

Chapter 3

**Tourism
and
Environment**

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TOURISM AND ENVIRONMENT

The natural environment is essential cornerstone for tourism, particularly ecotourism sustenance. Unless the environment is safeguarded, tourism is in danger of being a self-destructive process, destroying the very resources upon which it is based and compromising all the foregoing interests in tourism. Tourists present and future will be denied the opportunities of visiting and experiencing environments different to those of home. The profit maximizing and revenue earning aspirations of tourism organisations, public and private, are very much bound up with satisfying tourist expectations. As per Cater (1997), host populations will stand to lose out in two ways. First, environmental degradation will affect not only their immediate prospects, but also their future needs. Second, this will affect not only tourism development but also development in general (i.e. agriculture, health etc).

3.1 Links between Environment and Tourism Development: Four Different Scenarios

The multitude of interests being involved, a completely sustainable outcome is likely to remain more of an ideal than a reality. With regard to development in general, the World Bank (1992) emphasizes the need to build upon the positive links between the environment and development, and to break the negative links. With regard to tourism, it is possible to identify four different scenarios, which are a reflection of the balance and relative strengths of environmental and developmental interests. The first of these is one where the positive links are immediately evident and mutually beneficial. The remaining three are the reflection of conflicts that occur, and point to the need for compromises from all stakeholders in order to arrive at more sustainable outcomes.

The Win-Win Matrix: This is the situation where the positive links between environment and development result in environmental improvement at the same time as the promotion of income growth (Cater 1997). In the field of tourism such situation arises where sound environmental and business practice or developmental interests coincide. The most obvious win-win situation is, perhaps in the field of energy conservation and increased fuel-efficiency, a double-edged sword in these terms. A regional example which provides a case of Annapurna region of Nepal, where the introduction of alternative energy

supplies and more fuel efficient cooking and heating methods by lodges (Gurung 1994) has reduced pressures of deforestation. Simultaneously, these measures have a positive effect on financial and time budgets of the lodges. By reducing the fuelwood input, Ahmad (1993) shows that over 60% of the women have to walk less to gather fuelwood.

Moreover such win-win situations will not always occur. Set into the overall context of sustainability, other considerations have to be brought into the decision-making equation. Conflicts will occur between the different interests involved over time and space, and trade-offs will be necessary in order to arrive at the most sustainable course of action. It is therefore possible to identify three further scenarios in addition to the win-win case.

The Win-Lose Scenario: This is the situation where the environment benefits, but where other interests may lose out. Such an example is that of the designation of National Parks and Protected Areas, which aim to fulfill conservation aims and if properly managed the expectations of ecotourists. The local population will lose out if they are denied access to their traditional activities such as agriculture, pastoralism or the gathering of fuel or building materials. The 'parks vs people' debate (Wells and Brandon 1992; IIED 1994) also documents that, unless local people have a genuine interest in the maintenance of protected areas, it is unlikely that it can be sustained on a long-term basis and encroachments such as poaching and illegal grazing and collection will occur. Brockleman and Dearden (1990) suggest that there is virtually no protected area in Thailand that is free from serious poaching problems. McNeely and Dobias (1991) describe how an estimated 60% of the 8,600 people living within 5 km of Doi Inthanon National Park in the Chiang Mai rely on so-called illegal collection activities. In India, Raval (1991) documents how some Maldhari pastoralists, who were resettled outside the Gir National Park found it difficult to adjust to life as agriculturists outside and have returned to live 'illegally' within the boundaries of the park.. Lemkuhl et al (1988) describe how, in Nepal, the Chitwan National Park authorities allow grass cutting for 15 days each winter to avoid illegal incursions for that purpose.

