

CHAPTER II

LITERATURE REVIEW

The literature review presents the ideas on the positive and negative impact of tourism to the environment and provides the information on the sustainable tourism. The major positive impacts due to tourism as mentioned in the literature review are the financial supports to develop environment and change in the mindset of the people towards environment. The impact to flora, fauna, land, air, and waste disposal issue are key negative issues from tourism activities. Finally, the foremost sustainable tourism management elements, which were discussed in the literature, are collaboration of the stakeholders, involvement of community, education, monitoring and government regulation.

Positive Impact of Tourism to Environment

Sunlu (2003) suggested that tourism can contribute to the conservation of environment and pointed out the following benefits: They are: 1) financial contribution: Due to the activities of tourism, the fund could be raised from the tourist and tour operator for protection and management of sensitive places and habitat. Furthermore, the government could use the fund collected through the tourism activities to protect and manage the parks. 2) Environmental Management and Planning: The approach of tourism industries with regard to the management and planning of the tourism activities and infrastructure has contributed to the protection of the natural resources. The green initiative taken by the tourism industries is another significant factor to combat the negative impact of tourism. Long-term management plan of tourism with regard to waste disposal, pollution minimization supports conservation of the environment. 3) Environmental Awareness: The tourism industry can play a vital role in educating the tourist and the local people on sustainable tourism. 4) Protection and Preservation: Due to the creation of attraction for the tourist, the tourism industries contribute to creation of national parks and preservation of the habitat. 5) Regulatory measure: Tourism can come up with the policy of sustainable tourism and regulate on tourist movement and activities in the protected area.

Tourism draws attention on considerable environmental issues; hence, it encourages and initiates plans and program to promote and protect environment (Doswell, 1997 as cited in Amuquandoh, 2010). Furthermore, it focuses attention on issues related to “biodiversity, endangered species and human impact on the environment”. In addition to this, tourism provides financial support to preserve natural areas (Master, 1998 as cited in Amuquandoh, 2010). It is found that existence of some species of animals and plants have increased due to tourism (Gunn, 1979). Furthermore, the beauty of the place and the development of the landscape are other areas where the tourism has contributed a lot.

The protected areas have become a core tourist attraction for nature-based tourism activities, leading to generation of income for sustainability of biodiversity. As such, there is direct link between tourism and conservation (Novelli and Scarth, 2007). The success of conservation depends upon success of tourism. The main characteristic of tourism is that it “provides an economic value to nature” (Beech and Chadwick, 2006, p. 363). The income generated through tourism could be used to preserve the natural resources. Since tourism brings in the foreign currency to support the balance of payment, the government formulates policy for protection and conservation of nature for sustainable tourism. Furthermore, as the quality of environment is the key to tourist satisfaction, all the stakeholders of the tourism industry works towards protection and conservation of environment.

Tourism has not only generated income for the local community but has changed the mindset of the people of the community with regard to the protection of environment. Due to the interaction with the tourist, the altitude of the people towards the environment has shifted from “purely utilitarian to a more appreciative framework” (Matarrita-Cascantea, Brennanb and Luloff, 2010, p. 749). The local people started showing their interest and concern towards conservation of environment. Furthermore, even though most of the backpacker tourism is criticized for negative impact to cultural, social and environmental aspects, Ooi and Laing (2010) argues that by creating a volunteer tourism product for the backpacker market, some of the negative impacts, including impact to environment, will be addressed. Finally, sustainable tourism accreditation provides an image which will have a positive impact on the marketing of the destination (Jarvis, Weeden and Simcock, 2010); that will lead to support environmental conservation through the income received from the tourist.

Negative Impact of Tourism to Environment

Tourism has generated revenue for the local community and contributed for the national economy. However, its activities have negative impact to environment. Some of the major negative impacts of nature-based tourism as pointed out by Pickering, Harrington and Worboys (2003) are as follows: 1) Water: The quality of the water is reduced due to the human and animal waste, and flow of contaminated water from the car parks and roads to the rivers and streams. 2) Fauna: There is adverse effect to the native fauna due to the penetration of feral animals in the protected area. The feral animal such as foxes fed on native mammals. It is observed that the number of native fish was reduced due to introduction of trout. 3) Flora: The study highlights on impact of tourism activities to the vegetation. The tourism activities such as horse riding, vehicle driven off-road and cutting down of plants have detrimental effect to the natural vegetation. These activities results to trampling of plants, soil compaction and soil erosion. Beech and Chadwick (2006) emphasized more on the pollution of noise, water, aesthetic and air. They also pointed out that hunting wild species by the tourist during the tour has a significant effect to the wildlife. It is also noticed that the noise pollution has effected the wildlife's existence.

Most of the popular tourist destination areas are facing the challenges of pressure on natural resources and damage to ecosystem (Neto, 2003). The author states that threat to natural landscape, freshwater and vegetation is significant due to tourism activities. Furthermore, the disposal of untreated waste contaminates the freshwater, land and marine waters. In addition to it, the smokes due to the activities of transportation of tourist contributes to polluting the local atmosphere.

Similarly, Sunlu (2003) demonstrated the effect of tourism to natural resources and pointed out the following negative impacts of tourism to the environment: They are: 1) shortage of water: The high consumption of scarce water resources for the touristic purpose results to shortage of water and its supplies. 2) Pressure on local resources: The local resources such as food and energy fall shortage during the peak season when the resources are required to cater large number of tourist. 3) Land degradation: The increase number of tourism facilities and infrastructural development cause pressure to the beautiful landscape and other resources such as minerals, soil, forest and wildlife. 4) Air pollution and Noise: The

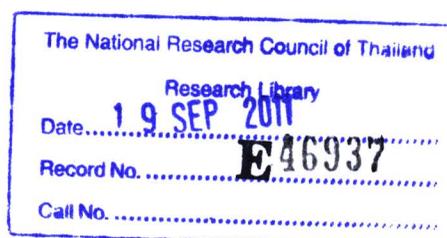


transportation used for the mobility of the tourist disturbs the wildlife and emits carbon dioxide, which pollutes the local air. 5) Solid waste and littering: The waste disposal is a serious problem in the natural attraction area frequented by the tourist. Moreover, the trekkers generate the waste (garbage, oxygen cylinder, camping equipment) during the trekking activities. 6) Sewage: wastewater due to construction of hotel and other infrastructure causes increase in sewage pollution leading to pollution of rivers and lakes, harming both flora and fauna. 7) Aesthetic Pollution: The modern structure of the resorts and hotels do not match with the natural environment. 8) Physical Impact: Deforestation and trampling are major threat to the protected area.

In this connection, Gunn (1979) stated that the motive of tourism to maximize profit leads to deterioration of delicate ecosystem and beautiful landscape. Apart from the wear and tear of fragile resources, the problem of pollution of air and water has been strongly felt by the author. The tourism development activities damage the quality of air, water, vegetation, wildlife, delicate ecosystem and aesthetic of the physical environment (Leiper, 2004)

Ervin (2003) did an assessment of protected area management in Bhutan, China, Russia and South Africa and came up with five threats to the protected areas and five management issues influencing the effectiveness of these areas. The threats were poaching, alien plants, tourism, logging, encroachment; and the management issues were funding, staffing, research and monitoring, resource inventories and community relation. In this study, the threat due to tourism was significant in case of China. In case of Bhutan, the threat was drastic due to grazing. However, since Bhutan is an emerging tourist destination, tourism is foreseen as another threat.

