

# Tourism Development in Sagarmatha (Mt. Everest) National Park-an Ecotourism

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**Abstract :** Tourism in the Sagarmatha National Park (SNP) has emerged from a small-scale extreme adventure market to market driven mass tourism largely characterized by economic motivation. Tourism development over the past five decades has posed great challenges to the proper management of the park and to the inclusion of local people in decision-making; and has moreover resulted in a lower satisfaction level amongst tourists. This paper looks at tourism development in the park and has three major objectives. (a) to document the tourism trend/patterns in Sagarmatha National Park (SNP); (b) to analyse the participation & contribution of local people to tourism in the SNP; and (c) to document the actual contribution of tourism to the park. The research was conducted from an ecotourism perspective. The natural and cultural resources the park possesses present a platform for ecotourism development not only in the mountain region of Nepal but to the larger area of the HinduKush Himalayan Region and beyond if they are managed properly.

**Keywords:** tourism, ecotourism, sustainable tourism, SNP

## Introduction

Regular Visitors like the late Sir Edmund Hillary have recommended that Sagarmatha National park (Mt. Everest) be closed for a number of years in order to give it some rest. According to Sir Edmund:

*“changes can happen in a relatively short period. In forty years, I have seen the transformation of the remote Khumbu area on the southern slope of Mt. Everest. In 1951, the Khumbu was a place of great beauty, with 3000 tough and hardy Sherpas living a remarkably full and cooperative life despite their rigorous environment. Now it has become largely a tourist area with 12,000 foreigners streaming in each year, leaving their litter and tempting the Sherpas to break their traditional forestry customs and sell hundreds of loads of firewood for luxury fires”* (Hillary in Kemp, 1993, as cited in Shrestha (1995).

Showing due respect towards the late Sir Edmund Hillary for his deep sym-

pathy and solidarity towards Everest (Sagarmatha) and the people residing in the region, this paper has been prepared to assess and suggest an alternative approach to tourism in this Region. It is based on research conducted in 2002-2004 and up-dated in 2007.

Tourism-economy linkages constitute the major justification for promoting tourism in the mountains of Nepal (Sharma, 1998). These linkages can be in terms of direct employment and income generation in hospitality and travel trade and, indirectly, in stimulating various sectors of the economy (including agriculture, horticulture and livestock, transport and communication, cottage industries) whose products or services cater to tourists' demands. It is arguable that tourism not only brings economic benefits to an area but also brings considerable socio-cultural and environmental hazards. So, while the complete transformation of the lifestyle and economy of the local Sherpa people in the Sagarmatha region is largely due to mountaineering and trekking tourism (Sharma, 1998), overall the economic impact resulting from direct employment in areas visited by tourists has tended to be rather small. It is fact that the tourism leakages are at maximum towards the outside while the linkages are at minimum towards the local economy. Also, the level of visitor satisfaction has been declining at an alarming rate.

Many researchers strongly state that the sustainability of mountain tourism in the Hind Kush Himalayas hinges pretty much on the extent to which tourism can contribute to three objectives: improvement in the livelihoods of the population (and by implication poverty alleviation), environmental regeneration, and the empowerment of local communities (Kamal, 2000). Even though the issues relating to mountain tourism in different areas require a broad spectrum of diverse answers, it is indeed true that mountain community development and mountain tourism development must be integral components of any local development activity (Kamal, 2000). In expressing concern over the problems of the Sagarmatha region, several researchers have maintained that specific environmental and socio-cultural problems may diminish future benefits from tourism. As illustration, the Everest region has been labelled "the world's highest junkyard", and the trail to the Everest base camp as "the garbage trail" (Nepal, 2003). His findings suggest that there is presently 17 metric tons of garbage per kilometer of tourist trail, and owing to heavy visitor traffic trail conditions are also deteriorating overall with over 12 percent of the trails being severely degraded and requiring urgent restoration and maintenance.

## **An Ecotourism Model**

The aim of our study was to suggest an alternative approach to unplanned and uncontrolled tourism development in the mountainous regions of Nepal based on the notion of sustainability. The best approach in this context appears to be the application of a community based ecotourism model (Blamey, 1997). Ecotourism, as defined by *Ceballos-Lascurain* in 1987 is “tourism that involves travelling to relatively undisturbed or uncontaminated areas with the specific objectives of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas” (as cited in Weaver, 2001; Cooper & Erfurt, 2003). The International Ecotourism Society (TIES) defines ecotourism as “responsible travel to natural areas that conserves the environment and improves the well-being of local people”. Conceptually then, ecotourism is interpreted as: (1) nature based, (2) environmental education, and (3) sustainable management (Cooper & Erfurt, 2003).

The importance of this concept is justified by the five fundamental functions that underpin it, namely: (i) protection of natural areas; (ii) education; (iii) generation of money; (iv) quality tourism; and (v) local participation. The concept of ecotourism thus focuses on the prime aspect of activities in natural areas; involving appreciating the environment and local society and culture, conserving and protecting these areas through local participation, communities earning from tourism as well as the equal distribution of such benefits to locals, and the giving of considerable satisfaction and education to the tourist as well. Ecotourism therefore is important for ensuring sustainable tourism development around the world.

Though tourism research has been undertaken in the Mountain regions of Nepal, only a few studies have focused on an ecotourism model for the Sagarmatha National Park (SNP). The research work of S.K Nepal, Dr. Pitamber Sharma, Kamal Banskota and Paul Rogers have contributed in identifying the issues of the Himalayan mountain areas and Sagarmatha, but the study of Rogers (1997) informs that researchers have not completely focused on ecotourism in Nepal. His study identified that tourism offers unparalleled socio-economic opportunity to the local area and to the economic viability of the country's protected areas. In saying so he strongly suggested that the current form of tourism lacks many of the environmental standards of ecotourism; and was critical of the level of institutional support provided by the government, identifying that there is no such ecotourism strategy by government for the region.

## **Tourism Development, Trends and Impacts in the SNP**

Global tourism development - including the trend towards adventure and trekking tourism from the 1960s onwards, and the opening of Nepal for this type of tourism – has provided the impetus for an upswing in tourism in that country. Moreover, improvements in civil aviation (both within and outside the country), and the construction of several major highways have significantly changed travel patterns within Nepal. Mountain villages rarely visited by outsiders in the past have suddenly become accessible to large number of potential tourists. Initial visits induced growth in services and facilities, and soon remote places such as Namche Bazaar in Khumbu were on the global tourism map. In 1961 only 4000 foreign tourists visited Nepal, most of whom only visited Kathmandu and its environs. In the late 1980s tourism had however become the most important source of foreign exchange for Nepal due to the boom in trekking tourism. By the 1990s Nepal had become the most popular Himalayan destination for foreign tourists, and it has remained so despite recent global events and political problems (Nepal et. al, 2002).

Mountaineering started in the Everest region in the early 1950s, but it was only in the late 1960s trekking tourism started to show robust growth. From a mere 20 trekkers in 1964, the region now receives more than 20,000 trekkers a year (Nepal, 2003). Statistically, the number of tourists has more than doubled every decade, from zero tourists in 1949 to approximately 200 people in 1964, 600 in 1971, 5000 in 1980, 10000 in 1991, and 25,000 in 2001 (Rogers, 2007). The growing number of tourists has necessarily brought about significant development in the region. Khumbu region witnesses more tourists than locals in the high season. It has been reported by Nepal (2003) that tourists may exceed the locals by a factor of five. Further, the number of lodges increased from 7 in the year 1973 to 225 by the end of 1997. Nepal (2003) also reports that total accommodation capacity in the lodges has been close to 4000 beds per night in recent years.