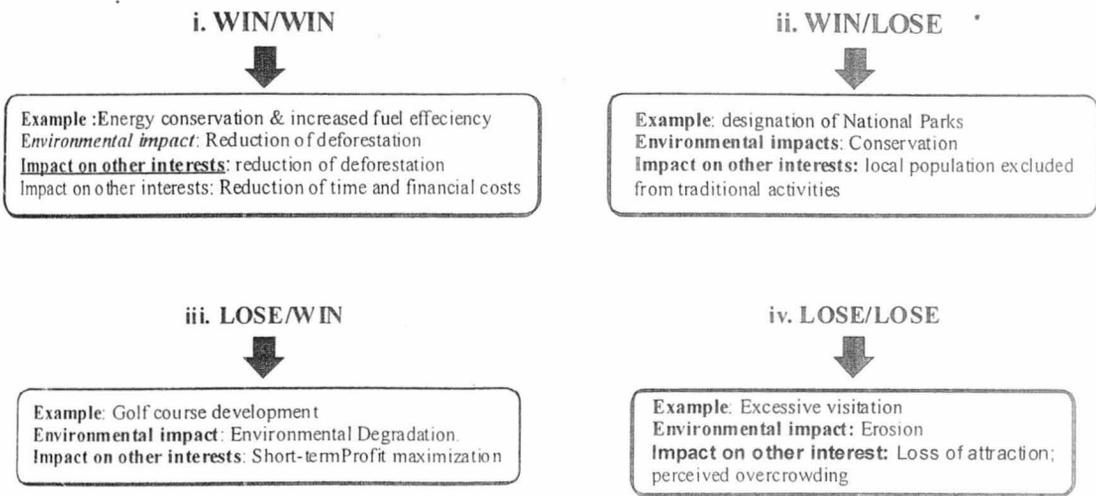


Figure 3: Examples of mixed incomes for environment and development

(Source: Cater (1997), Ecotourism for Forest Conservation and Community Development).

The Lose-Win Scenario: This situation occurs when the environment is degraded whilst other interests benefit. An example of this is the case of golf course development in protected areas and reserves which has occurred at varying locations in Southeast Asia, where the environment is downgraded in the interests of short term profit maximization. At the Teluk Datai forest reserves on the Malaysian island of Langkawi an exclusive resort, including a golf course has been built as a result of a joint venture between a Japanese company and the Kedah state government (Bird 1995). Considerable controversy resulted from the construction, by the Tourism Authority of Thailand, of a resort and a golf course inside Khao Yai National Park. The finding of the dead deer in the park which had eaten golf balls, and the disruption of elephants' feeding routes by new roads built in the park, finally led to the closing down of these types of projects (Dowling 1996).

The Lose-Lose Scenario: These results from the degradation of the very resources which attracted tourists in the first place, all interests are compromised. Without proper management it is likely to be end of the two said scenarios. This is the likely outcome if the varying carrying capacities, whether physical, biological, social or psychological are exceeded (Cooper, et al 1993). Gee (1995) reports how Exodus Expeditions responded to clients' complaints of overcrowding at Kuala Tahna, Taman Negara, Malaysia, by drawing its Taman Negara extension to tours. In Malaysia tourist visitation to the national

parks has increased more than ten fold since 1980, and it is significant to note that it is destined to come under yet further pressure with the completion of the road to Kuala Tahan. In addition to this case, at times, exceeding psychological carrying capacity, environmental damage is very evident in the form of path erosion on Tereseck hill adjacent to the resort. Such path erosion is quite common in Sikkim in India and Annapurna region of Nepal.

Therefore there are many discontinuities that occur between the environment and tourism development. What is a win situation for one interest, level or sector is likely to be a loss for another. The complexity of the situation is further compounded by the occurrence that these conflicts will vary over time and space. So, not only must the question be posed of for whom is ecotourism development sustainable, but also “when” and “where”.

