourism industry"

Pollution in Everest region is the another issue linked with the tourism activities , according to TED Case Studies, 2005 , over the past forty years, eighteen tons of garbage, "from tin cans and beer bottles to oxygen tanks...(this does not include such items as abandoned helicopters)" have

been dumped on Mount Everest alone. Other estimates place the accumulated rubbish at fifty tones which will cost approximately \$500,000 to clean up.

The next, and perhaps greater problem than all of the rubbish, is deforestation. Many visitors come to Nepal expecting to see massive forests along the slopes of the Khumbu (TED Case Studies, 2005). They do not come expecting to find Western amenities. Often the reverse is true. Over the years, the influx of tourists has encouraged changes in the use of forests for fuel wood and construction materials. The forests have typically been used by the Nepali for fuel wood.

"It has been estimated that four times as much fuel wood is needed to cook a meal for a Western tourist than for a Nepali due largely to differences in diet." Add to that the fuel wood needed for the daily hot showers and for the bonfires to keep them warm and "the impact on the forests is devastating." One trekker alone consumes five to ten times more fuel-wood than one Nepali. In addition to the trekkers who are consuming gross amounts of fuel wood, there are also the estimated "150,000 guides, porters, cooks, and other support staff" who are traveling with the trekkers and who need fuel wood as well.

According to the researches of The Mountain Institute (TMI, 2008), in the Sagarmatha (Mt. Everest) National Park (SNP), Khumbu, the alpine land cover within the park is rapidly changing as a result of contemporary, unsustainable uses that include burning, overgrazing, increasing numbers of pack stock, and the accelerated harvesting of slow-growing shrubs for fuelwood..

5. Significant Impacts of tourism in Everest region

Changes in the scale and character of tourism have increased pressures on forests for firewood despite conservation regulations. According to Stevens (2003), by the end of the 1970s trekking groups were using perhaps six times as much firewood as mountaineering expeditions. After the 1979 national park ban on tourist campfires, firewood use by inns became the main tourism-related demand. Firewood use by inns has never been regulated. This has proved to be a significant loophole in regional conservation efforts and today they may account for more than 85% of tourism-associated firewood use.

Ledgard (2002a as cited by Stevens, 2003) concluded that Khumbu sources can sustainably provide less than half the regional needs, assuming 20000 visitors a year, current levels of alternative energy use, and revised park regulations that allow managed tree felling for firewood. In Pharak the firewood situation appears to be less serious. Here tourism-related firewood use is much less than in Khumbu because tourists spend little time in the region. According to Stevens, the current total regional firewood use constitutes only about 20% of the region's potential annual supply and Pharak forests can sustainably meet current Khumbu firewood needs as well as local ones.

The experience thus far with tourism development in the Mt Everest region cautions that while tourism can be a powerful agent for local economic prosperity, as it has been for many Sherpas in Khumbu and Pharak, it is a significant challenge to ensure that it fosters the kind of environmentally and culturally sensitive development that is appropriate in an indigenous homeland that is also a celebrated national park and World Heritage Site.

The change is most strikingly evident in the Mount Everest region, where the prosperity of the Sherpas contrasts sharply with the living standards of nearby peoples who have not become involved in tourism (Stanley F. Stevens 1993).

Various adverse effects of tourism on the local society and environment have been widely reported, and one consequence was the establishment of Sagarmatha (Mount Everest) National Park in 1976. Although tourism has transformed land and life in the Mount Everest region in some ways, many reports have exaggerated the severity of the effects of tourism and have underestimated Sherpa adaptive ness, ingenuity, and cultural resiliency.

In This region Khumbu is the most famous of among other Sherpa-settled regions. This 1,100-square-kilometer area at the headwaters of the Dudh Kosi is the home of approximately 3,000 Sherpas. Here on the Tibetan border Sherpas have established eight villages and more than eighty seasonally occupied herding and secondary agricultural settlements in the rugged mountain terrain near the foot of Mount Everest. The lowest of these main villages, Nauje, is situated at 3,400 meters. Herding settlements extend as high as 5,000 meters.

Khumbu Sherpa patterns of subsistence agropastoralism and trans-Himalayan trade differ markedly not only from the economic practices of neighboring, low- lands. Sherpa groups but also from those of nearby Tibetans. Khumbu land use focuses on production of a few varieties of crops and livestock.

An integrated analysis of landscape change in the research of Byers A. (2005), indicates that alpine ecosystems (4,000–5,200 m) within the Imja and Gokyo valleys have been significantly impacted during the past twenty to thirty years as a result of poorly controlled tourism. Impacts within the alpine zone include the over harvesting of fragile alpine shrubs and plants for expedition and tourist lodge fuel, overgrazing, accelerated erosion, and uncontrolled lodge building. Evidence suggests that similar scenarios of landscape change in the alpine zone are occurring elsewhere around the Everest massif as the result of adventure tourism.

According to a group study of Ivan G. Pawson, Dennyse D. Stanford, Vincanne A. Adams and Mingma Nurbu, 1984, a significant sdevelopment in tourism infrastructures and tourist-related construction has been carried out in the district capital, Namche Bazar.

Since the 1950s, tourism has brought major economic changes to the Mount Everest region, leading to prosperity for many Sherpas, but also changing patterns of land use and resource management and increasing pressures on high-latitude resources.

Ecosystems

Nepal has a wealth of ecosystems and since the 1970s has protected and conserved key areas, in fact 13% of its land area has protected area status. The Sagarmatha National Park is one of eight national parks which have been widely reported as suffering from pollution and deforestation as directly related to the impact of tourism.

In the 1980s, Sherpas also began to use income from mountaineering and trekking work to build inns and larger houses and individual trekking using local inns has now become more popular.

Recent research suggests that tourism related firewood and timber use have increased local Sherpa demand, and that use of firewood has had a greater impact on forests outside the Sagarmatha national park. (Stevens, Geographical Journal, September 2003)

Economic

In economic terms, Nepal is one of the poorest countries in the world, but tourism has enabled the Everest region to become one of the wealthiest areas in Nepal. Tourism related employment opportunities include trekking agents, tour operators, sirdars (trekking field managers) high

altitude climbers, porters and cooks. The majority of these jobs are taken by men, although women are mostly responsible for managing lodges. The most successful lodges actually produce more profits than trekking agencies; however the environmental cost is high. Local people being responsible for the development of small scale businesses such as lodges, shops and restaurants and direct interaction between local people and tourism organizers from foreign countries has meant that many have benefited from tourism. The success of the local economy now depends on an equal distribution of wealth and the improvement in the conditions of those low paid porters who are regularly exploited.

