

CHAPTER IV

RESULTS

Results

Based on the analysis of case study of four sites chosen for the study, the research has come up with the following findings:

Case Study 1: Wet Tropics World Heritage Area (WTWHA)

The conservation of the Wet Tropics was 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 contributed to the economy of the region through generating employment and income for the local communities.

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. Furthermore, the plan identified the activities permissible in the respective zones so that the potential harm to the World Heritage Area is prevented. The legislation also included Environment Protection & Biodiversity Conservation Act 1999.

To provide a system for tourism management in the World Heritage Area, the WTMA introduced a Nature Based Tourism Strategy. 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.

The Wet Tropics World Heritage Area (WTWHA) is the popular and growing domestic and international tourist destination in Australia. 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 major activities of tourism in the area were walking, hiking, mountain bike riding, and horse riding, off-road driving, picnicking, camping, swimming, rafting and kayaking. The major management issues were pertaining to protection land and vegetation and the key strategy to combat the problem was regulation. Table 4 exhibits the management issues and strategy for sustainability.

Table 4 Management issues and strategies at Wet Tropics World Heritage Area

Activities	Management Issues	Strategies for Sustainability
Walking Trails	Protection of Landscape and Vegetation	Regulation: closure of trails during wet season/ design of new tracks/ closer of eroded trails/ Avoid of erosion prone area/separate track for mountain bikes, walkers and horse-riding/ retention of canopy cover
Off-road driving	Protection of Landscape and Vegetation	Regulation: Closure of roads in susceptible area to erosion during wet season / Retention of canopy cover/ Re-vegetation of road verges
Day use area	Protection of Landscape and Vegetation	Zoning: Identifying small number of hardened sites
Camp area	Protection of Landscape and Vegetation	Zoning: Identifying small number of hardened sites/ Rotation of camp sites/ Regulation: Closure of some camp area during wet season/Retention of canopy cover.
Water holes and Rivers	Protection of Landscape and Vegetation	Regulation: avoid development of tracks from accessing water holes/re-vegetation of river banks/Closure of water holes for swimming during dry season.

Case Study 2: Kuscenneti National Park (KNP)

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. The flooded willow and rushes are

some of the attractions. The birds such as herons, pelicans, cormorants, ducks and geese inhabit this area.

Preservation of birds, control of illegal hunting, visitor's guidance and waste management are some of the issues in the park. However, to combat the above problem, 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. 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 local community played an active part in combating the above issues. Table 5 exhibits the management issues and strategies for sustainability at the Park.

Table 5 Management issues and strategies at Kuscenneti National Park

Activities	Management Issues	Strategies for Sustainability
Bird Watching	Preservation of Bird	Path for Sightseeing Observation Tower for monitoring the visitors, Control of bird flu.
Hunting	Protection of Bird	Collaboration with the local community to protect birds from Illegal Hunting
Picnicking and other activities	Waste management	No accommodation in the Park Zoning, most of the tourist activities, example picnicking, are located outside the park Local community

A very good collaboration between the park management, local government authority and the local community was seen for preservation of birds, controlling illegal hunting, visitor's guidance and waste management.

Case Study 3 Sagarmatha National Park

Many acts and guidelines were 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) were some of the acts developed for conservation. From 1975 to 1980, the fund to support the national park was provided by the Switzerland government.

Table 6 Management issues and strategies at Sagarmatha National Park

Activities	Management Issues	Strategies for Sustainability
Cooking using firewood, Tourist lodge Fuel, Construction of Inn	Protection of Vegetation Landscape, Wildlife	Afforestation of the lost forest area through the indigenous plant nurseries, Increase use of kerosene; the hydro power supplemented generating more energy, so that the use of the firewood is reduced. Assistance from Local Community, Regulation with the help of Army to restrict human interference in the south of the park.
Trekking, Mountaineering, Expedition	Waste Management, Protection of Landscape	Removal of garbage, Involvement of Local Community, Monitoring

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.

The major activities in the park were trekking, mountaineering, infrastructural development and other activities such as cooking. Hence, the main management issues were pertaining to protection of land, vegetation, wildlife and waste management. The major strategies to mitigate the problem were regulation, involvement of local

community, government support and waste management regulation. Table 6 exhibits the management issues and the strategies for sustainability at the Park.

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.

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

Nanda Devi

Due to the adverse effect of the 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.

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.

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. A nursery was 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.

The major issues of management were conservation of forest and animal; waste management and management of landslide area. Some of the strategies to

combat the problem are as follows: 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 and 5. Restoration of birch and fir in landslide area. However, the table 7 clearly displays the management issues and the strategies for sustainability.