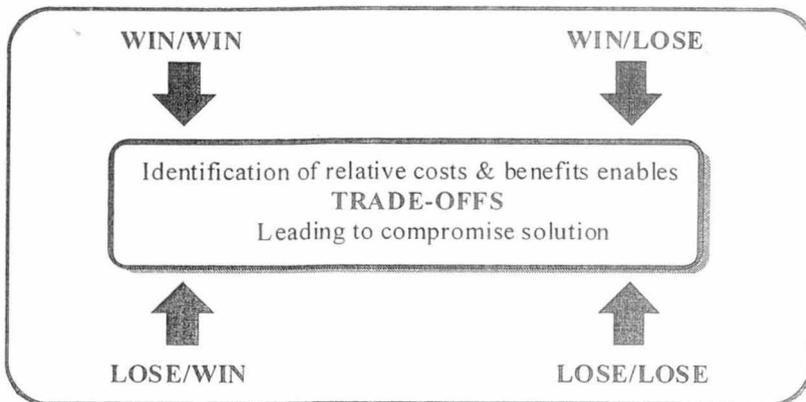


Figure 4.The need for trade-offs between interests to ensure more sustainable outcomes.

(Source: Cater (1997), Ecotourism for Forest Conservation and Community Development).

3.2 Mountains and Hills as Tourist Destinations

It was revealed through different findings that hills and mountains have occupied an important place since ancient times, when they were considered abodes of gods. Sages and hermits would meditate and hence lot of reverence and divinity was attached to them in the Indian context. Some like Kailash, Meru, Kishkindha, Govardhan, and Vaikuntha were particularly sacred. The modern concept of hill stations transcends religious connotations of European imperialism in the orient in the 19th century. The French established Da Lat in Indo-China, the Spanish built Bagnio in Manila and the Dutch founded several similar centers in Indonesia. But no colonizing power built more stations

that the British in India. Their rapid growth was due to the real relief they provided from the heat and disease of the plains in summer, while later, after the struggle of 1857, they offered a place of refuge from the reality of life on the plains below. Not all hill stations were established in a uniform manner. Most of the earliest stations were originally built as army cantonments and were meant to give European troops a breather from the pre-monsoon heat. Some of the more remote cantonments like Chakrata and Jalapahar lingered in isolation while other more accessible ones attracted civilian attention and soon flourished as social and educational centers. The resorts nearer to the large administrative centers also usually attracted local patronage. That's the reason why Ooty was summer capital for Madras, Murree for Rawalpindi, Nainital for Lucknow, Darjeeling for Kolkata etc. others were popular with a particular clientele, etc., Kotagiri acted a magnet for planters and box-wallahs, Mussoorie attracted high spirited young military cadet out for a good time, and Shimla was the preserve of the top military and civilian personnel. Even the down-market stations enjoyed specialized patronage as Ranikhet catered principally to the signals and armoured corps and Almora drew survey, railway and telegraph staff. Madanapalle attracted mainly pensioned native officials. While Matheran served as a destination for wealthy Parsi merchants. Kodaikanal was not established by the British but attracted people from nearby or surrounding areas, maybe due to transport problems and secondly, that they had a loyal devoted clientele in the sense that they visited the same place year after year.

Continuous development in hill stations, catering to affluent and the influential few to regular holidaymakers, was in part, a product of improved transport and communication networks. Other factors like increasing knowledge and awareness of hill stations, aggressive marketing by tourist agents, leisure time and availability of disposable income also played an important part.

3.3 Environment and Development of Hill Resorts

Hills and mountains maintain unique ecosystem; their ecological and cultural attributes make them favourite tourist destinations. As 'zones of refugia' they offer ideal conditions for the three R's –rest, relaxation and recreation. They cater to the varied demands of a vast segment of society. Some of the main reasons behind the development of hill resorts are:

- i. **Summer retreat** - With their climatic and geomorphic conditions they offer ideal summer retreats from the scorching heat of the plains.