Social and cultural

Tourism related funds have contributed towards schools being built in the area, such as the Himalayan Trust. Research has also suggested that families who are involved in tourism are more likely to achieve more in education. (Rogers and Aitchison, 1998 as cited by Nepal, 2003). In many villages, tourism has helped improve water supply, but this can lead to greater inequality as only those villages near tourist centers have improved infrastructure.

The effects of tourism on religious traditions and monastic life suggest a more complex picture; that many Sherpas have managed to adapt to tourism successfully and without any great loss of culture.

Despite the mentioned environmental problems, tourism in the Nepalese Himalayas has been a boon to the local economy. There may be no better example of locally controlled tourism than in the Everest and Annapurna regions (Nepal, S. 2003).

The only exceptions are the porters in the Everest region, who come from neighbouring highland districts of Nepal - taking the place of many local Sherpas who started as porters but moved up the economic ladder and are now owners and managers of lodges, trekking agencies and Himalayan mountaineering expeditions. Almost 70 percent of trekking agencies based in Kathmandu are believed to be either fully or partly owned by Sherpas from the Everest region.

The magnitude of income and employment effects of even a relatively (globally speaking) small-scale tourism can be significant in a local context. According to the estimation of Nepal S.K. 2003, In one year at Sagarmatha National Park the arrival of 17 000 trekkers resulted in the employment of 14000 porters, 2500 guides and staff, 2800 yak owners and 14000 merchandise porters (carrying goods for Sherpa lodge owners and other traders in the tourist region).

In spite of all the positive changes, there are some negative changes as well. While tourism has improved the village economy, increased inequalities in levels of affluence among highland ethnic groups are also reported. Tourism has widened the gap between rich and poor people in villages, creating distinct social stratification. For the poorer sections of the society, the development of tourism has restricted access to previously accessible natural resources. For the more affluent, tourism has meant new aspirations, new consumption habits and ways of life, a broader horizon and a prosperous future.

Several authors have reached the conclusion that the environmental and social carrying capacities of tourism in the Nepalese Himalayas have already been exceeded (Brown *et al.*, 1997; Shackley, 1996 as cited by Nepal, 2003). Although tourism in the Nepalese Himalayas has not been overwhelmingly positive, positive changes for the livelihoods and the environment of

the mountain dwellers are slowly taking place and will gain momentum given the right institutional and political setting in the country and support from the international community (Nepal 1999, 2000, 2003). Remote regions such as Everest and Annapurna would have lagged behind in economic development had there been no potential for tourism development. Today, these are among the most prosperous highland areas in the Nepalese Himalayas.

6. Global and Regional Policy linkages on mountain development

According to Nonis E. (2005), there is the need to strike a note of caution to sustain the mountain tourism. For sustainability to be addressed there is strong linkages of the global and regional initiatives in mountain development agendas. Sustainable tourism goes beyond increases in tourism arrivals and receipts. If not appropriately managed through correct design and enforcement, the social and environmental consequences of increased tourism can completely negate the apparent financial and economic gains.

Education is needed to address the problem, but more needs to be done. Years of abuse of climbing opportunities in the Everest region in Nepal has led to serious degradation of the environment with high costs for clean up, which the Nepalese Government cannot afford (Nonis E. 2005). Such examples show a need to develop and manage infrastructure for tourism with greater care, and the need to continue to be concerned with protecting and maintaining unique cultural, natural and human assets through balancing linkages of the rural and urban centers within the locality, region and throughout the globe.

According to Sharma, P. (2007) ,Each year thousands of trekkers and mountaineers flock to the Everest region contributing to the accumulation of garbage, a problem that has attracted international attention. The Sagarmatha Pollution Control Project was initiated in 1991 with WWF and later MTCA support and active involvement of local community. The Project has a wider mandate including garbage management, clean -up of Sagarmatha Base Camp, conservation education etc.

Talking about the global and regional; linkages in mountain development, The Mountain Partnership which is a voluntary, broad-based alliance plays a vital role with the membership of 49 countries, 16 intergovernmental organizations and 92 major groups and NGOs.

According to Price F. and Messerli B. (2002), during the process of the evolving place of mountains in the global agenda, Mount Everest of Nepal is regarded as one of the central point for the celebration of International Year of Mountains – 2002. High Summit 2002: International Conference around the Continents' Highest Mountains (Turin, Italy, 6 to 10 May 2002), an initiative of the Italian National Committee for the International Year of Mountains, regarded the Mount Everest as one of the important place to broadcast the videoconference. The international gathering Celebrating Mountain Women (Kathmandu, Nepal, 28 to 31 May 2002), organized by the International Centre for Integrated Mountain Development (ICIMOD) and the Mountain Forum, focused on the positive contributions of mountain women to local and national economies and launched a long-term program for mountain women at ICIMOD.

The theme of Sustainable mountain development in all agendas involves satisfying the current needs of mountain regions and populations living downstream, while seeking to ensure the availability of natural resources into the long-term future - here, a Nepalese woman plants seedlings for fodder, fuel wood and erosion control in the Himalayan foothills (FAO, 2006).

At the global level, formal implementation of Chapter 13 of Agenda 21, entitled "Managing fragile ecosystems: sustain-able mountain development", began in 1993, when the UN Inter-Agency Committee on Sustainable Development appointed FAO as Task Manager for Chapter 13. In this role, FAO has convened seven meetings of an ad hoc Inter-Agency Group on Mountains (IAGM), which in spite of its name does not involve only UN agencies, but also includes bilateral donors, non-governmental organizations (NGOs) and research institutions.

Talking about the global programs, some research projects for Biosphere Protection are specifically focused for Everest region development, e.g. **Conservation and Development of the Mt. Everest Ecosystem - Phase I**, administered by Ottawa.

6.1 GLOBAL institutional linkages through program interventions

According to **THE MOUNTAIN INSTITUTE (2009)**, TMI's programs in Asia started in the mid-1980's with the "Heart of the Himalaya" initiative for the establishment of two new mountain protected areas: the Makalu-Barun National Park in Nepal, and the Qomolangma (Mt. Everest) Nature Preserve in the Tibet Autonomous Region of China, (Tibet). Both were founded on the principles of participatory design and management, and collaboration between park managers and local communities. These pioneering projects were some of the earliest demonstrations of community-based project design that has since become the basis for most of TMI's programs.

Other multi-year projects work to conserve the transboundary regions of the Eastern Himalaya of Nepal and Sikkim, promoting improved alpine and forest management by encouraging the sustainable cultivation of high value medicinal and aromatic plants.