With regard to vegetation, the direct clearing of forest and the wood used for the touristic activities in the mountains is a serious problem in the developing countries. The repercussion of the impact of tourism to environment falls back to tourism industry. Due to the damage caused to the environment by tourism activities, the destination will have lower tourist arrival. Pickering, Bear, and Hill, (2007) who studied the nature-based tourism in Kosciuszko National Park, states that the damage to the natural vegetation is also caused due to the introduction of exotic plants and development of infrastructure.



The negative impacts of tourism in Bhutan are cutting down of trees for firewood during the treks; erosion of delicate vegetation due to the use of horse and yaks during the treks; increase of herds for transportation by the local community and disposal of non-biodegradable on the trails (Dorji, 2001). However, Brown, Ham, and Hughes (2010) argue that a communication to influence the visitor's behavior is a vital to minimize damage to the environment and to provide support for environmental conservation. For Example, if litter by the trekkers is reduced or the waste is properly put in the garbage box or the litter is voluntarily picked up, it would not only save the cost of cleaning the area but would also help in conservation of nature. Furthermore, qualified and linguistic guide could contribute in reducing the damage to the environment during the tour and trek (Beech and Chadwick, 2006).

Sustainable Tourism Management in Protected Area

It is of paramount importance for the tourism industry to formulate a sustainable planning and management policy so as to enjoy the maximum benefit of tourism in the protected area with a significant consideration for its preservation. Catibog-Sinha and Wen (2008) focus on the sustainable tourism planning and management model for protected areas in Xishuangbanna Biosphere Reserve, South China and emphasis on the combination of social, economic and environmental goals for effective tourism planning and development. Sharpley (2008) argues that lack of proper planning is the major cause of failure of tourism sector performance and states that greater support and investment on the part of government is necessary to realize the potential benefits of tourism.

The development of nature-based tourism depends on the inherent characteristics of the protected area. The priority of the park tourism is to conserve nature and to promote involvement of local community in order to achieve sustainable use of the fragile natural areas (Yip, et al., 2006). Furthermore, the authors highlight on the participation of local operators in delivery of ecotourism services, focusing on development of nature-based tourism at Pahang National Park and Taman Negara National Park in Malaysia.

Awareness on environment protection and sustainable tourism to the local community, especially those who are directly involved in providing the tourism

services has been strongly emphasized by Hiwasaki (2006). The author studied three protected areas in Japan and found that in all these sites the quality of guides has assisted in conservation of the protected area. The protected area tourism development should enhance public awareness and support for conservation of wildlife by providing a regulated walk to view the animals in the reserves (Seddon and Khoja, 2003). On the other hand, a study carried out by Marion and Reid (2007) demonstrates that it is not only the local community who should be aware of the protection of nature but also the tourist. Therefore, the authors argue that visitor's education is an effective management approach for dealing with the negative impact to environment. Similarly, Beech and Chadwick (2006) suggested environmental education for the stakeholders.

Due to numerous interrelated systems and several stakeholders having different views and interest on sustainable tourism, there is a need for collaboration and coordination among the stakeholders (Jamal and Stronza, 2009). The authors reviewed a case study of the Chalalan Ecolodge at Madidi National Park in Bolivia and concluded that the partnership between the local and the international stakeholders is required to address the issue of the impact of tourism to the protected areas. They argue that the size and the structure of partnership depend upon the issues, stakeholders and the future result. Hiwasaki (2006) also supported the above conclusion and stated that for a good protected area management there is an urgent need for a strong partnership among stakeholders such as Government, NGOs, private entrepreneur, local people and guides. Gunn (1979) stated that there need to be a strong collaboration among different tourism stakeholders to fulfill the respective roles wisely keeping into consideration the impact to the society, economy and environment.

For an effective protected area tourism management, it is imperative to have economic, social and environmental goals integrated (Catibog-Sinha and Wen, 2008). The authors did the situation analysis based on 7Es element of Catibog-Sinha and Bushell (2004) to come up with a sustainable tourism planning and management model for protected area in Xishuangbanna Biosphere Reserve, South China. The 7Es are follows: 1) Environment: Management of physical environment and human-nature interaction 2) Economic: Enhancing financial benefit without destroying the natural resources. 3) Enforcement: Implementing, monitoring and managing the regulatory

measures 4) Experience: Satisfaction to the tourist from the attraction 5) Engagement: Involvement of stakeholders for decision-making, planning and Implementation 6) Enquiry: Conducting research on implication of tourism to the environment 7) Education: Enhancing knowledge about the use of the natural resources and its implication. The figure 3 conceptualizes the model clearly.

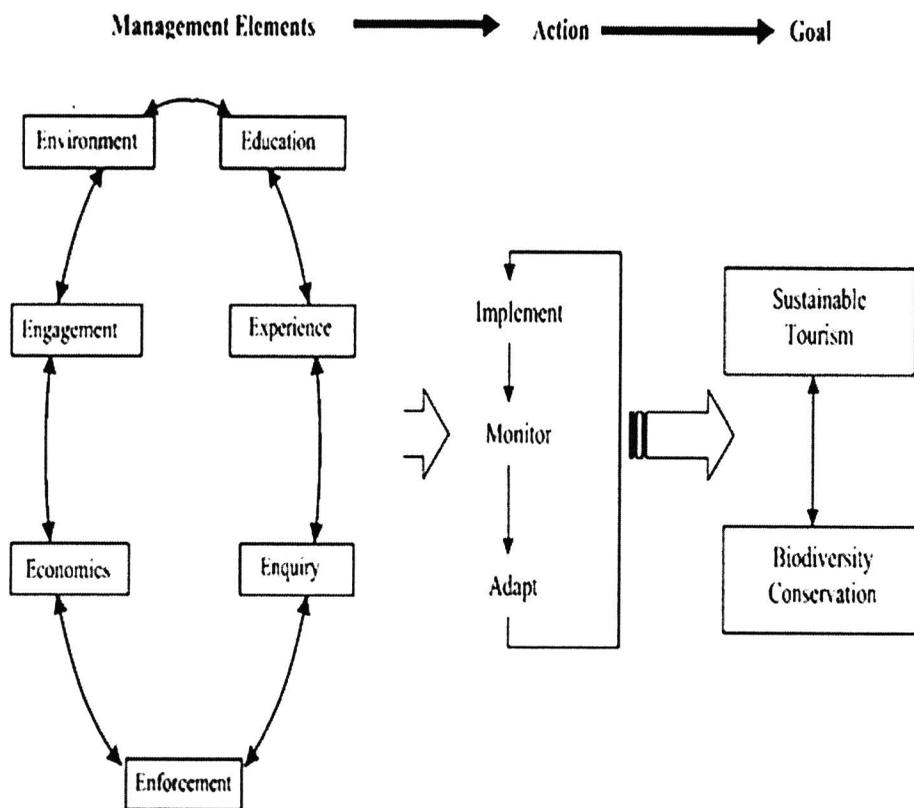


Figure 3 The 7Es Model for tourism planning and management

Sources: Catibog-Sinha and Bushell, 2004; Catibog-Sinha and Wen, 2008

Catibog-Sinha and Wen (2008) made the following management suggestions for a sustainable tourism practice in the protected area, they are: support from the government, involvement of the stakeholders, adequate knowledge of ecological and environmental science, institutional support for community participation, human resources development, research on tourism to promote better interaction between tourist and nature, and long term nature-based tourism planning.