Table 7 Management issues and strategies at Nanda Devi & Valley of Flowers National Park

Activities	Management Issues	Strategies for Sustainability
Pilgrimage, Walking, Sight Seeing, Cultural Tourism	Conservation of Forest and Animal	Protection, Conservation and monitoring of plants and animals; Research and management of endangered species; Education & Training of the local community for protection of flora and fauna; Regulation of the Government towards flow of tourist.
Walking, Trekking	Waste Management	Involvement of the local community and litter clearing strategies; well planned and regulated trekking activities.
Camping, Walking	Protection of Land and Vegetation.	Zoning, restoration of birch and fir in landslide area

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.

Phobjikha Valley

With regard to the trend of tourism in Bhutan, Mr. Thuji Nadik, the Director of Tourism Council of Bhutan provided a book containing the annual report of the industry. The name of the book is Annual Report, Bhutan Tourism Monitor; and it is produced by the Tourism Council of Bhutan. It has been noticed that the trend of tourist arrival in the country is gradually increasing. It has been found that the arrival

of tourist is gradually increasing. There was no information on arrival of tourist in the valley from this source; however, the Royal Society for Protection of Nature (RSPN) provided it at the later stage. With regard to the question pertaining to the conservation of environment in the valley, they referred me to the Royal Society for Protection of Nature.

Table 8 Management issues and strategies at Phobjikha Valley

Activities	Management Issues	Strategy for Sustainability
Horse Riding	Protection of Land and Vegetation	Rough motor road is used for horse riding, Guide all the visitors to stay on the proper trail
Bird Watching	Protection of Birds	By putting restriction on entering into the wetland area where the birds reside
Walking and Trekking	Waste Management, Protection of Land and Vegetation	Responsible Tourism is practiced; the certificate guide provides guidance on protection of natural environment.
Lodging/Camping	Protection of Land and Vegetation, Waste Management	Zoning

It was learned from the personal interview with Ms. Rinchen Wangmo, Royal Society for Protection of Nature that the major tourism activities in the area were bird watching, horse riding, walking and trekking. The major management issues in the valley were protection of land, vegetation, birds and waste management. The strategies used to mitigate the problem were construction of rough road for riding; guided tour; restriction to enter the wetland where the birds reside; observation hall to watch the birds; responsible tourism, whereby the visitors are aware of the impact to environment and act accordingly; and zoning. Furthermore, with the help of the tour operators, the negative impact of tourism to environment was managed successfully. Table 8 exhibits the management issues and the strategies for sustainability in the Phobjikha valley.

As per the record received from the Royal Society for Conservation of Nature the tourist bed-night in the year 2008 was 6173 as compared to 3527 in the year 2007. Due to this reason the probability of severe waste management problem is foreseen in the Valley.

With regard to the collaboration with the stakeholder, the conservation of the valley is carried out by the Royal Society of Conservation of Nature in collaboration with the Tourism Council of Bhutan and Local Community. However, it was noticed that the community based sustainable tourism was not successful as the tourism activities did not benefit the local community due to structure of tourism business. All the benefit has been reaped by the tour operator directly. The guides and cooks were employed by the tour operator from the place of establishment of the office, and not from the local community.

As shown in Table 9 and 10, the waste management, land management and protection of plant and animal have been seen as a major common problem for all the sites. Collaboration among the stakeholder and involvement of local community has been seen as strong factors for protection and preservation of environment in all the sites. However, in Phobjikha Valley, the involvement of the local community was not felt strongly. Other major strategies and tools used by the protected areas were education, training, planning, regulation, monitoring, responsible tourism and zoning.

Table 9 Segregation of management issues in all the research sites

Case Study 1	Case Study 2	Case Study 3	Case Study 4	Phobjikha Valley
Protection of Land and Vegetation	Protection of Birds, Waste Management	Protection of Land, Vegetation and Animal, Waste Management	Protection of Land, Vegetation and Animal, Waste Management	Protection of Land and Vegetation, Protection of Birds, Waste Management

Table 10 Analysis of management issues in all the research sites

Management Issues	Case Study 1	Case Study 2	Case Study 3	Case Study 4	Phobjikha Valley
Protection of Land and Vegetation	Yes		Yes	Yes	Yes
Protection of Birds & Animals		Yes	Yes	Yes	Yes
Waste Management		Yes	Yes	Yes	Yes

Note: Yes, have major Issue