List of Some specific projects

- **The Eastern Himalaya Corridor Conservation Project:** Promoting the conservation of biodiversity rich forests and alpine areas through the cultivation of medicinal and aromatic plants along the Nepal- Sikkim, India Border.
- **Sagarmatha (Everest) Training Center: Establishing a multi-purpose training centre in the Thame Valley of Sagarmatha (Everest) National Park. This Centre will provide much-needed vocational training to poor and disadvantaged groups in the less visited areas of the Park.**
- **Alpine Conservation Partnership (ACP):** Community based conservation and restoration of alpine ecosystems.
- **The Pikey and Dudhkunda Trekking Trails in Solukhumbu** are jointly promoted by the DDC, TAAN, and NTB as interesting cultural and scenic alternatives to the established Everest Base Camp route. The route features the Thuptenchoeling and Chiwong monasteries, and Sherpa culture.

Some mountain focused international organizations and programs

- Food and Agriculture Organization of the United Nations (FAO)
- Global Observation Research Initiative in Alpine Environments (GLORIA)
- Global Mountain Biodiversity Assessment (GMBA)
- Mountain Research Initiative (MRI)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations Environment Program (UNEP)
- World Mountaineering and Climbing Federation (UIAA)
- Himal Initiative for Landscape Management

6.2 Local Initiatives

According to MEF (2009), the establishment of Mount Everest Foundation for sustainable Development (MEF/NEPAL) is a significant step towards achieving the goals of peace, unity, social amity, international co-operation and fraternity free from racial, ethnic linguistic or religious discrimination. The Mount Everest Foundation believes in the motto of "World is a Family."

The MEF aims to run directly to co-operate in partnership with related agencies promoting socio-economic development with maximum utilization of local and natural resources. It is MEF policy that the priority would be given to those programs, which address peace and Human Development from grass-root levels. The services and activities implementation of which would be directly benefit a large section of the people for their betterment.

According to TRPAP (2009), The Tourism for Rural Poverty Alleviation Program (TRPAP) aims to improve the livelihood of people by harnessing their participation in tourism development activities. TRPAP is active in six districts of Nepal, namely Taplejung (Kangchenjunga), Solukhumbu (Everest), Rasuwa (Langtang), Chitwan, Rupandehi (Lumbini) and Dolpa. The Program has focused on raising awareness of tourism issues, and facilitated organisational responses through community participation.

TRPAP has successfully introduced tourism products to new areas and new communities, with special efforts to target women and deprived groups. Even in established tourism destinations, TRPAP has sought to spread tourism benefits to new and more remote areas. For example, in Solukhumbu efforts focused on new products in the more neglected parts of the district, leveraging off the strong tourism flows on the Everest route.

Electricity has transformed the village and enabled it to become an attractive ecotourism destination. Being off the main Everest Base Camp trail, authentic Sherpa cultural traditions are preserved. The micro-hydro has reduced impacts on the forest so the environment is maintained. Buddhist non-hunting culture nurtures biodiversity. Other TRPAP improvements noticed by tourists include the positive effects of TEAPs, safe drinking water, sewage systems, a dumping site, incinerator, and smoke-free kitchens.

Thame Valley village development (Austrian Development Cooperation/Eco Himal) is a rural development project targets the Thame Valley, in the Everest Region. Due to its location away from the route to the Everest base camp, this valley attracts few tourists, and lags surrounding areas in development. An interesting example of vulnerability to climate-related risk: *"Eco Himal has built two bridges in the valley in 1997 and 1998. Both of them were designed according to traditional local conceptions. Unfortunately, they did not survive the*

unusually intensive monsoon in 1998. Therefore, it is essential to struggle for a long-lasting solution". The project document mentions "weather" as an external factor, but does not discuss how to minimize those risks to the project and its development goals. However, it does pay attention to erosion and landslide risks. For instance, the project will relocate the Dumji House (centre for an important festival) in the light of high landslide risks in an erosion-prone area.

The major Efforts of Local NGOs and their linkages to other communities are concentrated towards some of the Service Oriented Activities like;

- Work for Peace and Development
- Education
- Health
- Environment
- Permacultural activities in the Communities
- Concept of Eco-village Development
- Eco-Tourism
- Rural and Urban Development
- Scholarship Programs
- Cultural Reservations
- Utilization of Local Resources
- Promotion of Cultural Tourism
- Communication for awareness

Rural-Urban Partnership Program (RUPP) is developed and hence implemented in selected urban and rural centers of Nepal. The program aims to achieve the goals of urban and rural development by strengthening rural-urban linkages. Successful mobilization of civil society (community) and their appropriate utilization in implementing program activities is the clue to success of RUPP. Taking benefit from the successful community mobilization initiatives, the program is now addressing all physical, social, economic and environmental aspects of urban development through good urban governance (RUPP, 2009).

As tourism has tremendous forward and backward linkages it will help to boost other sectors as well as diversify our economy, we are so much in need of. In that direction, decentralized tourism policy, planning, affective harmonization of macro, meso and micro planning and all inclusive/mass participation of the people are the Pre-requisites. From the hands of few hundred entrepreneurs tourism should be taken to common people.

The Asian Development Bank (ADB) sees tourism development as an attractive way to promote broad-based economic growth. The Bank's five strategic development goals accord with the benefits which can be derived from tourism development (Nonis, E. 2007). Environmental protection is yet another of ADB's strategic objectives central to tourism. This might appear paradoxical, because environmental damage is commonly associated with tourism in everest region.

According to RUPP (2008), some more Initiatives as the administrative and development linkages are actively palying for the development of the everest region. Government of Nepal-Ministry of Culture, Tourism and Civil Aviation with the technical and financial assistance from

United Nations Development Programme (UNDP)/Nepal, Department for International Development (DFID)/ Nepal and SNV/Nepal are key players for administration and management of the development in this region. RUPP programme is operating in six pilot sites of Nepal (Taplejung, Solukhumbu, Rasuwa, Chitwan, Rupandehi and Dolpa).

TRPAP has identified and developed new tourism products in all the programme areas. The products have been developed in close consultation with district level stakeholders and private sector such as Trekking Agents Association of Nepal (TAAN), Nepal Association of Tour & Travel Agents (NATTA) and Nepal Association of Tour Operators (NATO). The main tourism products/ models developed are: Limbu Cultural Trail and Pathibhara Pilgrimage Trail in Taplejung; Dhudkunda & Pikey Cultural Trail in Lower Solukhumbu, Eco-tourism Village in Phortse- Khumbu region/ Sagarmatha National Park, Chitwan Chepang Hills Trail in Chitwan, Lumbini Buddhist Circuit Tour in Rupandehi, Tamang Heritage Trail and Home Stay Tourism in Rasuwa, and Dolpo Experience Circuit Trail in Dolpa. The ownership of the products has been institutionalized within the local governance system and further institutional supporting mechanisms have been created.