Rogers and Aitchison (1998) have distinguished 4 types of tourism in the SNP, namely - general trekking; trekking-peak tourism; mountaineering; and cultural tourism. They note that the four are not mutually exclusive, but differ in terms of their significance and the issues that arise for resource managers. Increased trekking and mountaineering tourism has also resulted in more lodges along the trekking trails and in the expansion of the village settlements along the trails in the Khumbu region (Nepal et al, 2002). Changes in settlements and in housing designs

are clearly visible in Khumbu as a result of such tourism development. Nepal et al (2002) state that such changes provide motives for people to abandon their houses in the center of the villages and construct more spacious buildings, usually lodges, on the periphery primarily due to the higher economic benefits and justification propelled by the increased number of trekkers. This can be clearly seen in villages like Namche Bazaar, Lukla, and Khumjung, to name a few. The first lodge in Khumbu was constructed in 1971. By 1980, there were a total of 17 lodges in Khumbu, a figure which rose to 225 by 1997, representing a 13-fold increase between 1980 and 1997/98. Lodges have been built in more and more villages in Khumbu; for example, 12 villages had lodges in 1980 but 38 villages and settlements had them by 1997 (Nepal et. al, 2002). The lodge and visitor development in Khumbu is summarized in Table 1 below.

**Table 1: Lodge and Visitor Development in Khumbu**

Year	Number of lodges	Number of Tourists	Number of Settlements with Lodges
1980	5836	17	12
1990	7950	75	29
1997/98	18,200	225	38

Source: Nepal et. al, 2002.

Nepal et al. (2002) also report that lodge construction in the main tourist centers has decreased in recent years while it has increased in locations between these centers and in the peripheral areas. They state that such a push into new areas is the direct result of the expansion of thriving trekking and mountaineering businesses. In accordance with this development, several temporary settlements or herding villages have become permanent. However, the number of visitors has increased much less rapidly than the number of lodges and overnight capacity, i.e. by a factor of 3.1 at Everest. This has led to a marked decline in the visitor/lodge ratio, which decreased from 343 to 81 visitors per lodge in Khumbu. The visitor/bed ratio (number of visitors per bed) has been as low as 4.4 in Khumbu (Nepal et. al, 2002). This pattern conveys a sense of increasing competition between the individual lodges and locations. Lodge owners in the Khumbu region are becoming more service oriented by increasing lodge quality in a bid to improve the service so as to keep intact their market presence whilst maintaining visitor numbers. Overall,

the combined effect of increasing competition and the need for modernization has increased financial pressure on the lodge sector in recent years (Nepal et. al, 2002). Such intensified development has induced significant economic growth at the local level, thereby providing employment and income to a sizable and increasing number of people in an increasing number of places.

### ***Impacts***

Even though tourism has been remarkably integrated into the local economy, such development has come at a cost in terms of environmental and social changes. Research clearly shows that such changes have transformed the natural and cultural setting and heritages of the Himalaya. Research also highlights the increasing income disparities in the park and adjoining areas and shows that there has been considerable deforestation in some locations, such as tourist centres and high altitude areas (Nepal et. al, 2002; Rogers, 1997; Rogers, 2007; Sharma, 1995; Shrestha, 1995; Stevens, 1993, 2003). It is further reported that accumulations of garbage and trail degradation are additional impacts resulting from high visitor numbers.

With regards to the impacts of tourism on the region, Rogers (1997) and Sharma (1998) report economic effects to be the most significant of all. Trekking and mountaineering tourism being labor intensive activities has provided unparalleled opportunities for employment and income generation to the locals in this area. Tourism related income growth has allowed literally thousands of households from across the district, especially those in Khumbu and Pharak, to benefit from improved standards of living. He reports that households are able to buy more food, better clothes, afford repairs to houses, and employ domestics to assist with arduous or mundane activities, purchase material goods and participate in international travel. However, Rogers (1997) also notes that many of the jobs are low-paid positions that frequently exploit the most vulnerable. Also, in parts of SNP, many households have abandoned their traditional cropping practice of buckwheat and barley to cultivate more potatoes, which readily find cash markets (Stevens, 1993; MacLellan et al, 2000). Nevertheless, the region still faces the problem of food deficits and the need for economic generation activity for the poorest households owing to poor harvests and heavily inflated prices for imported goods (Rogers & Aitchison, 1998). A study by ICIMOD in the year 1995 (cited in MacLellan et al, 2000) affirmed the above arguments and stated that households along the trekking routes have begun cultivating fruit and other high-

value crops. This study further states that such changes in the cropping pattern are positive as long as they earn a relatively higher income than traditional cultivating practices and do not harm the local environment.

Previous studies (MacLellan et al, 2000) shed light on the negative impact of tourism in the region. These studies show that tourism has changed employment patterns in mountain areas, with increased demand for tour support staff, such as jobs for porters, cooks, kitchen boys and guides. In the other hand, they argue that not all of these employment benefits accrue to the total population. In fact, outsiders have been exploiting this opportunity for long time. With regard to employment generation, different patterns seem to be generated by group and individual trekkers. Studies in the past found that an average group size (group tourists) ranges from six to ten trekkers, and the average numbers support staff hired ranges from about two to four per trekker as opposed to between 0.5 to 1.5 persons per trekker for free independent travelers. Clearly, in terms of direct employment generation, group trekkers have a greater impact on employment than Free Independent Travellers (FITs) (MacLellan et al, 2000).

Most importantly, the high number of locally owned lodges, restaurants and trekking agency businesses show tourism's contribution to the success of the local economy. Although there has been considerable reporting of problems related to 'leakage', there have been significant levels of income generation, and tourism has become integrated into the local economy. The most remarkable change brought about by tourism induced development in the region is the introduction of helicopter flights to Lukla and Syangboche. This has had a profound effect in restructuring the local economy, an impact that has critically altered business and employment opportunities in the region (Rogers, 1997). Rogers (1997) also notes that tourism has provided more employment opportunities for men than women and has caused marked inflation. However, his study showed that households in this area are clearly disadvantaged despite the stated benefits of tourism development.

From a *socio-cultural perspective* tourism has also allowed important advances in human development opportunities. Few tourism studies have provided a measured assessment as to how tourism should improve the life circumstances of host populations. Rogers (1997) states that tourism development in the region is associated with significant advances in educational opportunities and attainment, health-care provision (which has led to improved family planning), water and electricity supply and access to material goods and mobility. Neverthe-

less, the negative side of such development is emerging and has increasingly generated marked imbalances in the supply of these services. Tourism development has not only encouraged a widening of the gap between the rich and the poor, but has also affected the strategic importance of particular settlements within the district. This in turn has isolated the least wealthy in the less-impacted villages from both the social benefits of tourism development and from local decision-making processes.

With regard to local culture, local people are very much aware of outside interest in the Sherpa people. Despite claims that Sherpas are losing their culture, local people retain their strong association with their cultural (religious) traditions and have been able to direct tourist interest towards the maintenance and development of old and new monasteries in the region. In terms of lifestyle, it is apparent that women and the least wealthy are more in touch with 'traditional' ways of life, while many males and the new social elites have adopted new work patterns and acquired new lifestyles to suit the demands of the tourism economy. Other ethnic groups in the region have been relatively unaffected by tourism activity (Rogers, 1997).