- ii. **Natural surroundings** - Confluence of various ecosystems; hills, forests, snow, rocks and varied relief and ecological features and attract naturalists, bio-scientists, academicians, poets, sightseers, photographers.
- iii. **Pilgrimage centers** - Some of the hill stations also happen to be major pilgrimage centers thus attracting huge tourist traffic. Vaishno Devi, Amarnath, Kedarnath, Badrinath, Gangotri, Yamunotri are just a few.
- iv. **Mountain sports** - Like mountaineering, trekking as in Leh, skiing, ice skating (as in Kufri, Patnitop), helicopter skiing, river rafting (as in Manali), gliding etc. attract sports enthusiasts.
- v. **Floral and faunal diversity** - Wildlife and diversity of plant species make them ideal destinations for wildlife lovers. Bioprospectors have of late become a significant tourist component. Nanda Devi Sanctuary would be an example.
- vi. **Adventurists and explorers** - The mountainous terrain often lure many adventurers or explorers. Wanderlust accounts for but a small proportion of tourist traffic.
- vii. **Others** - Factors would include recreation, leave after work, desire to visit friends, relatives, honeymoons, etc.

3.4 Impacts of Tourism Environment

Tourism activities do not always draw negative impact only towards the society, destination or built area but does bring changes in its ambience. Following is a table that shows tourism and environment and their relationship as propounded by Hunter, Colin and Green:

Table 2: Tourism and Environment: A Sustainable Relationship

Impact Aspect	Potential Consequences
Urban Form	--Change in character of built area through urban expansion or redevelopment --Change in residential, retail or industrial land uses (e.g. move from private houses to hotels). --Changes to the urban fabric (e.g. roads, pavements etc.)
Infrastructure	-- Overload of infrastructure (e.g. roads, railways, car parking, electricity grid, communication systems, waste disposal, buildings, water supply). -- Provision of new infrastructure or upgrading of existing infrastructure. -- Environmental Management to adapt areas for tourist use (e.g. sea walls, land reclamation).
Visual Impacts	--Growth of the Built-up area --New Architectural styles --People and belongings, litter --Beautification
Restoration	--Re-use of disused buildings --Restoration and Preservation of Historic Buildings and sites --Restoration of buildings and second homes.
Erosion	--Damage of Built assets from feet and vehicular traffic (including vibration effect)
Pollution	--Air Pollution from Tourists and tourist traffic. --Air pollution from non-tourist sources causing damage to built assets.

Source: Hunter, Colin & Green, Howard, *Tourism & the Environment: A Sustainable Relationship*, Routledge, 1996

3.5 Further Determinants of Impact

The impact of tourism on hills and mountains is to a great extent conditioned by the following factors:

The number and duration of stay of the tourists is particularly true in the context of 'mass' or 'exploitative' tourism. Thus, the duration of stay in some cases is directly proportional to the impact on local environment.

1. The sphere of interests of the tourists: sports, relaxation, nature-watch, pilgrimage.
2. The fragility of the local environment, the accessibility of the region, the geomorphological features and the nature of terrain.
3. The standard of living and the income of the tourists as well as the areas visited by the tourists (e.g. socio-cultural and ecological environment and the resultant behaviour).
4. The extent and type of infrastructural facilities, i.e., transport, accommodation etc.
5. The tourists' awareness of the socio-cultural and ecological environment and the resultant behaviour.
6. Existing government policies, regulations and guidelines.

In the context of the impacts of tourism on mountain environment, another point that has to be borne in mind is that the world mountain environment does not only connote the physical or the natural landscape, i.e., forests, rocks, ice, climate, but also the cultivated landscape (houses, villages, fields, infrastructural facilities) and the people as well (behaviour, customs, traditions). The net impact of tourism is different in different regions depending on the relative interplay of the said factors.

Impacts can be studied under following points:

- I. *Ecological Impacts*
- II. *Socio-Cultural Impacts*
- III. *Economic Impacts*

I. *Ecological Impacts:*

Physical impact due to tourism has come in for lot of debate. Globally, the awareness level of people about ecology is growing higher and higher. Many humanists and sociologists like Elzeard Bouffier of France, Toyohiko Kagawa of Japan, Sunder Lal Bahuguna of India to name just very few have been raising environmental issues vigorously. Many reports, both national and international have also come up documenting tourism's impact on environment.