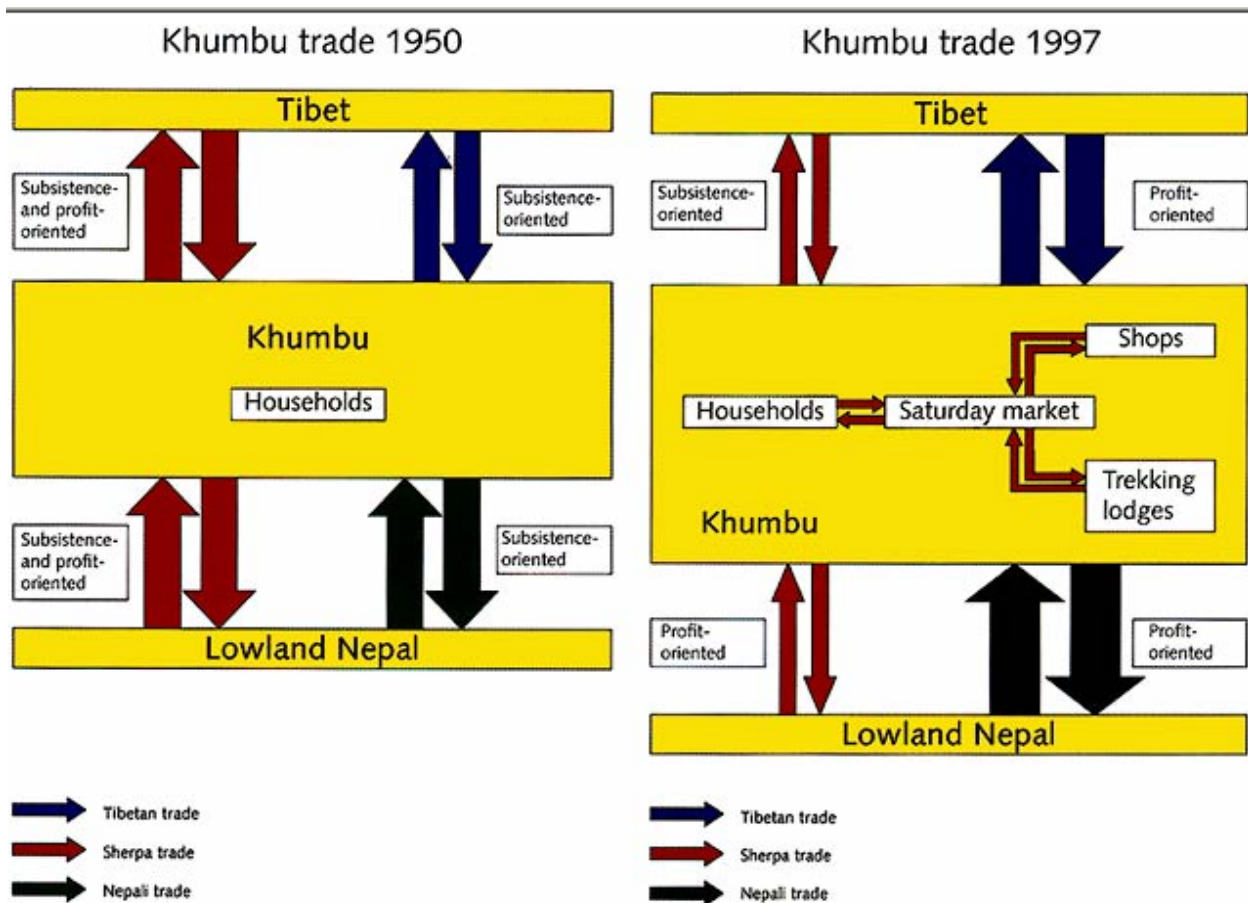
6.3 Linking Policies, Plans, Guidelines, Studies and Reviews at national level

The Pro-poor Tourism Policy and the National Strategic Plan (2005-2009) have been prepared for the first time in Nepal. The Pro Poor Tourism Policy document will support planning and implementation of pro poor tourism activities in Nepal, whereas Tourism Strategic Plan will guide policy makers and the tourism industry of Nepal to consolidate the strengths, increase quality visibility and focus on primary markets. In addition to this, TRPAP has supported the government to identify policy gaps in tourism sector of Nepal and suggested a framework to be incorporated into revised tourism policy and related acts and regulations. A 15-year Tourism Marketing Strategic Plan (2005-2020), has also been prepared in extensive consultation with Ministry of Culture, Tourism & Civil Aviation (MoCTCA), private sector, NTB and related stakeholders to be used for the promotion of sustainable tourism development in Nepal over the next 15 years. NTB has been implementing this Plan since 2005.

TRPAP has prepared District Tourism Development and Management Plan (DTDMP), for all the 6 districts. The 5-year plans will guide development and management of nature and culture based tourism potentials in the districts. Similarly, the project has prepared Tourism and Management Plan for Sagarmatha National Park, the World Heritage Site. The plan has ensured the rights and responsibilities of the buffer zone communities, private sector and government agencies in further development of the area by safeguarding the conservation values therein. As a part of the propelling the tourism industry to a more sustainable front, TRPAP has also published a 15- year sustainable tourism marketing strategy in extensive consultation with NTB.