Although the impacts on Sherpa society have been visually negative, such changes seem to be more like normal processes of social change rather than being socially devastating. These changes and process have been welcomed by the Sherpa themselves (Sharma, 1995; MacLellan et al, 2000). Generally though, the impact of tourism on culture, traditions and values is difficult to assess. Besides the tourists-locals interactions and exposures, such impacts could be because local people increasingly travel for education, trade or other purposes, which brings in new ideas and behaviors that affect cultural practices (MacLellan et al, 2000). This report notes that such changes in the local economies and employment patterns must also be considered in their social and cultural contexts. For example, the trend of adult members leaving home for prolonged periods for tourism employment has also affected Sherpa society, and has caused family break-ups in some cases. Also, in addition, a study by Kunwar (1999) states that the Sherpas have become overly westernized, and that their religious faith has diminished. Furthermore, it is argued that most families prefer their children to enter the new system of public education rather than join the Monastery as monks (MacLellan et al, 2000).

Turning now to impacts on the environment, some of the most obvious and frequently cited impacts of tourism on the mountain areas of Nepal, particularly in the Everest region, have been on the physical environment. Unplanned



development leading to new and haphazard construction of buildings (lodges, resorts, stalls, park headquarters etc) along the trails; littering at low as well as high altitudes; pollution of water sources; and deforestation are some of the most visible environmental impacts of tourism in the SNP. The construction of new buildings is a visible sign of land-use impacts in many of the protected areas frequented by tourists (MacLellan et al, 2000). Aside from park headquarters and other buildings, construction of lodges and stalls has occurred extensively in the SNP, both inside and outside the park area to cater to the needs of tourists. Environmental impact such as littering at high altitudes in the mountains has received a great deal of attention in the international press. Such litter includes non-biodegradable rubbish such as plastics, glass bottles, tinfoil and batteries, which are improperly deposited or discarded along trails, at campsites, outside trekking lodges and at base camps by tourists, trekking staff, porters, trekking lodge staff and local residents. Inadequately covered toilet pits and scattered toilet paper around campsites and trails are another serious problem (MacLellan et al, 2000). Nepal (2003) mentions that the emphasis on such problems is required to mitigate challenges associated with it. He states that, in one study it was estimated that an average trekking group of 15 people generates about 15 kg of non-biodegradable, non-flammable garbage in 10 trekking days and this provides an idea of the amount of litter deposited in and garbage that must be cleared from protected areas. Since then several projects have been initiated to address this issue. For example, the Sagarmatha Pollution Control Committee (SPCC) collected 145 tonnes of burnable and 45 tonnes of non-burnable garbage between July 1995 and 1996. In 1995, SPCC collected nearly 2 tonnes of disposal and 1.5 tonnes of non-disposable garbage from mountaineering expeditions alone in the Everest region (Nepal, 2003). As such, the Nepalese Himalayas have been regarded as 'the highest junkyard on earth' (MacLellan et al, 2000). The problem of garbage in Nepal has also been mentioned by Sir Edmund Hillary as "the world's biggest junkyard" (Sharma, 1995).

Similarly, the pollution of water resources is one of the heightened problems of the Everest Region. Some of the causes of such pollution are: setting toilets closer to streams and drinking water sources; usage of chemical soaps for bathing; and the washing of dishes and clothes in streams are of increasing concern. Water pollution is exacerbated by disposing of human waste directly into rivers and streams, customarily done by local people and the operators equally (MacLellan et al, 2000). Also, degrading forests and the increasing deforestation has added to the vulnerability of the mountain environs (MacLellan et al, 2000). Such problems

are often associated with the demand for firewood by tourism and associated activities. While the demand for firewood seems to differ for FITs and group tourists, this difference in consumption has arisen because group tourists are self-supported in food, shelter and fuel for cooking, as required by the law of Nepal while traveling in protected areas, whereas individual trekkers are not. The rule is equally applied for mountaineering teams (MacLellan et al, 2000). But these studies state that such enforcement has not been effective enough to make this policy an overwhelming success. Individual trekkers on the other hand mostly depend on local lodges or hotels, tea-houses, and locals for food and accommodation and do not seem to care if they pollute the environment.

## **Methodology**

The study that this paper is based on was jointly funded and supported by Government of Nepal - Department of National Park and Wildlife Conservation (DNPWC) {under - Ministry of Forests and Soil Conservation} and Tourism for Rural Poverty Alleviation Program (TRPAP).<sup>0</sup>The research topics were: (1) Identification of local residents, visitors and tour operators needs and wants, and (2) Distribution of tourism benefits to local stakeholders - how the benefits can be disseminated equally amongst local communities. The methodology adopted for the survey and the procedure for data analysis are now described.

Initial primary data were collected during a two weeks intensive field visit during October 2003, updated in 2007. During the initial field visit, questionnaire surveys, direct observation, photographic documentation, key informant surveys were carried out. Surveys were divided into three parts – for the tourists, for local residents, and the third for the lodge operators. The questionnaire for tourists was designed in English and administered randomly to the tourists. Altogether 144 tourists were surveyed. The questionnaire for local people was prepared in Nepali so as to collect as much information as possible. For this, the team went door to door as it was the best option to carry out the survey. A total of 21 local people were surveyed. Questionnaires for the lodge operators were also made in English and administered randomly along the trail. Altogether, 30 lodge operators were surveyed. During the survey the survey team found difficult to separate local people and lodge operators, as many locals had their own lodge and residence in the same building. These surveys were updated in 2007.

Finally, to validate information the study team made a photographic documentation of relevant information such as garbage disposal and trail degradation

during both visits. A key informant survey was also carried out to acquire specific information related to tourism and the SNP. Key informants were from DNPWC, SPCC, employees at the Monasteries and Thame School teachers. For the purpose of carrying out a rigorous review of the 2003 survey a literature review (both published and unpublished data), and a review of recent government and NGO reports and other related documents was also done in 2007. Also, use of the World Wide Web (WWW) was one of the main means for collecting secondary data on the activities of the tour groups in 2007.

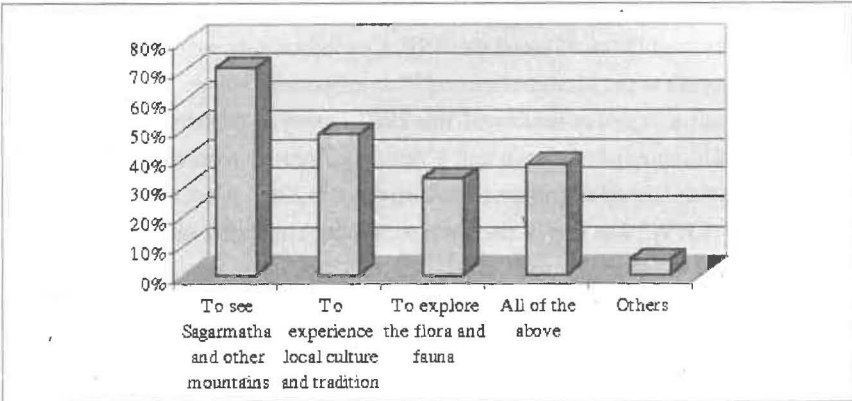
## **Discussion**

The findings of the survey and the follow up analysis are presented below.