While there may be a difference on the degree or intensity of the resultant problems, it is generally agreed that unregulated tourism tends to destroy forests, consume firewood, creates pollution and overcrowding, endangers ecological balance, threatens the flora and faunal diversity, produces garbage trails, overburdens environment with tourist structures and roads, causes at times natural hazards as also withdraws labour from agriculture, changes the land use pattern, etc. Following are the points of analysis of these impacts:

Deforestation

By way of building of infrastructural and accommodation facilities or industrial requirements or grazing or firewood collection has led to reduction in forest cover in the hills and mountains. Rich forested slopes have been converted into barren rocks in the name of development activities like roads, hotels, tourist huts, and trekking trails. While comparing this with National Forest Policy recommendations which envisages 60% of the mountain areas to be covered with forests, in the Himalayas, less than one fifth of the region is under snow cover, 3.7% under high meadow (Bugyals) and nearly 42.3% of the land is denuded of any vegetal cover. It is said to be noted that only 4% of forestland comprises good quality trees. The best coniferous forests are degrading fast; there is shrinkage in natural habitats and extermination of many plants and animal species. Musk deer, snow leopard, barasingha, etc. are becoming extinct. Degraded landscapes, ranging from glacial and periglacial areas with depleting snowfields to hill-slopes, foothills and valleys are also reflective of the human interference. Recent studies of geo-ecosystems in Dhauladhar range and the adjoining areas south of the Punjab Himalayas as also in Uttar Pradesh and Eastern Himalayas have revealed 'erosion damage'. Owing to lithological, structural, climatological and relief conditions, such areas are highly susceptible to erosional processes, being induced or accelerated by human activities such as over-grazing, tree logging, fuel wood-collection and improper constructions.

Garbage trails and pollution

Waste generation especially solid waste by the hotels like food, vegetable, paper, rags, cloths, bottles, polythine, gloves, bandage, cotton, plastics, etc. is causing

major damage to the local ecosystems. Most of the hill stations lack sewage and waste disposal facilities. Of particular importance here is the fact that while some wastes are biodegradable others like soft drink bottles, polythene are non-biodegradable and cause immense harm to the environment. Surveys carried out in Kullu Manali Tourist Complex (KMTC) suggest huge amount of daily waste generation. Valley of Flowers also suffers from a similar problem. In many cases water bodies are choked. Lakes, rivers and ponds become polluted. Dal Lake in Srinagar is heavily polluted, weeded and eutrophied as a result of release of an incredible amount of faecal matter and pathogenic materials from the houseboats. In addition, atmospheric pollution through motor vehicles, aircrafts, road and rail transportation, coal fuel, oil, natural gas, wood-fuel and forest fires is also becoming increasingly prevalent.

Increasing instances of natural hazards due to disturbances in the fragile ecosystems of the hills and mountains are not unknown. A study conducted by James S. Garder in Shimla is very illustrative. Increasing tourist traffic in Manali combined with the vulnerability of its eco-system has produced natural disasters. In recent years, increase in the number of high density multi-storied hotels, constructions of buildings in the flood and erosion susceptible areas adjacent to Beas, the development of road network and winter recreation activities has elevated risks from natural hazards like snow avalanches, earthquakes flash floods, rock slides, slope failures, etc. The Manali case shares many characteristics with similar situations elsewhere in India.

Loss of flora and fauna

These terms are very much associated with deforestation and increasing tourist menace auguring danger for the floral wealth. In Uttar Pradesh (now Uttaranchal) parts of Himalayas, the soils, biomass, flora and fauna and water have suffered a lot due to unplanned encroachment. Tourism and associated projects have been major destroyers. The Ramaganga dam has submerged a vast area falling under the natural habitat of tiger and other animal species. Tehri and Jamrani dams have also produced similar effects. Increasing construction at Gangotri is causing great loss to a number of plant species like Chir, Fur, Birch, etc. heavy utilization of open tracts adversely affects the biomass. Trampling directly kills plants and causes soil

compaction. Increased use of an area changes the microclimate and water balance and thus kills plants and causes soil compaction. These changes in the local biotic community can lead to eventual loss of the species. Plants are also lost by plucking of wild flowers and leaves by wanderers. Brahmakamal is one such greatly affected variety. Valley of flowers has been at the receiving end. In the case of animals, as has already been said, shrinkage in natural habitats, flourishing souvenir industry, contamination of ecosystems as well as in some places actual hunting have been primary decimating factors.