7. High Land Low Land Interactions

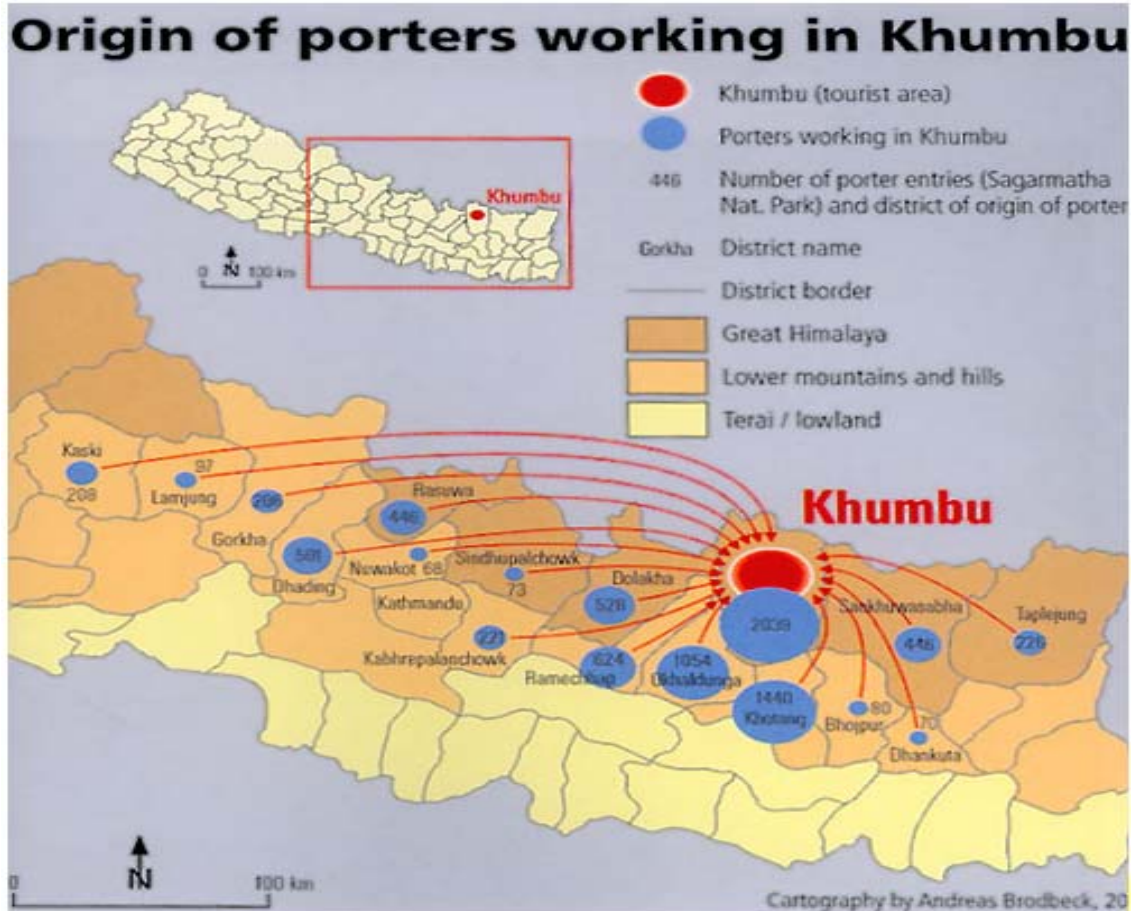
To balance the interactions between high land and low land five different mountain development strategies are adopted in global mountain development agendas. They are focusing for promoting food, water, environmental, employment security and equitable distribution of the resources for both highland and lowland populations (Mishra , H.R. 2002).Countries cannot afford to ignore linkages between economic development in the highlands and lowlands(FAO, 2005).



Courtesy: **Great Himalaya.** (http://www.alpineresearch.ch/alpine/en/great_himalaya.html#)

The figure shown above depicts the interdependency of the trading of goods and services through trans-boundary as well as the highland- low land relations. It also shows how the trade dynamics changes with the period of time. The khumbu trade has shifted from subsistence level to profit oriented after establishing and specializing the tourism products and services in the Everest region.

There has been socioeconomic change on a grand scale, both positive and negative. Ives (2001) has demonstrated that the transition from a trading-plus-subsistence farming economy to a trekking-tourist dominated way of life has had far reaching effects.



Courtesy: **Great Himalaya.** (http://www.alpineresearch.ch/alpine/en/great_himalaya.html#)

The outflow of some of the younger Sherpa from the Khumbu to operate small hotels and trekking company offices in Kathmandu further signifies this issue. With this loss of Sherpa male workers from local agriculture (including mountaineering death and injury), temporary labour is hired by the female household heads left behind, usually from other ethnic groups from the lowlands (Ives, J. 2001). Furthermore, the substantial increase in overall Sherpa wealth, albeit with inequalities between villages according to their proximity to the main trekking routes, has permeated the entire Khumbu region.

The high land of Everest region is providing, safeguarding ecological and amenity services. The protected areas in this region are harboring biodiversity, and provide natural products such as timber, medicinal plants and minerals. This region significantly provides national and local income through tourism. The forests help conserve soil and water, maintain the integrity of the ecosystem, prevent mountain hazards and natural disasters such as floods and landslides and (like other forests) regulate climate and serve as carbon sinks.

Economic development in Everest region is confined within the upper belt of Khumbu. The Immediate lower belt of this region (Solu) lags behind such development for a variety of reasons including limited opportunities for education and skill development and consequent dependence on land; migration to the plains and cities; relative economic isolation from the upper belt, partly because of limited access and the high cost of developing infrastructure facilities; and limited investment in the development of technologies. Physical and economic isolation is a constraint to

the livelihoods and food security of the people of the lower belt of Everest, who are frequently dependent on agriculture. They are deprived of getting opportunities to share the benefits from the tourism from the upper belt which is the major source of local income in this entire mountain region. Everest region has become an employment center for the porters and tourism entrepreneurs of the various low land peoples. In addition there are mountain to mountain relationships in tourism development in this region.

Countries cannot afford to ignore the intricate linkage between environmental conservation and economic development in the highlands and poverty reduction and sustainable development in the lowlands (Price and Butt, 2000; Messerli and Ives, 1997 as cited by FAO, 2005). Problems such as recurrent landslides, floods and famines in the mountains have adverse impacts on economic and human development in both the highlands and the lowlands.

How this highland is linked with global issues

According to **OECD report (2003)**, one of the most tangible manifestations of climate change which has directly affected the lives of the low land people in the Everest region is explained here. The most significant GLOF event in terms of recorded damages occurred in 1985. This GLOF caused a 10 to 15 meter high surge of water and debris to flood down the Bhote Koshi and Dudh Koshi Rivers for 90 kilometers. At its peak, 2,000 m³/sec discharged, two to four times the magnitude of maximum monsoon flood levels. It destroyed the Namche Small Hydel Project, which was almost completed at the time and cost approximately NPR 45 million. An earlier GLOF in 1977 was recorded at Dudh Koshi. This event killed two or three people, destroyed bridges for 35 km downstream, and triggered many debris flows. Construction materials for a hotel that were kept 10 m above the river were swept away. The Namche Hydel site sustained such damage that it was deemed unlikely to be salvageable for any reconstruction of the plant. Severe erosion destroyed the weir and headrace canal where water would flow into the plant. The flood plain was extensively widened. This damage was not the only damage that occurred that day on 4 August 1985. Damage occurred all along the length of the Langmoche Khola-Bhote Koshi-Dudh Koshi for a total of 90 km (Ives, 1986), including: 14 bridges, including new suspension bridges, were destroyed; at least 30 houses, likely the only property the families had; erosion, undercutting, and destabilization of long stretches of the main trail from the airstrip at Lukla to Mount Everest base camp; Prices increased by an average of 50% for staple supplies when the trail reopened; Cultivable land and forest destroyed; Four or five deaths, but it could have been much higher had it occurred during peak trekking season; collapsed road sections, which the community repaired quickly, but it remained unsafe and caused accidents later. Future floods could have even more catastrophic effects, becoming 'mountain tsunamis' that put millions of people downstream at risk (Shrestha, B. 2007).

Furthermore, the very large volume of water available in 'Imja Lake' would likely extend the downstream effects out onto the Terai lowlands.