### ***Tourism Patterns***

The general trend of SNP visitation shows that male visitors exceed the number of females. Similarly, this research also shows the same trend where male visitors outnumbered female visitors; of the total number of respondents (n = 144) for both surveys 70% were males and 30% females. The major age group of the respondents was 25-44 years, and the average length of stay of tourists traveling to SNP for trekking and mountaineering, etc., was found to be 19 days. The research indicated that the prime interests of tourists traveling to SNP were - trekking (52%) followed by mountaineering (20%), 16% for observing local people and culture, and exploring flora and fauna (5 percent). Thus, few visitors came to SNP with the purpose of research and study of the environment in 2003 or 2007.

More than 78 percent of visitors graded the SNP as one of the best tourist destinations in the world. Similarly, the initial survey showed that more than 56% said that they were highly satisfied, followed by 41 percent of visitors who were satisfied with the products and services presented to them in terms of value for money. The reasons for tourists visiting SNP are understood by local residents. The survey indicates that a major portion of the local residents were aware about the prime attraction of SNP, as 71% of them said that tourists visit the region to see Mt. Everest and other mountains. Responses of locals regarding the purpose of tourists visiting SNP is shown in Figure 1 below and is based on 2003 and 2007 data.



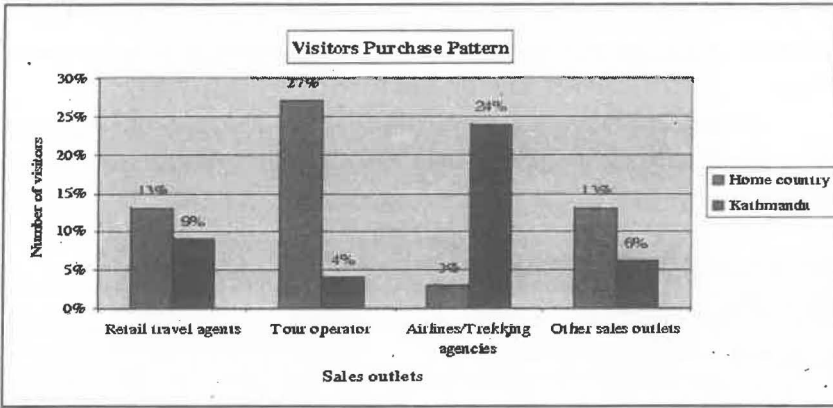
**Figure 1 : Purpose of Tourists visiting SNP as recognized by the locals (source: Authors)**

Responses from the locals were that 48% viewed Sherpa culture and their festivals as tourist attractions whereas 33% said that tourists also come to explore the Himalayan flora and fauna. 38 percent of the residents said that tourists visit SNP to explore and experience *all* its attractions from Mt. Everest to other mountains, Sherpa cultures, lifestyles, and flora and fauna. Again, a very few of them said that visitors also come for the purpose of research, survey and study. The findings show that the locals are aware of the importance of environment and culture as the driving attraction for visitors.

Regarding the availability of the choices of food along the trail, the majority of the tourists (97%) said that they had sufficient choice for food, including both Nepali as well as western cuisines in the menu. More than 97% of the visitors had an opportunity to taste the local food and moreover the majority (97%) responded that they liked the local food. The survey of the lodge operators also to some extent supported these above results. This survey shows that all of the lodges serve regular Nepali cuisines i.e. Daal (lentils), Bhat (rice), Tarkari (vegetable curry) followed by local Sherpa food. Also, 70% of the lodges served Western cuisines to visitors in 2007. Importantly for economic impact, 80% of the local food suppliers are purchased locally (from Namche) and the remainder come from Kathmandu and other places. The majority of the respondents further said that had they had more choices and ranges of local food, then to a greater extent they would *prefer* local food. However, the responses from the lodge operators varied in the sense that lodge operators said that only 44% of visitors preferred local food,

whereas 97% of the visitors said that they liked local food, especially Aloo momo, Aloo chapatti (Aloo pancake served with Yak butter) and other Nepali food.

The surveys also indicated that the distribution channels selling trips to the SNP are widely located inside as well as outside the country in the form of retail-travel agents, tour operators, trekking agencies, and other sales-outlet such as trade fairs, internet etc. The sales outlets through which trips are purchased are shown in Figure 2 below.



**Figure 2: Sales outlet and purchase pattern of visitors to SNP (source: Authors)**

### ***Trekking arrangements***

Informal discussions with tourists revealed that they prefer to choose tea-house trekking, as rooms are more comfortable than tents in terms of warmth, safety from wild animals, and altitude sickness (Table 2). However, some campers said that sleeping in tents gives them a perfect sense of adventure and they want to experience basic service rather than luxury in the mountainous environment.

**Table 2: Distribution of Trekking Arrangements**

Types of Trekking Arrangement	Number of Respondents
Organized Camping trekking through a professional agency	45 (32)
Organized tea-house trekking through a professional agency	54 (39)
Self-arranged trekking with a guide	22 (16)
Independent trekking without a guide	18 (13)
Total	139 (100)

Notes: Figures in brackets indicate percentage; Number of missing observation: 5

The results (Table 2) show that the ratio of camping trekkers to the tea-house trekkers is 1: 1.2, which does not indicate a significant difference between the types of treks. However, during the later observation and informal discussions with the locals and lodge operators in 2007, the growth of lodges in SNP is rapidly increasing while the number of campsites remains low. Visitors verbally complained that this has disturbed the view of scenic landscapes and hindered their stay in beautiful campsites. In addition to this they stated that slowly the beautiful campsites and landscapes are being converted into a concrete jungle. This increase in the number of lodges has been rapid, and supply now highly exceeds the demand for beds.

It was found during the survey that the respondents had sufficient information about Immigration/permits, trekking/expedition provisions and requirements, and health and medical advice. Table 3 summarizes the findings.

**Table 3: Availability of Information (source: Authors)**

Information about	Yes	No
Immigration / Permit Requirement	105 (91.30)	010 (8.70)
Trekking / Expedition provisions and requirements	95 (97.16)	010 (20.83)
Health and Medical Advice	85 (77.27)	025 (22.72)
Local Customs Do's and Don'ts	73 (57.84)	054 (42.51)

But the results also show that more than 42% of the respondents did not have information about local custom Do's and Don'ts. This indicates that there is a high chance of impact on the local cultures and also host-guest conflicts in the long run from the way tourism to the SNP is currently managed.

### **Visitor Flows**

Regarding visitor flows the responses show a sharp contradiction where the locals want increases in the number of tourists while on the other hand the tourists were of a strong view that these need to be restricted. Usually, unrestricted flow of visitors leads to congestion along the trail and leads to several undesired problems such as soil-trampling effect and a feeling of loss in the visitor's experiential enhancement. For these reasons 82 percent of the total respondents (tourists) felt that there were too many visitors in the SNP, and that the number of visitors needed to be controlled. However, 76% of the local residents said that tourism has stimulated the development of SNP: thus to acquire more benefit, it is necessary to increase the number of tourists to SNP. The basic concern of many residents here was to increase income levels. A small number (5%) of

the residents did say that besides bringing benefits to SNP, tourism has also caused negative impacts in the region in terms of pollution; therefore, the number of tourists should not be increased from the present level.