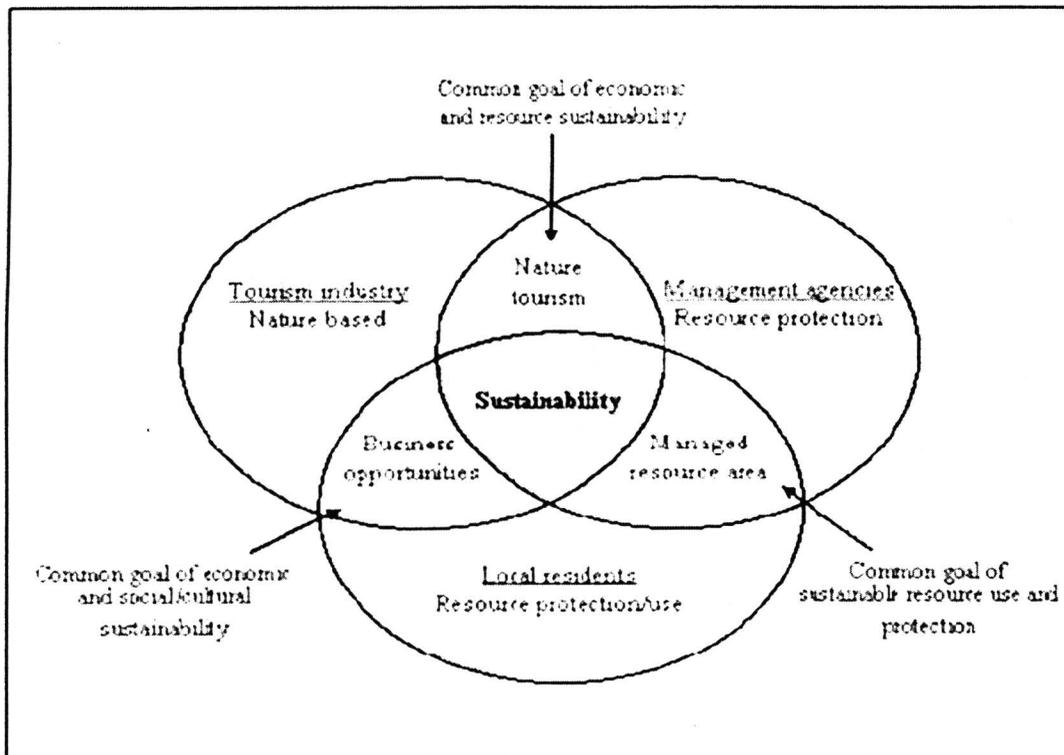


Figure 4. Shared goals for sustainable tourism in protected areas.

Source: Eagles and McCool 2002.

Figure 4 Shared goal for sustainable tourism in protected areas

Zal and Brenda (2010) demonstrated in figure 4 the shared objectives of different stakeholders for sustainability of protected area. The tourism industry, management agencies and local residents are identified as the main player in sustainability of nature-based tourism.

Due to respective interest of the stakeholders in the protected area, it is a challenge for the system to manage protected area for sustainable tourism in an effective way. Hence, Plumber and Fennell (2009) suggested an adaptive co-management (ACM) as an alternative approach for the management of protected areas for sustainable tourism. "ACM is characterized by conscious efforts among such groups to communicate, collaborate, negotiate and seek out opportunities to learn collectively about the impacts of their actions" (Colfer, 2005, p.4) (Plumber and Fennell, 2009)

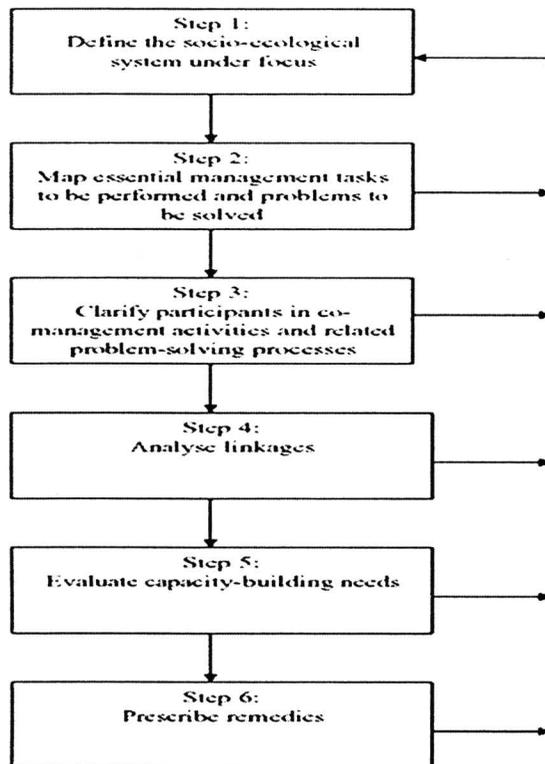


Figure 5 The steps involved in sustainable tourism co-management process

Source: Adapted from Carlsson and Berkes, 2005; Berkes, 2007; Plumber and Fennell, 2009

Figure 5 shows the steps involved in the co-management process. The arrows resemble the feedback and the repetitive nature of the process where learning and adaptation happen. Step 1 defines resources system, people and structure; step 2 categories task as short, medium and long term; and empower appropriate person for making such decisions; step 3 relates to discussion on participation and management; step 4 analyses linkage between the central levels of decision making to local level; step 5 involves developing and utilization of skill of people and institution and finally step 6 engages in communicating the result of the research for problem solving.

Pickering, Harrington and Worboys (2003) highlighted on the issue of air and water quality, and protection of flora and fauna. They suggested for having more effective pump out and composting toilets and carry out system for wilderness area

for management of human waste. The community involvement and regulation to protect animals and plants were also discussed. On the other hand, Beech and Chadwick (2006) suggested the following management technique:

1. Carrying Capacity Analysis: “the maximum number of people who can use a site without unacceptable alteration in physical environment and without an unacceptable decline in the quality of the experience gained by the visitors” (Mathieson and Wall, 1982, p. 21 as cited in Beech and Chadwick, 2006).

2. Limits of Acceptable Change or Limit of acceptable use : In this case it does not quantify the number of tourist that can be accommodated in the area but looks into the potential of tourism and acceptable environmental condition of the area keeping into consideration social and economic aspects

3. Zoning: Allocating land area suitable for appropriate tourism activities.

4. Environmental Management System (EMS): Involves eco-audit to evaluate the performance and to make modification to environmental plans and policy of the organization.