The more strictly physical and hydrological aspects of highland-lowland interaction, in the form of the periodic outburst of great volumes of glacier-melt water, may well accelerate in the future as the glaciers of the Khumbu continue to thin and retreat (Ives, J. 2001).

8. Socioeconomic Development issues of Everest tourism

(Within the region – analyzing the social dynamics)

According to CRC research report (1999-2002), Tourism activities are concentrated in only 5 areas – Kathmandu Valley, Annapurna Conservation Area, Sagarmatha National Park, Langtang National Park, Royal Chitwan National Park, 4 of which are protected areas.

Talking about the tourism sector in contribution to the society there are some bitter facts,

- The tourism industry is characterized by a highly developed and competitive private sector that has driven development, but has little vision and capacity for planning
- The public sector has a reputation for mismanagement and corruption
- The tourism industry is highly focused in Kathmandu and a significant proportion of tourism income is retained in Kathmandu, contributing little economic benefits to the rural and remote areas on tourist itineraries that bear the brunt of tourism's impacts (CREST 1995 as cited by CRC research report).

8.1 Disparities within the region

Talking about the Everest tourism, it is confined within the khumbu region and there is little access of the people of lower belt to this opportunity. Even within the khumbu region the rich people are behaving as the extractor of the tourism incomes. In fact Everest tourism is extractive and Exploitative to the poor people within the khumbu and to most of the people of lower belt of Solu where the rural poverty is still prevailing (Personal communication with journalist from Everest region). In this sense Everest tourism is not equitable in distribution and is confined within pockets of limited people. The lower belt cannot compete with the upper belt in the same manner for tourism entrepreneurship. That's why there are disparities and marginalization (social and economic) within the Everest region.

8.2 Gender Dimensions

-Impacts of Tourism on Mountain Women

The mountain people of the Himalayas are among the most socially, politically and economically Deprived people in the world, and yet their stewardship of mountain natural resources is closely linked to sustainability of life in lowland areas (Sherpa, Y. 2007). Among mountain population, women play a crucial, and in many respects dominant role in natural resource management, agricultural production, tourism and the well-being and very survival of mountain families.

The condition of Himalayan women can be characterized by a few stylized facts **(i) they are underrepresented in politics and bureaucracy; (ii) in South Asian countries more than 75% of mountain women fall below the poverty line; (iii) lack of infrastructure development causes inadequate access to basic services such as health, education, water, electricity etc; and (iv) existence of caste, gender and social exclusion further aggravate the already deplorable condition of these women.**

In some cases the capacity of the tourism industry to employ the most unskilled, disadvantaged people and women makes tourism a very attractive industry for marginalized people. But the competitiveness matters in the success of the tourism entrepreneurs.

Tourism creates opportunities ranging from large scale business to small cottage industries, in terms of employment generation.

With the arrival of tourism, several Sherpa women opened tea house lodges and restaurants. The hotel industry came naturally to these women since they were already adept in the hospitality business and they had the autonomy to involve in economic activities.

According to Sherpa, Y. (2007), running tourism business was just an extension of household work for Sherpa women. The wave of male out migration brought in by tourism has increased women's dependence on tourism for their subsistence and economic development. Although out migration has increased its own set of social problems, such as a rise in polygamous relationships and divorce rates, the benefits from growth of tourism still outweighs its negative impacts.

9. Ways Forward

Mountain tourism is a global issue. It is not confined within the local and national level. In that sense Mountain tourism is intricately linked with the global agendas of mountain development. Hence, even the issue of a corner of Mountain region of Nepal can be a global agenda. In this regard, the issue of sustainable Mountain tourism Development in Everest Region is linked with the global Mountain development issues and some 'ways forward' are proposed.

Need for advocating Sustainable, Responsible and equitable Mountain tourism

Development of sustainable tourism that is pro-poor, pro-environment, pro-rural communities, pro-women and responsible for overall human development is to be the major consideration for sustaining mountain tourism in Everest region.

Broadly this can be an attempt to involve both local and global community in tourism promotion through making them aware of the importance of the Nature and economic growth side by side.

This is expected to complement rural poverty by tourism and sustain both of them. However, care should be taken that such development interventions do not increase the false expectations among the beneficiaries.

Need for linking mountain tourism to the Specific Mountain Development policy instruments

Mountains may constitute about one-quarter of the world's landmass, but few countries have developed specific policies to address the needs of these unique regions and their peoples. Good policies are mountain-specific because mountains are different from lowlands. To link Mountain tourism to the specific mountain development policy instruments at local and global level is felt to be our primary need.

Need for Strengthening Corporate Responsibility – Tourism Markets, Business and the Environment

Encouraging good practice and corporate responsibility in climbing and mountaineering, and linking responsible access with protection of the environment is another issue to be forwarded in mountain development agendas.

Need for proper Transfer of Economic Costs and Benefits

Tourism is frequently claimed as the world's largest industry, employing over 200 million people in the early 1990s (a tenth of the world's workforce) and ensuring a cash flow of US \$ 3.4 trillion. These figures are expected to double within the next decade (World Travel and Tourism Council, 1995 as cited by Ives, J. 2001). One of the noticeable trends has been pressure on the

tourist industry to locate and develop new, exotic, remote destinations and to assure the proper distribution of income from tourism at all levels in tourism sector.e.g. employers and employee, local community and global community, Porters and tourism entrepreneurs.

Need for New Mountain Tourism Network

An effective network that can link a diverse group of experts with communities impacted by tourism and amenity migration to facilitate information-exchange, mutual support and help for advocacy in the current issues is another need to be addressed. This type of Network should help people share practical approaches to maintaining sustainable communities, economies and environments in the Mountain tourism context. It should emphasize the need for **‘Mountain to Mountain’ cooperation Culture** in different mountain communities.

Need for integrated and comprehensive mountain development approaches

-Integration of Environment, Culture and gender, Risk and hazards, Economics, Policies and legislation in Development Framework

Mountain environments require a different approach to development compared with lowland areas. However, most mountain legislation and policies have a bias to lowland priorities and do not adequately consider and directly address the special conditions and problems of mountain regions and their inhabitants. Therefore the development of new legal and policy frameworks at all levels, but especially at national and decentralized levels, is an urgent necessity. Further there is need for integrating all these dynamics to achieve sustainable results. In such highlands sustainable outcomes can be achieved by managing water and watersheds more efficiently to provide sufficient water, preventing deforestation and land degradation to secure agro-economic sectors, using mountain tourism as a tool for poverty reduction and Focusing on sustainable non-timber use of biodiversity and agro biodiversity. Implementation of such integrated framework can enhance the profile of the results of mountain development programs.