### Tourism as a Development Tool in the SNP

The survey of local people showed that 95% of the residents have realized some benefits from tourism. It was learnt from the informal discussions with locals that they consider tourism as a development tool for their village and region as on account of tourism their income has risen they have the opportunity to indulge themselves in business and tourism services as porters and guides and they could even sell their agricultural products to the hotels and lodges. Also, many residents said that infrastructure in terms of increased accessibility, health care centers, schools, bridges; electricity in the region has developed because of tourism. However, the 5 percent of the villagers who disagreed with the former group believed that development has taken place due to the efforts of major international non-governmental organizations, followed by government. This indicates that they were still not aware of the fact that tourism has brought exposure to SNP and has raised interest in the developing agencies. They also said that tourism has not been able to raise their economic standard.

The majority of previous research shows that there have been changes in the local indigenous Sherpa culture through tourism. This study also found a similar result, where 96% of the visitors felt that tourism has to an extent influenced the Sherpa culture (see Figure 3).

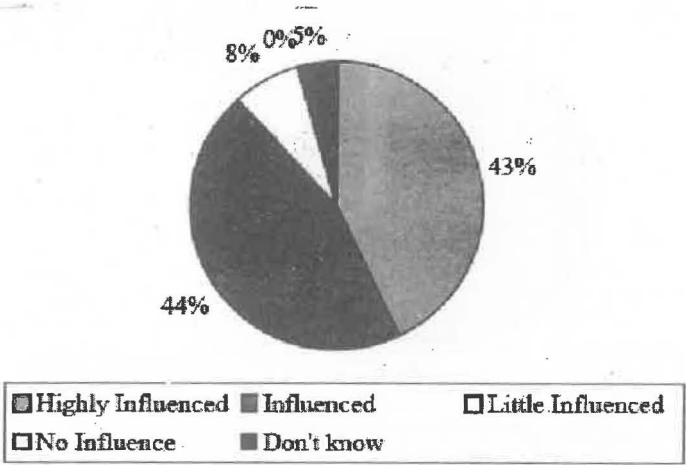


Figure 3: Influence on local culture

During informal discussions with the tourists and the locals it was found that tourists did not expect modern houses with modern amenities and were actually expecting to see the traditional architecture, and the Sherpas' traditional lifestyle. But locals also said that they are still following their traditions and still respecting their cultural values even if their housing standards were now higher. Their festivals and religion have not changed. They (locals) also argued that "no-one/no-object is static in this world, every object is dynamic" and so are the cultures; however the change has been slower and in pace with the changing times. Local also said that anyway they only wore their traditional dresses and ornaments during special ceremonies such as festivals, marriage ceremony and not every day as it is difficult to work wearing traditional attire. They further said that it is not right to claim that Sherpa culture has degraded on the basis of a few Sherpas living in modern houses and wearing western style clothes (trousers and jackets), as that is related only to comfort and every human seeks comfort in life. Further they added that dramatic unacceptable changes in culture have not emerged. In summary, the claimed impact on Sherpa culture is not as pronounced as some observers suggest.

The locals also made it clear how tourism has helped in the conservation programs of the cultural and religious sites. It may be seen from the survey that 95% of the local residents were happy with existing conservation programs to preserve the historical monasteries, sites, artifacts and monuments in the SNP (see Figure 4 below). They said that these are well maintained and preserved.

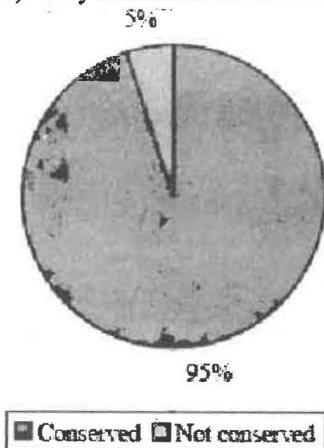


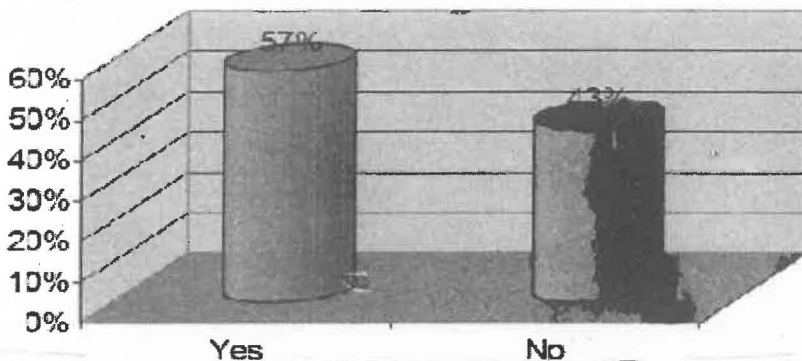
Figure 4: Local people's opinion regarding conservation of monasteries and religious sites



The important finding of the research was the awareness amongst the local communities regarding their culture, historical sites and artifacts. It was noticed in one place (Thamo) on the way to Thame that a donation box was placed on the side of a trail, which was easily visible to the trekkers/visitors and a nun was standing beside the box to inform the visitors and seek their contributions in terms of monetary help in order to renovate the monastery (2007 trip).

### ***Economic Benefits to local people from Tourism***

More than half of the local respondents to both surveys (in the Khumjung valley, mostly farmers by occupation - 57%) said that tourism has provided employment opportunities to the locals such as hotel services, guides and porter services. However, the remaining 43% of the residents who have not yet been able to generate direct benefits from tourism said that tourism has not yet been able to create enough employment opportunities for the locals (Figure 5 below). They said that they still have to go to Kathmandu or other places for employment. Certain groups also said that as the basic economic activity in SNP is tourism, and there is a lack of other projects and other economic activities, thus limiting the employment opportunity in other fields. In addition to this, they said that this is also one of the reasons that numbers of youngsters are moving out the region. However, it can be seen that a significant number of people are able to realize the employment opportunities generated from tourism, but the data also indicates that though tourists have been coming to SNP for five decades, some local people are still unaware of its multiplier effect.



**Figure 5: Local opinion on employment opportunity by tourism**

The local people responses on the impacts of tourism in SNP are summarized in Table 4. It can be seen from the responses that a majority of the residents

consider tourism as an important sector to improve environment, preserve culture and boost the economy. Local people also supported the views of the tourists: 86% of the local residents are satisfied with current waste management techniques whereas 14% said that there is no good facility for managing the waste. The satisfied residents said that the Sagarmatha Pollution Control Committee (SPCC) has been doing good work and has also helped to control pollution in SNP. SPCC workers come regularly to collect the garbage and waste, thus, they do not need to worry about dumping the waste. On the other hand, people said that SPCC people do not come on time to collect the waste. It was also mentioned that though rubbish bins are kept on trails, litter is still found on trails. Although 86% of the residents said that waste management is easy and adoptable, it was found in a few villages that litter or garbage is not placed in specified rubbish bins or pits but rather inside the corners of huge stones. This situation was mostly found in Khumjung and Khunde.