Finally, it is seen from the above literature review that tourism uses the natural resources for the tourism activities generating positive and negative impact on environment. However, for long term sustainability of nature-based tourism in the protected area, there is a need for a sustainable tourism management in the protected area.

Tourist Destinations in Protected Area

This paper has identified four tourist destinations in the protected area and has taken these sites as the case study for the research. These case study sites are reviewed as below:

Case Study 1: The Wet Tropics World Heritage Area

This case study is chosen for this thesis primarily because it is a world heritage area. Secondly, the journal article of Turton (2005) on nature-based tourism has influenced choosing this case. The article provides in-depth detail on protected area management issues and practices; it also demonstrates as to how the negative impact could be minimized. The background of the Wet Tropic World Heritage Area in Australia is outlined followed by the impact of tourism to the area. The case study highlights the negative impact of tourism to the area and suggests the strategies to minimize it. The major management issue is pertaining to impact of tourism to plants and landscape.

Background: (Wet Tropics Management Authority, 2010)

The Wet Tropic of Queensland World Heritage Area covers an area of 894420 hectares between Townsville and Cooktown, as shown in figure 6, in Australia. It is famous for its beautiful landscape with mountains, rivers, plants and animals. The oldest and continuously surviving tropical rainforest in the world is located in this area. The large part of this rainforest was designated as the world heritage area in the year 1988. Since then the feelings and activities of the people changed in the area. People started protecting the nature. The area is inhabited by 18 Rainforest Aboriginal Tribe. The conservation of the Wet Tropics is supported by both urban and rural communities through planting trees, restoring forest and caring for wildlife. Due to the education on environment, the knowledge of the people for conservation of natural resources enhanced. Tourism contributes to the economy of the region through generating employment and income for the local communities.

The Wet Tropics World Heritage Protection and Management Act 1993 is the legislation of Queensland to define the responsibilities of the Wet Tropic Management. The Wet Tropics Management plan 1998, which regulates land use activities in the heritage area through zoning and permit system, was designed based on the legal guideline of this Act. The zoning is done based on the following type of

areas: “high degree of integrity and is remote from the disturbances associated with modern technological society; high degree of ecological integrity and it is in a natural state but is not necessarily remote from disturbance; already contains disturbances, which are often associated with existing community infrastructure; and contains lands where there are, or may be, visitor facilities of a well-developed type”. Furthermore, the plan identifies the activities permissible in the respective zones so that the potential harm to the World Heritage Area is prevented. The legislation also includes Environment Protection and Biodiversity Conservation Act, 1999.

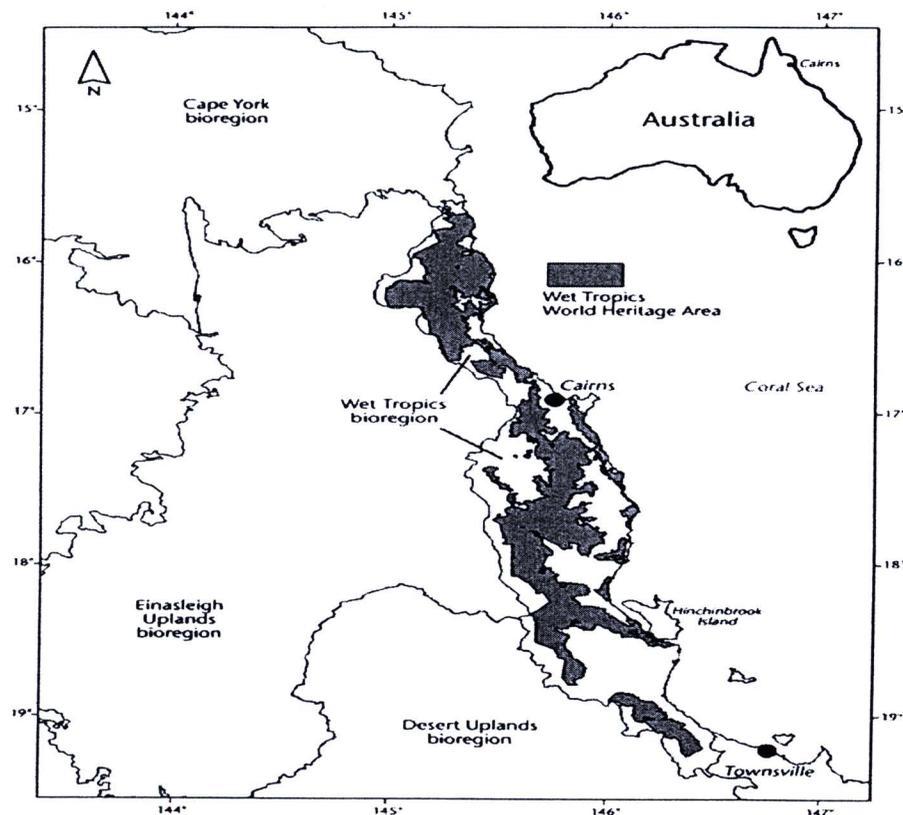


Figure 6 Map of Wet Tropics World Heritage Area

Source: Turton, 2005

World Tropic Management Authority (WTMA) has Board, committees and advisory group to make decision with the matter related to the area management. The Threats to the World Heritage Area are: climate change, habitat fragmentation, weeds,

feral animals, disease, urban development, altered fire regimes and altered water flows and drainage.

As outlined in Figure 7, there are different types and sizes of land within World Heritage Area; they are National Parks, State Forest, private land and public lands. The entire stakeholder including the land owners and the government agencies are actively involved in managing the area.

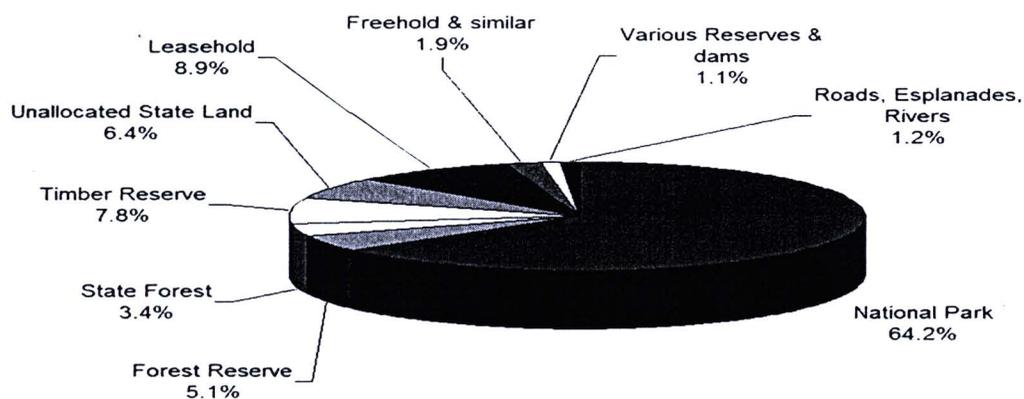


Figure 7 Types of land in WTWHA

Source: Wet Tropic Management Authority, 2010

Tourism in World Heritage Area

The Wet Tropics World Heritage Area (WTWHA) is the popular and growing domestic and international tourist destination in Australia (Turton, 2005). The WTMHA has set up a Tourism Industry Liaison Group so that the issues pertaining to tourism activities could be communicated during the meeting, which is conducted several times a year. The people from the industry and regional tourism associations gather to discuss on the issues related to tourism issues in the region.