Conclusion

Without adequate local control, self-reliance and strong participation in decision-making, tourism is likely to benefit only a few rich individuals, often outsiders, at the expense of a large, poor section of the community. Mountain communities are often limited in financial, technical and managerial resources, which hinder their ability to develop and market tourism attractions effectively. It is often the outside stake-holders such as tourism developers, entrepreneurs and tour operators who have the knowledge and the resources to make tourism a competitive business. Thus, mountain tourism policies must carefully balance the interests of local communities with those of outside stake-holders. Government institutions with the necessary capacity to plan and implement projects are crucial for the sustainable development of the highland regions.

Mountain tourism in Everest region is under threats of many adverse situations. To overcome these threats and to address the sustainability of the Everest tourism there are some primary needs to be addressed very soon. They are;

- Implement appropriate watershed and river basin management programmes to ensure the continued supply of essential services, especially water supply and soil conservation.
- Prevent deforestation and land degradation to secure agro-economic sectors.
- Reduce vulnerability to climate change.
- Use mountain tourism as a tool for poverty reduction.
- Focus on sustainable use of mountain biodiversity, including agrobio-diversity.

The strategies listed here, especially the first three, will benefit not only the on-site, highland stakeholders, but also the lowlanders off-site. Promoting the off-site benefits is an important means of obtaining political and other supports for mountain development from people in the lowlands.

Forward-looking policy and management must incorporate Mountain tourism in the global agendas of mountain development and further implement the guidelines properly.

Trekking and mountaineering are major tourism activities that have helped uplift thousands of mountain people out of poverty. Every year, tourism generates employment for youths as mountain guides and porters, most of whom have very meager income from agriculture. In addition, trekking and mountaineering create opportunities for enterprise generation through the operation of tea houses and lodges along the trails. Besides the above, tourism also creates linkages for growth of other sectors such as traditional handicrafts and agro based businesses and restaurants—again, sectors that overwhelmingly involve women.

In conclusion, the ‘opening up’ of the Himalayan mountain landscape, with its distinctive Sherpa culture, to lowlander access has brought change on a vast scale. There has been increased wealth in general; better health care, higher levels of education and literacy, a national park and World Heritage site have been established. There is a need to explore the global linkages and mountain development networks to sustain the Mountain tourism in Everest Region.

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ANNEXES

1. The mountain institute forwards and implements some of the key mountain development initiatives, agendas, and implementation programs for sustainable mountain development. Some of them are listed as follows (Cited from TMI, 2008).

Bali Document (2002)

The Bali 'concept' document is the formal proposal for a new international partnership for sustainable development of mountain regions, which was finalized during the fourth session of the Preparatory Committee for the World Summit on Sustainable Development (Bali, Indonesia, 27 May - 7 June 2002).

Mountain Forum E-consultation on the Mountain Partnership (2003)

This Report to the Committee on Sustainable Development CSD (24 April -5 May 2000) highlights that mountain ecosystems contain an integrated complex of natural resources that are closely linked in space and time. Those who inhabit the mountains generally depend directly on many of these resources for their livelihoods and tend to utilize and manage them through a combination of land-use practices such as agriculture, forestry and livestock production.

Guiding Principles (2003)

The Guiding Principles paper discusses the aims, structure, functions, governance and membership criteria of the Mountain Partnership. It was approved and endorsed by members at their first global meeting (Merano, Italy, 5-6 October 2003).

Merano Conclusions (2003)

The Conclusions are a set of guidelines to steer future membership, governance and action of the Mountain Partnership. The Conclusions also welcomed the offer of the Government of Peru to host the next meeting of the members of the Mountain Partnership in Cusco in 2004. This document was produced and approved by Partnership members at the close of their first global meeting (Merano, Italy, 5-6 October 2003).

Mountain Partnership Organization, Membership and Governance

The structure, membership and governance and criteria of the Mountain Partnership are defined in the 'Governance Paper'. This document was developed through a consultative process with the founding members of the Mountain Partnership and formally adopted by members at the

plenary session during the Second Global Meeting of the Mountain Partnership, or Cusco Conference (Cusco, Peru, 28-29 October 2004).

Cusco Framework for Action (2004)

The Cusco Framework for Action will also now serve as a central document to steer the future action of the Mountain Partnership. The framework document was drafted by the Government of Peru in June 2004 and circulated amongst the Partnership before being fully discussed by members during a three-week electronic consultation conducted by the Mountain Forum (30 August-17 September). At the Cusco Conference (Cusco, Peru, October 2004), the Framework for Action was finalized in an open-ended drafting committee and then finally adopted in the Plenary as the 'Cusco Framework for Action'.

Declaration of the Andes (2004)

This political document, prepared initially by the Government of Peru and adapted by Mountain Partnership members at the Cusco Conference (Cusco, Peru, October 2004) recognizes the increasing awareness of the importance of mountains to life, the growing alliance of commitment and will towards sustainable mountain development at all levels since Rio Earth Summit (1992) when Chapter 13 of Agenda 21 -- the blueprint for sustainable mountain development -- was adopted. The Declaration re-affirms the common vision and collective commitment of partners to improve mountain lives and environments, and concludes with a call for members to develop initiatives and implement the Cusco Framework for Action.

E-consultation on Biodiversity Conservation in the Hindu-Kush Himalaya (2005)

Organized and managed by the Mountain Forum Secretariat, in association with the Mountain Partnership Secretariat and the Asia-Pacific Mountain Network (APMN), the e-consultation attracted participation from members of the Hindu Kush-Himalaya Initiative of the Mountain Partnership, along with invited guests, with the aim of producing a working document for policy advocacy, as well as an agreement on enhanced regional cooperation and the sharing of knowledge and information.

E-consultation on the Sustainable Agriculture and Rural Development in Mountains (SARD-M) Initiative (2005)

Organized by the Mountain Forum Secretariat, this two-week e-consultation generated an exchange of ideas, views and experiences from participants in Africa, Latin America, the Hindu-Kush Himalayan Asia, South East Asia, Europe and ex-Soviet states such as the Russian Federation, and marked a definitive step in moving this Partnership Initiative forward.

E-consultation on 'Mountain to Mountain Cooperation: Sustainable Use of Biodiversity, including Genetic Resources in the Andes and Himalaya' (2006)

This e-consultation generated an exchange of ideas, experiences and lessons learnt in the management of two critical mountain regions of the world, and aimed to help strengthen existing alliances to conserve and manage biodiversity now and in the future. The e-consultation was managed by the Mountain Forum Secretariat, in association with the Mountain Partnership Secretariat, the Himal-Andes Initiative, and the International Centre for Integrated Mountain Development (ICIMOD), the Asia-Pacific Mountain Network (the Asia-Pacific regional node of the Mountain Forum) and InfoAndina (the Latin American regional node of the Mountain Forum).