**Table4: Local people views on impacts of tourism in the park (source: the Authors)**

Local people response regarding	Positive	Negative	Neutral (No response)
Environment	76%	19%	5%
Culture	62%	28%	10%
Behaviour of locals	57%	38%	5%
Lifestyle of locals	57%	38%	5%

The survey shows that the SPCC collects waste/garbage from the lodge operators. The analysis of the services is divided into four categories- waste disposal, non-biodegradable waste management, awareness about biodegradable and non-biodegradable waste, adequacy of garbage disposal. They have been summarized and described below:

**\* Waste disposal – alternative use or recycling?**

The data indicates that 60% of the lodges use toilet sewage/waste as manure in the fields whereas the remaining ones said they burn the garbage and/or dump it in the pits. The uncontrolled burning of garbage in the long run could cause serious problems to the local environment hence proper measures such as centralized incinerators need to be adopted to check such activities.

\* **Non-biodegradable waste management**

75% of the lodges dump plastic bottles and other non-biodegradable wastes at the specified places designated by SPCC, however it was noted during the field visits that haphazard disposal of non-biodegradable wastes was done in some places. Though SPCC, TRPAP and SNP are doing good work by designating specific places and placing trash-cans for disposing garbage, it could be said that waste management practices are not fully adopted by the villagers and that close monitoring is required.

\* **Awareness about biodegradable and non-biodegradable waste**

The surveys showed that only 35% of the lodge operators are aware of biodegradable and non-biodegradable waste. One of the reasons for the lack of awareness could be as SPCC collects the wastes from lodges and in some villages the operators dispose the wastes at the specified places where they do not need to categorize the waste and it is later segregated by SPCC, they are unaware. Thus, the lodge operators must be made aware of the need to segregate biodegradable and non-biodegradable wastes to be environmentally sensitive and reduce the sale of bottled water or other drinks.

\* **Adequacy of garbage disposal**

85% of the lodge operators have adequate arrangements for garbage disposal and waste management and 80% find the process easy to adopt. However, the remaining lodges say that there are not adequate and easy to adopt. The difference in the view could be because the lodge operators have to pay money to SPCC for collecting waste (2000 rupees per annum or USD 30 approx.).

It was also found from the survey that 95% of the lodges use kerosene for cooking purposes, and it was also found that more than one source of alternative energy such as LPG, hydro electricity, solar energy and even guitha (locally made fuel from yak dung) were available. However, 80% of the lodges have not stopped also using fuel wood for cooking purposes. Thus, though SNP opens the forest only twice in year for 15 days each, they collect enough fuel wood stock during this time. It was noted in every lodge and house that they store a good amount of fuel wood, which would be enough for many months. Therefore, there is still no control on fuel wood consumption. Previously, it was collected on daily basis and now a bulk or stack is collected at a single time. The survey further shows that 85

percent of the lodge operators are however aware of energy saving measures even if they do not use them. The surveys also indicated that 70% of the lodges do not use locally available construction materials except mud and stones. It was observed during the field visit that many houses have tin roofs. And almost all of the houses had wooden walls and floors. When we inquired about the construction materials, we were informed that basically roofs, irons etc. are sourced from Jiri and Kathmandu and woods from the nearby villages of Solu Khumbu. Thus, it could be said that though SNP is conserving forests, the immediate impacts of lodge construction are found in the nearby villages located outside the SNP. Also, it was observed that there is no architecture code for building lodges.

### Plans and policies established by the Government to develop the SNP

The survey shows that 43% of the residents who are aware of the governmental plans and policies, especially related with tourism, agreed with the policies as the right course for development, whereas 33% did not agree (refer to Figure 6). These respondents said that the government has not yet made any precise plan for the development of the SNP. A few residents also complained that the decision of the government to increase the royalty for climbing Mt. Everest was not correct as it decreased the number of Everest climbers, ultimately affecting their business and job opportunities. And 24% of the residents were unaware of the existence of any SNP development plan, and few also said that government does not have any role in the development of the SNP.

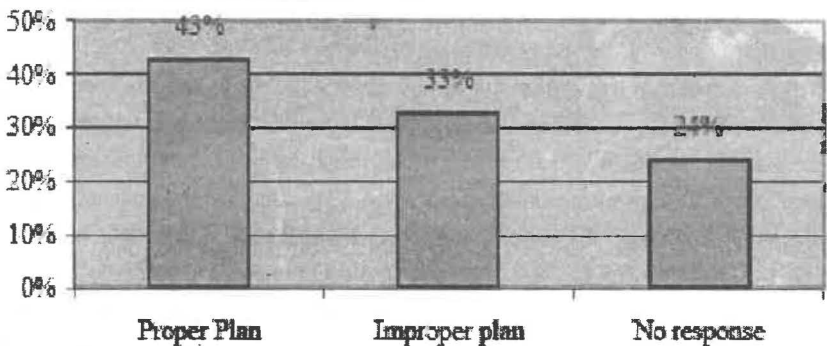
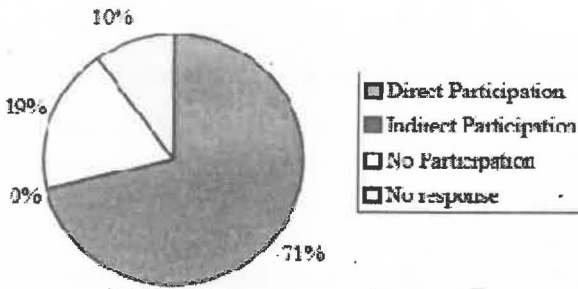


Figure 6: Local opinions regarding the SNP development plan (source: Authors)

On the other hand, 71% of the residents said that there is direct local involvement in any tourism development programs and policy formulation for improvising and expanding tourism services. Only 19% of the residents said that locals are not at all involved in any such program (refer to Figure 7). There was no response from 10 percent of the residents. The residents who said that there is direct involvement in tourism programs and policy formulation were however allied with the community user group's programs and not with governmental programs. This is a voluntary initiative taken by the locals to upgrade tourism service standards so as to attract more tourists for their own benefits. Amongst the 19% of the residents who claimed no participation in any such program, some related this question to activities with governmental actions and thus said community has not been involved in any such activity, whereas some residents were farmers, therefore they claimed there was no participation.



**Figure 7: Local people participation in tourism policy and plan formulation (source: Authors)**

A major portion of the population were unaware of the National Park Entrance Fee charged to visitors to SNP, thus, there was no response regarding this from 43% of the residents. Only 14% of the residents said that the fee collected is used to develop infrastructure for the betterment of tourism services and upgraded facilities for the locals. However, it was also found that a major portion of the population were unaware of the government's involvement in tourism development in SNP; thus 43% of the residents said that the income from the park entrance fee is taken elsewhere rather than utilized back in SNP. During informal discussions, the residents also suggested that transparency was needed in the government's development works. This pessimistic perception of local residents towards the government's actions and plans could be because the exposure to SNP was brought by foreign nationals and the initial development projects such as estab-

ishment of schools, healthcare centers etc., including the recently accessed electricity were introduced by foreign developing agencies such as the *Himalayan Trust* and *Eco-Himal*. People are still under the impression that development projects in the SNP are funded and managed by an international agency and therefore that the Nepali government plays an inactive role in the development process.