Mountain sports

Few hard adventure sports like trekking, skiing, ice-skating, etc. are producing many undesired results. Few studies conducted in Nepal suggested that trekking and trekkers related activities are leading to accelerating rate of deforestation in the Sagarmatha area, thereby destroying the habitat of numerous wild animals and high altitude plants. Here in India, this has led to the need to close down the Nanda Devi Sanctuary for trekkers and shepherds. Markha valley in Ladakh has also borne the pressure of tourist menace. Similarly, water sports, involving diesel-powered speedboats and motorboats contribute to surface water pollution in many areas.

Deviations in land-use patterns

Deviation in land-use patterns is becoming common in many hill stations. The desire for "quick gains" has led to regression of agricultural activities. In many cases tourism has overlapped agriculture thus creating a tourist monoculture. This is disastrous in the long run both to the economy and ecology of the region. Likewise overcrowding, urban sprawl, shortage of civic amenities when incongruent with the carrying capacity of the region tend to produce harmful effects on the environment.

Tourism has also served as a tool for conservation and environmental regeneration. If tourism can be conducted properly tourism awakens ecological consciousness and the need for introducing measures of conservation in sensitive areas of nature monuments and wilderness. Retreat from hillside farming in the most marginal and dangerous areas is another gain.

II. *Socio-Cultural Impacts*

Local society and their customs constitute an important tourism resource. Village lifestyle, traditional ceremonies and religious processions, arts and crafts are vigorously marketed by tourist organisations. There are many evidences to demonstrate that traditions and quality of life of the host society can be eroded by mass tourism. In one of the better-known frameworks, Doxey advocates an *irritation index*, which early traces the local community's reaction, beginning with a place saturated with tourists. Doxey suggests that the level of irritation was correlated with the degree of compatibility between host community and the visitors, the location of tourist accommodation and how much the locals directly benefit through employment and associated perks of tourist industry. Mass package holidaymakers demanding facilities and levels of service matching metropolitan cities have little interaction with local residents. Studies have shown that tourism at many hill stations has been accompanied by higher prices for craft goods, greed and crime in societies. In addition, the so-called *demonstration effect* involving the adoption by local residents, particularly younger people, of aspects of tourist life styles, is becoming increasingly common. High levels of expatriate ownership and management, together with resort development that has created private areas for tourists further alienates the local population receiving only limited benefits. Unregulated and insensitive tourism can also lead to dissolution of social cohesion, youth social conflicts, criminality, prostitution and immorality in the host society. Loss of cultural identity promoting commercialization of tradition selling of antiques, vandalism and materialistic thinking also afflict the host society.

The positive side of tourism possesses when it comes to the host society. It entails behaviouristic change in the host society when the residents seek to improve their 'image'. Also, it delays out migration and provides motivation for learning. Preservation of cultural monuments, rediscovery of lost traditions, promotion of current culture, training of new craftsmen and contact with the outside world by way of infrastructure modernization and urbanization are other positive entailments of tourism development.