The Mountain Partnership: Activities and Achievements (2006)

This report was prepared by the Mountain Partnership Secretariat at the request of the UN General Assembly and presented to the 14th session of the Commission on Sustainable Development – CSD-14 (UN Headquarters, New York, 1-12 May, 2006). It provides an overview of progress made by the Mountain Partnership since its launch in 2002 discusses some of the key challenges facing the Partnership and provides lessons learned and proposals on how to strengthen its impact and effectiveness.

2. Mountains on the Global Agenda (Cited from Mountain Partnership, 2009)

Agenda 21/Chapter 13 (1992)

Agenda 21 is a 40-chapter statement of goals and potential program produced by delegates at the 1992 UN Conference on Environment and Development, known as the Earth Summit, in Rio de Janeiro. By devoting Chapter 13 to mountains, Summit participants placed mountains on an equal footing with climate change, desertification and other issues of global importance.

Integrated planning and management of land resources: Sustainable mountain development

This Report to the Committee on Sustainable Development - CSD (24 April -5 May 2000) highlights that mountain ecosystems contain an integrated complex of natural resources that are closely linked in space and time. Those who inhabit the mountains generally depend directly on many of these resources for their livelihoods and tend to utilize and manage them through a combination of land-use practices such as agriculture, forestry and livestock production.

World Summit on Sustainable Development (Johannesburg, South Africa, 26 August-4 September 2002)

The World Summit on Sustainable Development concluded its work on 4 September 2002 by adopting a political declaration (the "Johannesburg Declaration on Sustainable Development"), as well as a Plan of Implementation (the "Johannesburg Plan of Implementation"), in which to carry out the activities and measures required to achieve development that respects the environment. Specific actions to be taken for the preservation and sustainable development of mountain regions is laid out in paragraph 42, section IV of this document, entitled 'Protecting and managing the natural resource base of economic and social development'.

United Nations General Assembly (53rd session) proclaims year 2002 as International Year of Mountains (1998)

November 1998. The General Assembly this morning proclaimed the Year 2002 as the International Year of Mountains, by adopting without a vote, a draft resolution recommended by the Economic and Social Council. Read the press release.

Concept Paper on the International Year of Mountains (2000)

This concept paper, prepared by FAO, presents a guide for International Year of Mountains preparation and implementation. It provides general guidelines and a framework for all institutions and individuals involved in mountain-related issues and in International Year of Mountains preparations.

Interim report on the International Year of Mountains (2002)

The report describes progress made at the national, regional and international levels midway through 2002, with emphasis on activities that will ensure that the International Year of Mountains, 2002, is a catalyst for long-term, effective action. It also addresses the challenges that lie beyond the Year and provides suggestions for consideration by the General Assembly on how the Assembly might continue to promote and effectively implement sustainable development in mountain regions.

Bishkek Mountain Platform (2002)

The Bishkek Mountain Platform is an outcome of the Bishkek Global Mountain Summit, the culminating global event of the International Year of Mountains 2002. The Platform aims to provide a framework for stakeholders and others to contribute to sustainable development in the world's mountain regions and enable them to act together at all levels from local to global to improve the livelihoods of mountain people, protect mountain ecosystems and use mountain resources more wisely.

Communication materials for the International Year of Mountains (2002)

The International Year of Mountains was a communications event, a unique opportunity to draw the world's attention to mountains, share information, educate people and stimulate long-term action. As lead agency for the International Year of Mountains, FAO helped to mobilize action by producing, promoting and distributing a wide range of promotional and information materials throughout the Year. Its intensive global media relations program built awareness of the Year's key messages through newspapers, magazines, radio and TV, while its outreach program helped NGOs, civil society and grass-roots organizations around the world communicate about mountain issues to their members and audiences.

UN General Assembly Report - International Year of Mountains, 2002

July 2003. This report prepared by FAO for the UN General Assembly highlights some of the Year's achievements and provides suggestions on how countries might continue to promote and effectively implement sustainable development in mountain regions around the world.

UN General Assembly Resolution on International Year of Mountains (2002)

The UN General Assembly passes a Resolution acknowledging the achievements of the International Year of Mountains, and designated 11 December as International Mountain Day.

UN General Assembly Resolution on Sustainable Development in Mountain Regions (2003)

This Resolution underlines the key challenges to implementing sustainable development and eradicating poverty in mountain regions, acknowledges the Mountain Partnership as a cooperation mechanism to address these challenges and invites the international community and other relevant partners to consider joining the Partnership.

Convention on Biological Diversity (CBD) – adopted Work Program on Mountain Biological Diversity (2004)

The work program on mountain biodiversity of the Convention on Biological Diversity (CBD) adopted by the Conference of the Parties to the Convention On Biological Diversity (CBD-COP 7, Kuala Lumpur, Malaysia, February, 2004) aims to establish 'regional and trans-boundary collaboration and the establishment of cooperative agreements'. It also recommends strengthening collaboration with the Mountain Partnership and regional conventions on mountains.

UN General Assembly Report - Sustainable Mountain Development, 2005

November 2005. The report prepared by FAO for the 60th session of the UN General Assembly describes the status of sustainable mountain development at the national, regional and international levels, including an overall analysis of the challenges that lie ahead, and provides suggestions for consideration by the Assembly as to how to continue to promote and effectively sustain development in mountain regions around the world within the existing policy context, including chapter 13 of Agenda 21, the Johannesburg Plan of Implementation and the Millennium Development Goals.

UN General Assembly Resolution – Sustainable Mountain Development, 2005

December 2005. This resolution (A/RES/60/60/198) on sustainable mountain development calls for concerted efforts by governments, the UN system, international financial mechanisms and all relevant partners from civil society and the private sector to consider providing support to local, national and international programs and projects for sustainable development in mountain regions. It underlines the importance of constructive new approaches to trans-boundary cooperation and coordination such as the Alpine Convention and the Carpathian Convention. The text goes on to recognize the substantial cooperation already fostered between the Mountain Partnership and these mountain-related regional agreements and calls on the international community to join the Mountain Partnership.

International Mountain Partnerships

For the European Alps, the Alpine Convention and its protocols are the most significant basis for their preservation and international collaboration. As a member of the Mountain Partnership, the Alpine Convention is sharing information and exchanging its experiences of regional and inter-regional cooperation within Europe and beyond. This brochure, 'International Mountain Partnerships', was prepared by the Secretariat to the Alpine Convention and provides an overview of the existing collaborative activities of the Convention's member countries with the Carpathians, Caucasus and Central Asia (Tian Shan, Pamir).

Sustainable development: sustainable mountain development

The Second Committee held a substantive debate on agenda item 54 (see A/62/419, para. 2). Action on sub-item (h) was taken at the 21st and 32nd meetings, on 5 November and 7 December 2007. An account of the Committee's consideration of the sub-item is contained in the relevant summary records (A/C.2/62/SR.21 and 32).