Organizations	Satisfactory	Unsatisfactory	No response
Government Agency	29%	43%	28%
DDC	29%	48%	23%
VDC	52%	29%	19%
Local development council	43%	33%	24%
DNPWC	71%	10%	19%
Army/Police	67%	14%	19%
TRPAP	43%	19%	38%
Other INGOs	81%	5%	4%

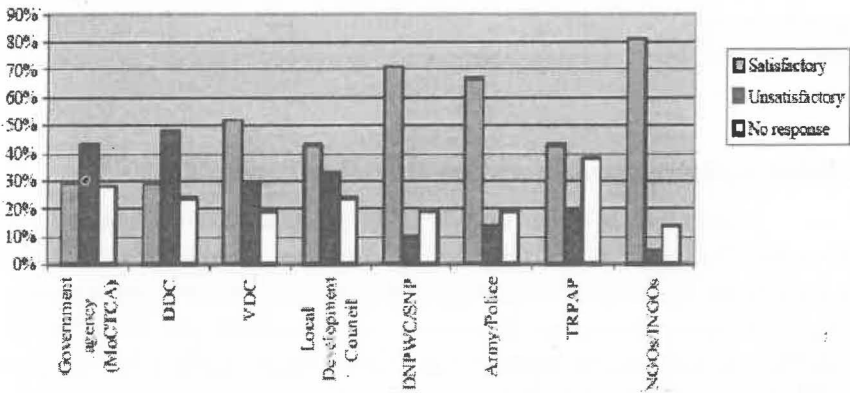
**Table 5: Performance standard of various organizations (source: Authors)**

As a result Table 5 shows that the majority of the residents (81%) were satisfied with the performance of other non-governmental organizations, especially the Himalayan Trust, a New Zealand government funded trust and Eco-Himal, an Austrian government funded developing agency, both of which have contributed to uplift the social and economic standard of the local residents of SNP by establishing schools, health care centers, hospitals in Khunde and the Khumbu Bijuli Company, including providing scholarships for residents/students to study abroad. At present, the schools are run by the Nepalese government and the Khumbu Bijuli Company is newly established by user groups. They also said that Himalayan Trust and Eco-Himal used to organize training campaigns for the local residents and lodge operators where they conducted training for lodge management, cleanliness and sanitation, cook training and porters training. Similarly, most of the residents were happy with the performance of the SPCC in managing waste, controlling pollution and supplying fuels to the residents such as kerosene and LPG. However, 5 percent of the residents said that they were not satisfied with the performance of non-governmental organizations and 14 percent of the residents did not respond.

The original survey showed that the residents are satisfied with the works of Sagarmatha National Park (SNP)/Department of National Park and Wildlife Con-

servation (DNPWC) and the follow up in 2007 showed that this had not changed; 71% of the residents said that SNP is doing good work by conserving forests, maintaining trails, conserving environment and thus helping locals (Figure 8). However, 10 percent of the residents said that they are unsatisfied with the work of SNP, as SNP is not utilizing the income to develop the villages properly. Similarly, they have restricted the villagers in their use of forest resources – fuel wood and timber, but have not provided any alternatives for them. But 19% of the residents said that they are not aware of what SNP/DNPWC is doing.

**Figure 8: Opinion of locals regarding performance of various organizations in SNP development**



Regarding the performance of the Government’s Tourism for Rural Poverty Alleviation Project (TRPAP), 43% of the residents were satisfied with its progress, 19% were dissatisfied, and 38% of the residents were unaware of its ongoing work. The satisfied residents said that in spite of TRPAP being a new organization working for SNP’s development; it has been doing good works by running some training campaigns in the agriculture and lodge development fields. Also, it is helping to control pollution by designating specific places on trails and villages for garbage disposal. However, the unsatisfied residents criticized TRPAP’s works saying that it has been duplicating work by repeating that of the SPCC, i.e. putting rubbish bins on the trails when they could have invested in some other project or activity. They also said that though TRPAP has conducted training programs for the local residents, these are not effective as they are run only as a seminar where demonstration is not conducted and only verbal briefings are given.

Similarly, 52% of the residents are satisfied with the works of the Village

Development Committees (VDCs). They said that VDCs have been assisting the residents by helping in development projects. Regarding the local development council, which was interpreted as a User-group committee by the locals, 43% of the residents are satisfied with its works. The individual user-group in individual villages have been working for fulfilling the requirements of the villages by providing electricity, water, upgrading and maintaining trails, providing loans, conserving monasteries etc. With respect to the works of the Ministry of Culture, Tourism and Civil Aviation, it was found that 29% of the locals are satisfied whereas 43% said that they were not satisfied with the Ministry's work on the policy of increased royalties for travel to Mt. Everest. They also said that Ministry has not been involved in most of the activities and they had been done by either non-governmental organizations or user-group committees. Though the SNP has been conserving forests, government organizations have not been very helpful to the locals.

### Visitor opinions on information & facilities and services

Visitors were asked to comment on the existing products and services in the region. They were asked to give their opinions about the information provided to them by the various governmental as well as non-governmental organizations. They were surveyed about the air-services, accommodation services, trekking / expedition agency services and other facilities & services available in the region. Table 6 summarizes these findings.

Information Source	Adequacy		Authenticity	
	Adequate	Authentic	Inadequate	Unauthentic
Information from trekking agent/tour operator	54.83	1.93	41.93	1.29
Information from NTB	38.96	32.46	22.07	6.49
Information from DNPWC/ TRPAP	35.13	33.78	24.32	6.75
Information from local information centres	28.98	26.08	30.43	14.49

**Table 6: Information Sources (source: Authors)**

The data shows that although NTB, DNPWC, TRPAP have been functioning well the responses indicate a larger gap in their performance, with half of the respond-

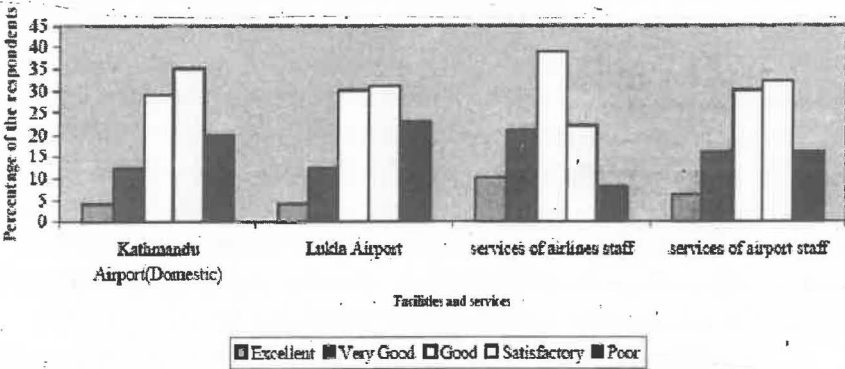


ents not having adequate information about the SNP. The research clearly shows the needs of the tourists must be addressed by the concerned bodies. Further, it shows that the local information center needs to be strengthened for this purpose as well.

**Facilities/services**

Out of all visitors only 40% thought the air service to Lukla sufficient, 23% said that it was not. The majority of the respondents said that facilities at the domestic airport (Kathmandu) and at lodges were satisfactory. However, 20% of respondents said the airport has poor facilities, and there was concern over toilet facilities, hot water facilities and heating facilities. Similarly, the majority of the respondents viewed facilities at Lukla Airport to be satisfactory. However, during the discussions the majority of the respondents suggested that the skill and attitude of the airlines staff at the airport could be improved through training to ensure better services to the visitors. The findings have been summarized in Figure 9.