To provide a system for tourism management in the World Heritage Area, the WTMA introduced a Nature Based Tourism Strategy. It divides the WTWHA into 12 tourism region according to their unique features and tourism purpose. The strategy promotes partnership between tourism industry, managing agencies, indigenous

people, conservation groups and community. Furthermore, the Wet Tropics Walking Strategy was also introduced in 2001. The strategy, with the aim to provide the coordinative approach to walking management, recognized more than 200 managed walks and potentials walks in the area. Moreover, in the year 2005, the Wet Tropics Management Authority and Tourism Queensland developed the new Visitor Monitoring System for land managers and the tourism industry to monitor environment and social impact of the visitors to the area.

As per the record of the survey of visitors in the year 1995, the total visitors to the Wet Tropic were about 2 million. The gross economic value for the Wet Tropics World Heritage Area was estimated at \$426 million in the year 2007 (Wet Tropics Management Authority, 2010).

The main activities in the Wet Tropics World Heritage Area are walking, hiking, mountain bike riding, and horse riding, off-road driving, picnicking, camping, swimming, rafting and kayaking. As show in Table 2, the effects of these activities lead to negative environmental impact in respective manner. To be specific, these activities have impact to the plant, animal, soil and water of the area. Due this reason, the Wet Tropics Management Authority has come up with the management strategy to combat these impacts. Table 3 outlines the management strategies and on-ground actions to reduce impact of visitor's activities to the environment in the Wet Tropics World Heritage Area.

Table 2 Environmental impact of tourism and recreation in the Wet Tropics World Heritage Area

Recreational Activity (Location in Landscape)	Environmental Impacts
Bushwalking, hiking, mountain bike riding, horse riding (walking tracks and trails)	<ol style="list-style-type: none"> 1. Trampling of vegetation 2. Changes to plant composition 3. Introduction of weeds 4. Increased social (undesignated) tracks 5. Changes in soil conditions and increased soil erosion 6. Spread of soil pathogens
Off-road driving with 4WDs and trail bikes (old forestry roads and off-road tracks)	<ol style="list-style-type: none"> 1. Vegetation damage 2. Alterations to plant composition 3. Alterations to faunal composition 4. Barrier effects on fauna 5. Increased soil erosion 6. Rainforest vertebrate mortality 7. Introduction of weeds 8. Introduction of feral animals 9. Spread of soil pathogens 10. Increased road noise
Picnicking, barbeques (day use areas)	<ol style="list-style-type: none"> 1. Trampling of vegetation 2. Changes in plant composition 3. Introduction of weeds 4. Changes in soil conditions 5. Collection and burning of fire wood 6. Habituation of native fauna
Camping (camping areas)	<ol style="list-style-type: none"> 1. Trampling of vegetation 2. Changes in plant composition 3. Introduction of weeds 4. Changes in soil conditions 5. Increased social (undesignated) tracks 6. Site manipulation and mutilation 7. Collection & burning of fire wood 8. Development of social trails 9. Habituation of native fauna
Swimming, white water rafting, kayaking (water holes and rivers)	<ol style="list-style-type: none"> 1. Bank side erosion/sedimentation 2. Trampling of vegetation 3. Increased social tracks 4. Changes in water quality

Source: Turton, et al., 2000; Turton, et al., 2000; Day and Turton, 2000; Talbot, et al., 2003; Graham, 1994; Smith and Turton, 1995; Karger, 1997; Butler, 2002; Goosem, 2004; Wilson, et al., 2004; Worboys and Gadek, 2004; Butler, et al., 1997; Goosem and Turton, 1998; Goosem and Turton, 2000; Goosem and Turton, 2002; Goosem, 1997 as cited in Turton, 2005

Table 3 Management strategies and on-ground actions for reducing visitor impacts in the Wet Tropics World Heritage Area

Recreational Activity (Location in Landscape)	Impact Management Strategies For Sustainable Use
Bushwalking, hiking, mountain bike riding, horse-riding (walking tracks and trails)	<ol style="list-style-type: none"> 1. Wet season closure of some tracks and trails 2. Design new tracks to minimize development of social (undesigned) tracks 3. Permanent closure of severely eroded tracks and trails 4. Avoidance of basalt soil series during track construction 5. Avoidance of die-back and erosion prone areas during construction of long-distance walking tracks 6. Designate separate track systems for mountain bikes, walkers and horse-riding 7. Canopy cover should be maintained 8. Apply best practice (minimal impact bush-walking) to reduce spread of soil pathogens 9. Construction of board walks at high use sites
Off-road driving with 4WDs and trail bikes (old forestry roads and off-road tracks)	<ol style="list-style-type: none"> 1. Wet season closure of roads in areas susceptible to die-back and erosion 2. Retention of canopy cover to reduce weeds and spread of feral animals 3. Revegetation of road verges 4. Apply best practice to reduce spread of soil pathogens in infected and uninfected areas 5. Breeding season closure of some roads 6. Traffic calming to reduce road noise and road kills
Picnicking, barbeques (day use areas)	<ol style="list-style-type: none"> 1. Concentration of use at a small number of hardened sites 2. Canopy cover should be maintained



Table 3 (Cont.)

Recreational Activity (Location in Landscape)	Impact Management Strategies For Sustainable Use
Camping (camp areas)	<ol style="list-style-type: none"> 1. Concentration of visitor use at a small number of hardened sites 2. Rotation of camp sites every 18–24 months, depending on vegetation type 3. Wet season closure of some camp areas 4. Canopy cover should be maintained over camp sites 5. Minimal impact techniques for isolated camp areas (situated on long-distance walking trails)
Swimming, white water rafting, kayaking (water holes and rivers)	<ol style="list-style-type: none"> 1. Prevent development of social trails from accessing water holes 2. Re-vegetation of river banks 3. Apply best practice to reduce spread of water borne pathogens 4. Dry season closure of some water holes for swimming

Source: Turton, et al., 2000; Turton, et al.,2000; Day and Turton, 2000; Talbot, et al., 2003; Graham, 1994; Smith and Turton, 1995; Karger, 1997 ; Butler, 2002 ; Goosem, 2004; Wilson, et al., 2004; Worboys and Gadek, 2004; Butler, et al., 1997; Goosem and Turton,1998; Goosem and Turton, 2000; Goosem and Turton, 2002; Goosem, 1997 as cited in Turton, 2005

Case Study 2: Kuscenneti National Park

The case of Kuscenneti National Park is chosen because the park has similarity with the Phobjikha valley of Bhutan in terms of its popularity in conservation of birds and its size. The background of the Kuscenneti National Park is drawn followed by the impact of tourism to the national park. This case study demonstrates the importance of collaboration among various stakeholders in managing the protected area.