A case study of Leh, an important tourist destination may be cited in order to get a better picture of the state of affairs. Leh in Ladakh was a forbidden land till 1974. Subsequently it was marketed as "The Little Tibet". It is a classic case of how a unique cultural heritage could be revenged by sudden tourist invasion. It goes on to show how tourism induced development in a backward economy can only result in marginal economic gains with major socio-cultural losses. Proliferation of external entrepreneurs

has led to economic dislocation of the residents. Some good work has been done by the way of restoration and renovation of monasteries and revival of some art traditions but otherwise Leh has paid a heavy price for the development of tourism. Only a small part of tourism earnings remains inside the region, the rest being siphoned either to the valley or the lowlands. The sociological cultural front has borne the flood of tourist invasion in a major way. Lamas are increasingly coming under the influence of western culture. The younger generation has been uprooted from their age-old tradition, and local pilgrims are discriminated against the better paying foreigners. Many religious objects have been sold or smuggled. In Tibetan culture, art is not saleable commodity.

III. Economic Impacts

Recreational tourism includes growth at three levels - national, regional and local, although the quantum of this growth may be different at different levels.

Following are the possible mechanisms through which tourism affects the economy of a region:

A. Strengthening economic cross-sectoral linkages

Fundamental to enhancement of economic benefits is making optimum use of goods and services produced within the country, region and local area as inputs to tourism, i.e., increasing the local value added to tourism. This reduces the leakage factor of money spent (often valuable foreign exchange) to purchase imported goods and services. In some areas, like mountain economics, or resource-limited island economics, it may be necessary to import a considerable amount of items used in tourism, and this situation is justifiable because tourism still brings substantial benefits which otherwise would not exist. However, opportunities for import substitution and increasing tourist expenditures should be explored in any environment.

Cross-sectoral linkages between tourism and agriculture and fisheries can often be strengthened through improving local production of food items—vegetables, fruits, dairy products, meat, poultry and fish – used in tourist restaurants. It may be necessary to modify existing or develop new types of food items for the tourist market in terms of variety and quality; both production and marketing must be developed to ensure that a reliable supply of the items is available when and where needed. In some places, where suitable soils are limited or the climate not suitable, hydroponics farming can be

economically viable compared to the cost of imported food items, or aquaculture techniques used to increase sea food production.

B. Ownership of tourist facilities and services

Tourism is not a single industry but a loose confederation of a number of these. It is usually classified in the tertiary sector, mainly a service sector. Geographers call it a "landscape industry" since the products of tourism are made of natural beauty, dramatic landscape and cultural heritage. The development of various segments of tourist industry depends upon the importance and popularity of the tourist places. Considering transport network like roads, railway tracks, trek routes, rope ways all that require a huge labour force, construction of classified hotels, indigenous hotels, tourist bungalows or other state establishments and other types of specially tent houses, dharamshalas, etc. is another major responsibility of tourism industry.

C. Local employment

Maximization of employment of local personnel in tourists' facilities enhances economic benefits as in addition to employment benefit, the workers' wages and salaries will remain in the local economy. Expatriate workers spend some percentage of wages locally but usually send a substantial percentage to home countries. In countries like Nepal, Bhutan etc. foreign workers are essential to provide both the number of workers and skills required, although some of these countries are adopting the policy of training local persons to assume jobs now held by foreigners. In other cases foreign employees, specially at the managerial and skilled levels, are required because local capabilities have not been developed despite the need for jobs.

D. Expansion of tourist activities

A common technique to increase tourist expenditure is to expand the variety of tourist activities available, to both increase the average length of stay of tourists and the number of tourists' arrivals. Tourist attractions can be added including natural, cultural and special types of attractions such as entertainment and recreation facilities and additional tours to new places. Expansion of tourists' activities also should be based on careful feasibility analysis, to ensure that the investment is justified.

E. *Local management of tourist facilities and services*

In-country or local management of hotels and other tourist facilities, whether or not locally owned, results in a greater amount of the profits being retained in the country. Management fees of foreign operators typically are sent overseas. However, foreign management, especially if by a large international hotel chain, brings the benefits of both competent management skills and international promotion and names recognition as well as integrated reservation services; some tourists, for example, want to stay only in well-known international chain hotels wherever they travel. So, each situation must be especially evaluated as to the relative advantages and disadvantages of utilizing international management companies. Management contracts should be carefully negotiated to be fair to both the international and local parties involved.

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