**Figure 9: Facilities at the airport (source: Authors)**



**The Attitude and Behaviour of Officials, Employees and Locals**

A significant number of visitors were highly satisfied with the services/ attitude of guides and local people as they graded them as highly positive. Regarding the services of airline staff, the majority of tourists said that their behavior was positive. However, some visitors commented that airline staffs need to be trained as there was no one available at the counter when they sought information regarding flight timings. Some also commented that staffs (airlines) were not so positive with guides. In addition, most of the visitors have graded the attitude and behavior

of government officials to be unsatisfactory and suggested that they must be able to give information to tourists at the time required.

## **Conclusions**

The purpose of the original study was to examine the role of international visitors in the process of development of the SNP. Particular emphasis was given to how tourism relates to employment, income distribution, the generation of foreign exchange, and regional development, along with assessment of its impact on the society/culture and environment of the SNP. These matters were re-examined in the 2007 research. In this paper an attempt has been made to synthesize the findings in the hope that this will contribute to the overall development of sustainable ecotourism in Nepal and in the Sagarmatha National Park. Mountain protected areas such as the SNP, due to inaccessibility, diversity, fragility, marginality and 'niche' values are more vulnerable to the impacts of mass tourism. The scenario of tourism development in SNP, particularly the negative issues addressed by this research and others, has implications not only for the local people, lodge operators and to the tourist visiting this park, but has a greater impact to the overall development of Nepal. Tourism to the SNP has been increasing (leaving aside the present political problems of the country). This increase in numbers has increased the revenues of government (either in the form of permit fees or as expedition fees from the tourists), and has provided greater economic benefits to certain locals as well. However, environmental quality has been compromised and unplanned development of tourism in such areas has had devastating impacts. Therefore, the principles of tourism development in such protected areas should be towards conservation focused, environmentally friendly and community-based tourism contributing to the social and economic well being of the residents of the protected areas.

The evident problems of deforestation, land and trail degradation, pollution of environment, garbage management, deteriorating beautiful landscapes due to the cluster construction of lodges, the loss of the traditional housing pattern, and the import of modern architecture shadowing the traditional ones, are some of the results due to the compromise in quality with quantity. Similarly, there are impacts on the local economy such as economic leakage, seasonal unemployment, and skewed tourism benefit distributions widening the gap between rich and poor. There are equal impacts in socio-cultural terms such as erosion of traditional values, declining local traditional cultural practices and some disintegration of the

socio-cultural fabric. Local participation in the development of SNP has also been lacking, which in the long run clearly indicates the failure of development projects in the region.

There are various forms of tourism which address the development of quality tourism. Among them *Ecotourism* seems to be the best available option for future tourism development in the SNP area. This approach seeks balance between the need of visitors, local communities and environment, therefore Ecotourism has been recommended as a model of sustainability in the SNP. The following recommendations are made to ensure optimum benefits to the local people, environment and the local economy leading to sustainable ecotourism development in the Sagarmatha National Park (SNP):

1. Awareness is the key aspect in the success of any ecotourism project. It is therefore strongly recommended that several education programs be launched, not only to the tourists but to the local people and operators as well. Awareness education for visitors to SNP needs to be started from the Lukla entry point itself. Each and every visitor should get one brochure with clear, adequate guidelines for behaviour;
2. Tourists should be made aware about the sensitivity the area possesses even before the entry point at Lukla. This responsibility lies on the agencies abroad and at Kathmandu so as to make sure that travel to SNP is 'responsible travel'. Further, such awareness would not only benefit the local environment and the local people, but also enhance visitor satisfaction;
3. Greater community participation in the development projects is recommended for sustainable ecotourism development in the SNP. The formation and strengthening of the Community User Group, Lodge Management Committee, Conservation Committee, Alternative Energy Management Committee, Youth groups, and Religious and Cultural ceremonies performing groups are needed to foster sustainable ecotourism development in the park;
4. The dependency of the local people and operators on the forest, despite it only being opened twice a year by DNPWC/SNP, has serious implications for the fragile and sensitive mountainous environment that the park possesses. Expansion in the use of electricity has been minimal. So, it is recommended that the concerned authorities initiate actions that act as incentives for local people and operators in the maximum utilization of electricity

while minimizing the use of wood for cooking and heating purposes as far as possible;

5. Wastes, garbage, litter etc., are key issues in any of the academic articles on the SNP. These aspects are not only the concerns of scientists and tourism researchers but are well reflected in views of the tourists who travel to the park. Proper management of the waste is an important aspect of a clean and healthy environment. For this purpose the SPCC and other related agencies need to be strengthened either financially and/or in terms of human resources;
6. Quality is the key element associated with sustainable travel. Charging high prices does not necessarily relate to 'quality', but to an extent helps in managing such a protected area financially. Furthermore, providing quality services by charging more normally enhances the visitor's level of satisfaction. During the surveys it was found that tourists expressed willingness to pay a high entry fee for better services. This clearly shows that there is a greater chance of developing 'quality' tourism in SNP. The unrestricted flow of tourists to the park can be addressed with several strategies: a 'high season-high price' and 'low season low price' strategy; charging fees by analyzing the visitor density to an area; and/or charging extras for special attractions and/or the fragility of any site or area, which would help the planners, managers, and authorities in the proper management of the area;
7. It is strongly recommended that the authorities explore new areas/trails in SNP so as to divert the flow of tourists from one particular area to another. In this way the benefits would also be distributed throughout the region, helping in regional development;
8. There has been haphazard and random growth in the lodges (usually clustered and disturbing the natural views) due to unplanned development of tourism in the park. This has severely affected the quality of the services at the lodges as well (due to negative competition). No proper design relating to traditional architecture has been adhered to in the Park. Further, there is no uniformity in construction as well. So, it is strongly recommended that government and other concerned organs should lay down proper guidelines, plans, rules and regulation in the uniformity of construction, services provided to the tourists and regarding operational practices as well;
9. The lodge operators lack skills, whether relating to the cooking, lodge management, energy uses, or languages, etc. Skilled manpower can provide

timely, efficient services to the tourists, which in turn directly relates to tourist satisfaction.<sup>6</sup> This study clearly shows the problems. Concerned bodies/agencies should identify training needs as per these priorities and provide them. The timely continuity of such programs is a must so as to keep pace with the changing times and development scenarios of tourism to Nepal;

10. The majority of the visitors complained about the acculturation of the local indigenous culture and further said that they didn't find any place where they could see, learn and appreciate local traditional cultures and tradition. However, the locals were *not* in agreement with the views of the tourists. They claimed that they still have their culture, which however can be seen during the festivals and ceremonies only. Therefore it is recommended that museum or other facilities to be built or established where the visitors can enjoy, appreciate and learn the local culture and tradition outside of the festival season. Further, the performance of local traditional cultures and dances will add value to the resources of the park;
11. There are greater opportunities for the development of small-scale enterprises to supply tourism, ranging from dairy production to poultry, small-cottage industries, which will substantially benefit the local community. Therefore, the appropriate provisions of soft-loans, training and development in these aspects is recommended as they will to a great extent help in the maximum retention of earnings from tourism which otherwise flows out of the local economy to meet import costs;
12. Lastly, an integrated holistic approach to planning in the SNP is strongly suggested, involving the major stakeholders such as local communities and local entrepreneurs/operators, park authorities, the tourism industry, various NGOs and INGOs, financial institutions, and national tourism organizations such as NTB, to ensure that ecotourism development in Sagarmatha National Park (SNP) is sustainable.

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