Background: (Zal and Brenda, 2010)

Kuscenneti National Park (KNP) is located on the northeastern shore of Manyas lake, as shown in figure 8, in Turkey. The park is named as bird sanctuary due to abundance of birds in this area.

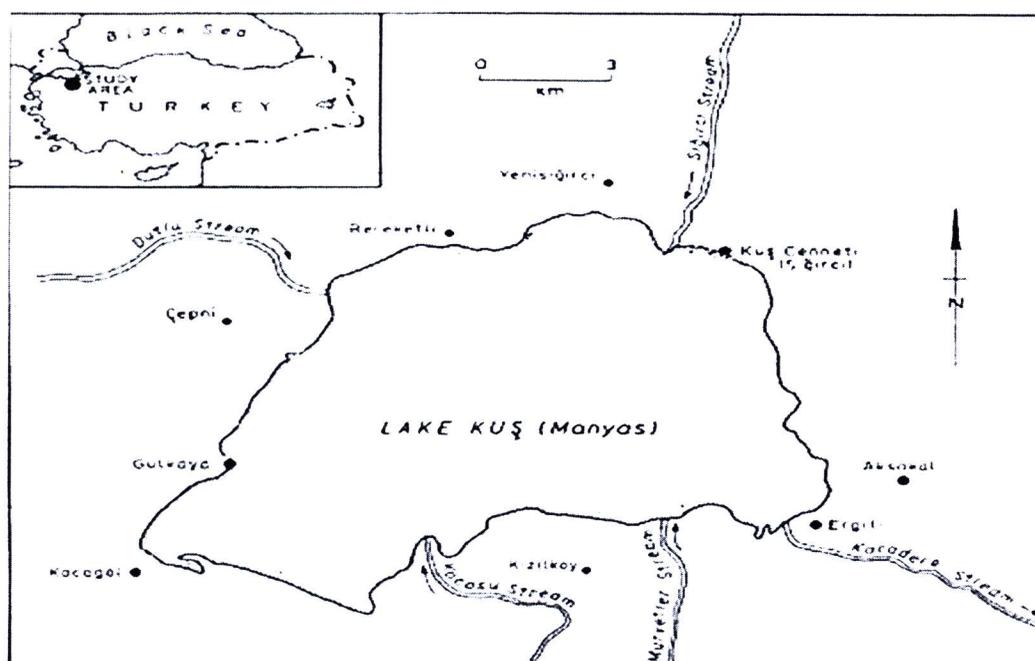


Figure 8 Map of KNP

Source: Zal and Brenda, 2010

The part of the area was recognized as a national park in the year 1959. Even though it is one of the smallest national parks, it is famous in the world. The park attracts a large number of the migratory birds due to its suitable environment as shown in figure 9. The flooded willow and rushes are some of the attractions. The birds such as herons, pelicans, cormorants, ducks and geese inhabit this area.

Due to the availability of birds the conservation program is focused on the protection of birds. Some of the measures taken by the park for conservation of the birds are controlling illegal hunting and measures put in place to combat the problem of bird flu.



Figure 9 Environment conducive for Birds

Source: Manyas Bird National Park, n.d

Tourism in Kuscenneti National Park

The visitor centre was established to provide information pertaining to park, and to sell books and souvenirs (Zal and Brenda, 2010). There is no accommodation provided in the park; however, a picnic area is identified for the visitors. The zoning is done to allow the park area to be protected; most of the tourist activities are located outside the park.

The KNP administration constructed a path for sightseeing of the conservation area and an observation tower for monitoring the visitors. The park has utilized the technology for bird watching. The cameras were set up in different location and live broadcast can be watched in the internet.

Due to the development of the national park, the traditional activities such as hunting and grazing were prohibited in the park area. As a result there was a conflict between the park management and the local community. Furthermore, the signing of protocol between the park administration and the General Directorate of State Hydraulic Work (GDSHW) angered the local people as this agreement was to recover the natural oscillation of water that was taken from the lake to the village for the agricultural purpose by GDSHW (Zal and Brenda, 2010)

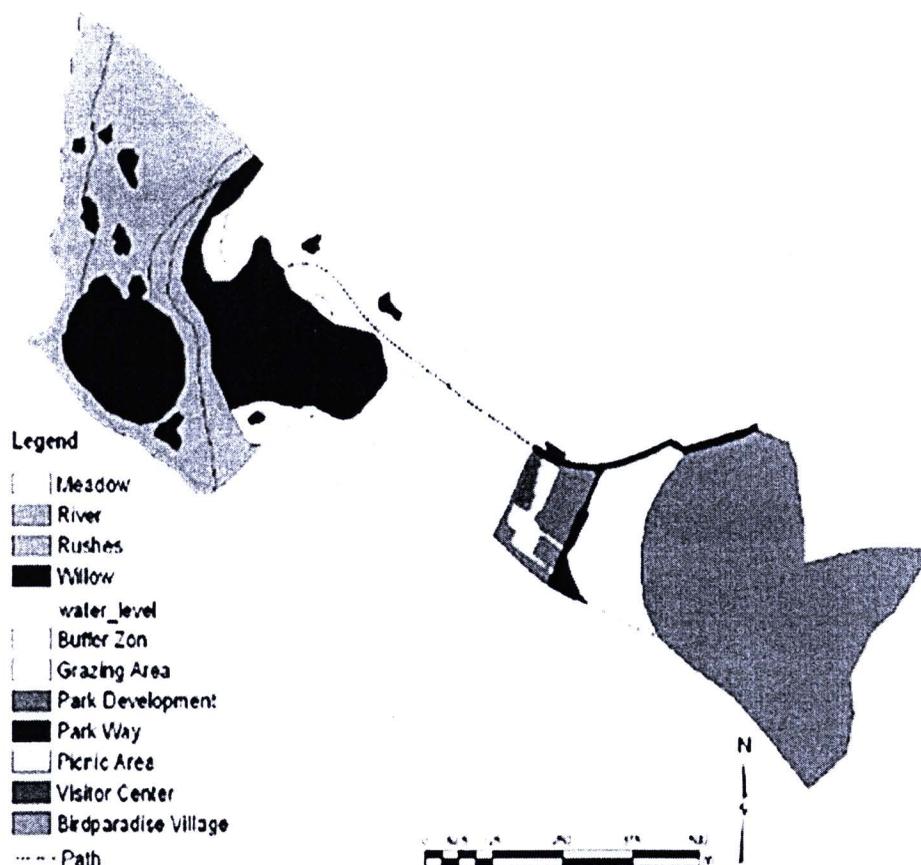


Figure 10 Zoning Area at KNP

Source: Zal and Brenda, 2010

Knowing that the law enforcement was not the solution of the problem, the park administration established a partnership program. Even though the park administration tried their best to gain the support from the local people, it was in vain initially. As there was no immediate benefit to the local community from tourism, their approach was not positive.

The situation reversed when the park management, in collaboration with the Bandirma Municipality, supported a traditional festival organized by the local community. The Kuscenneti village started getting more tourists from all over the country. Hence, the local people got the benefit out of tourism. Since then they started participating in the development of the park, such as “activities related to preservation of birds, control of illegal hunting, visitor guidance and waste management” (Zal and

Brenda, 2010). The relationship between the park administration and local community improved considerably and the local community started having positive attitude towards conservation of nature. At present, the Kuscenneti National Park attracts 31000 tourists, generating income of USD 100000 per annum (Zal and Brenda, 2010).

Case Study 3: Sagarmatha National Park

The case of Sagarmatha National Park is chosen for this research as this site lies in the same Himalayan region as that of Phobjikha Valley. These two sites share the similar kind of touristic activities. The case study explores the background and the environment of the national park followed by the study on tourism activities in the national park and the management of the protected areas for conservation. This case demonstrated the support from the local community, afforestation policy and use of alternative source of energy for protection of environment.

Background: (United Nations Environment Programme, n.d)

The Sagarmatha National Park is located in the Himalaya region in Nepal. It has an area of 114,800 hectares. It is one of the World Heritage sites in Nepal; it was inscribed in the World Heritage List in the year 1979.

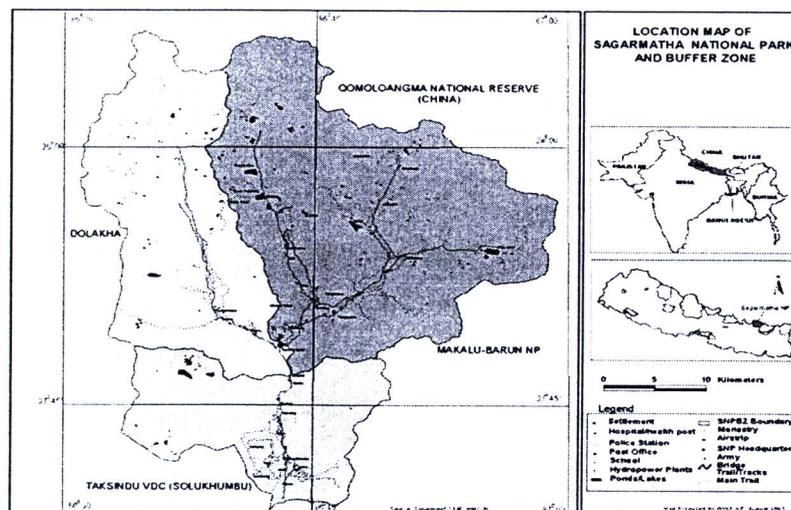


Figure 11 Map of Sagarmatha National Park

Source: World Wildlife Fund, 2003

As shown in figure 11, the park borders with Makalu-Barun National Park and Conservation in Nepal and Qomolangma Biosphere Reserve in the Tibetan Autonomous Region of China (United Nations Environment Programme, n.d). The altitude of the park ranges from 2845 m to 8848 m.

The major part of the national park is barren, figuring to 69%; 28% consist of grazing land and about 3% is covered with forest. The vegetation available in this park are blue pine, east Himalayan fir, Himalayan birch, pines, Himalayan yew, oak and so many other plants species. Flowers such as blue poppy and rhododendrons are widely available in this area.

There are 28 animal species in the park. Langur, Himalayan black bear, snow leopard, Himalayan musk deer and many other animals live in this park. There are 152 species of birds in this area and 30 species of butterflies. The park is popular for its high altitude breeding of birds.

The traditional way of life of Sherpas, the local people, was “agro-pastoralism” and barter trading. However, later they started depending on tourism. They provide the services such as guide, porter, lodge provider and trekking assistant.

Tourism in the National Park

The flow of visitors to the national park has seen a gradual increase. The entry fee to the park ranges from USD 1500 to USD 10000. It is a challenge for the visitors to travel to this park during summer due to monsoon, and during winter due to cold weather. The best time to visit this park is late September and early May. Some of the visitors are mountain climbers and some just come for trek. The main attraction for the tourist here is Mount Everest. There are many lodges and inns in the area. There is a runway near the park for the tourist’s convenience. Damage to vegetation and landscape due to cutting of trees for firewood, overgrazing and trekking activities were some of the negative impact of tourism. It was found that the major problem in this park is the constant problem of waste disposal and deforestation (Musa, Hall and Higham, 2004).

Management for Conservation

Many acts and guidelines are enacted to provide the legal basis for protection and conservation of biodiversity. The National Parks and Wildlife Conservation Act (1973), the Himalayan National Park Regulations (1979) and the Buffer Zone

Management guidelines (1996, 1999) are some of the acts developed for conservation. From 1975 to 1980, the fund to support the national park was provided by the Switzerland government. The main purpose of the national park management is to ensure protection of the natural resources such as wildlife, water and land. Furthermore, they also aim to protect the interest of the local community.

The local community played an important part in providing the support to preserve the natural environment in the park. Due to the significance of tourism to their livelihood, the local community supported the environmental protection program. Social and cultural belief also played a considerable role in preservation of environment. Community-based Conservation and Restoration of the Everest Alpine Zone was established to protect, conserve and restore the landscape.

The management encouraged afforestation of the lost forest area through the indigenous plant nurseries, which were established in the area. To combat the problem of environmental damage due to need for more energy for tourist activities, the management assisted in providing the solution and alternatives. Apart from the afforestation and increase use of kerosene, the hydro power supplemented generating more energy.

Case Study 4: Nanda Devi & Valley of Flowers National Park

This case study is taken for this thesis as the location of the site falls in Himalayan region, which has same geographical landscape and natural habitat as that of Bhutan. Furthermore, it is the one of the natural World Heritage Sites in India. There are two national parks in this site; namely Nanda Devi and Valley of Flowers. The background of these national parks is discussed and the tourism activities of each park are highlighted. Finally, the management for conservation of natural environment for both the parks and the future plans for the Valley of Flower are examined. The main idea learnt from this case study is involvement of local community for protection of nature.

Background: (United Nations Environment Programme, n.d)

The Parks are located in Chamoli district, Uttarkhand State, India. The total area is 71783 hectares including both Nanda Devi with 63033 hectares and Valley of Flowers with 8750 hectares, as shown in figure 12. The Nanda Devi National Park and the Valley of Flowers National Park were included in the World Heritage List in the

year 1988 and 2005 respectively. A very big area comprising of 514246 hectares of buffer land is shared by these parks.

Nanda Devi is a one of the most beautiful areas in the Himalayan region. It is proud to have the India's second highest mountain. The Valley of Flowers is another very beautiful area covered by widespread alpine flowers. Many variety of plant species are grown in this region. Both the parks are widely known for flower species. The Valley of Flowers alone has 600 species of flora. With regards to fauna, snow leopard, Himalayan musk deer and bharal are common for both the parks.

Nanda Devi is a popular place for the Hindus for pilgrimage as it is the holy place since ancient time. However, the local people are ethnic Tibetan people and follow Buddhism. The Valley of Flowers is another very important religious site for Hindus and Silk. More than 4, 00,000 people visit this place every year.

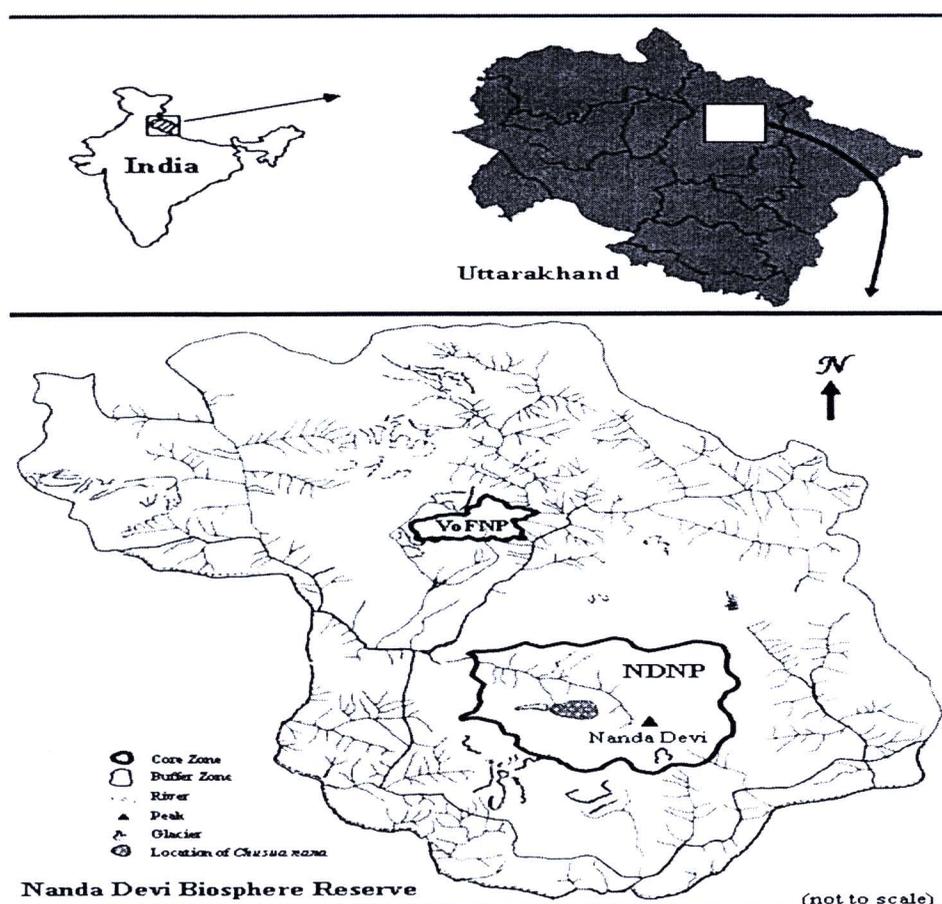


Figure 12 Map of Nanda Devi & the Valley of Flowers National Park

Source: Adhikari, 2008

The buffer zone of the Nanda Devi National park is inhabited by 19 different communities. Some of these people are traders and some are farmers. Their main activities were farming, making product from wool and relying on forest resources. Now they are more into tourism activities and services; providing guiding, lodging and porter services are some of the main activities among many others. With the setting up of the Nanda Devi Development Authority, a trail has been created for them to manage and to get benefit out of it. They also assist the management for fire prevention and poaching. The local people at the Valley of Flowers are consisting of Bhotiya, Rajput farmers and herdsman. They have formed an Eco-Development Committee to help the park management by taking care of the waste disposal and management of the visitors' facilities along the trail outside the National Park.

Tourism in the National Parks

Nanda Devi

It is one of the toughest trekking routes in the world; and it was the second most popular destination after Everest. Due to increased use and management problem, the park was closed for both the villagers and tourists to clear the littering. It was opened to only scientific mission with due permission from the authority. With the new policy of ecotourism from the state government, the park was reopened in the year 2003. There was strict control on the tourism flow. The programs of the government were supported by the local communities. Apart from the home stay provided by the local communities many camping areas were developed. The tourism activities included in this national park were cycling, camping, mountaineering courses and cultural tourism and facilities for pilgrimage. The nearest town was at a distance of 170 Km.

The Valley of Flowers

Unlike Nanda Devi National Park, the Valley of Flowers is easily reachable to the pilgrims and other adventure traveler. The peak season for tourist arrival was from May to early October. Sightseeing was done on foot with the guidance and vigilance of the local youth so that the trampling of the flowers was avoided. The entrance fees were collected in the entrance to the Park. The visitors could access to the brochures, books and posters of the park from the office located in the entrance.

The Eco-Development Committee, managed by the local communities with the support from the Forest Department, presented slide and film show to the visitors.

There were many trekking activities designed for the tourist in the national park with proper regulation and planning. The tourists were not allowed to camp in the valley; however, zoning was done for those mountaineers who required camping. There were many hotels, lodges and rest houses near the Park entrance. It is 200 km to the train station and 250 km to the airport.

Management for Conservation

Nanda Devi

Due to the adverse effect of tourism and other activities such as hunting, grazing, firewood collecting and harvesting herbs by the local communities, the national park was closed for such activities.

In 1988, Biosphere Reserves was created to preserve the natural resources. The restriction was imposed for human activities and grazing in the protected areas, however the buffer zone was left for the use of the local communities. The result of this program helped improving the biodiversity in the area but the crops and cattle of the local community suffered due to the harm done by the wild animals. As such, most of the local people were not happy with the program.

After the local community formed a body called Nanda Devi Development Authority, the management of the national park started involving them for conservation of environment. The local community helped the management to prevent fire and poaching, and they shared the benefit of the trails fees. It was found that such activities helped in the conservation of the natural environment.

With the support from the government, the community-based tourism plan was prepared for the local people. The plan included the following programs: they are: training for local youth as guide, capacity building, development of home stay, creation of handicraft, establishment of local stakeholders team for eco and cultural tour, medical plant cultivation program and involvement of women work force. The villagers established Eco-Development Committees in different places. This policy not only helped the local community to generate income but also helped in preserving the natural environment of the National Park.

The Valley of Flowers

After the Valley of Flowers was designated as the National Park, the traditional activities of the local community were stopped. However, they were involved in the management of the National Park. They were trained to increase the capacity, providing the guiding services and act as a warden. They were also trained to execute regulation and to manage the lawbreaker. Furthermore, they were trained in handling the instrument during the fire. High altitude survival techniques, plant identification and restoring the rare plants, checking on biodiversity, resolving conflicts with wild animals and encroaching hunter were some of the other items of the training. There was nursery developed to ease the pressure on endangered plants habitats. The Eco-development Committee was involved in clearing the waste and managing the visitors' facilities along the trails.

Future plans of the Park:

1. Protection, Conservation and monitoring of plants and animals
2. Research and management of endangered species
3. Involvement of the local community and litter clearing strategies
4. Education of the local community for protection of flora and fauna
5. Assessment of the past camps and trails
6. Restoration of birch and fir in landslide area
7. Developing sustainable tourism through generating income for the local community