

Issues of Sustainable Ecotourism Development in Sikkim: An Analysis

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ABSTRACT

Sikkim is blessed with natural and cultural resources and a perfect setting for sustainable ecotourism development. With the increased influx of tourists' among a few tourism pockets, tourism congestion sets in raising a concern on its sustainability. Sikkim is affected by increased tourist' inflows as well as its resultant spin-off effect on tourism infrastructure and environment. The study covered the genesis of community participation of ecotourism in Sikkim and also the corresponding laws for its regulation. Paper focuses on the issues relating to sustainability aspects of ecotourism practices in Sikkim and the ways and means of overcoming it.

KEYWORDS: *Ecotourism, Sustainability; Stakeholder; Community Based Ecotourism.*

Introduction

Tourism industry has grown significantly over the last decade or so. The Foreign Tourist Arrivals (FTAs) in India during 2010 were 5.58 million as compared to the FTAs of 5.17 million during 2009, registering a growth rate of 8.1 per cent. The Foreign Exchange Earnings (FEEs) from tourism during 2010 were Rs 64889 crore as compared to Rs 54960 crore during 2009; showing a growth rate of 18.1 per cent¹. Domestic tourism is also increased by leaps and bounds during the same period. Ecotourism is a global phenomenon in recent years, especially during the early years of twenty first century. But up till now, there no unanimity as far as definition of ecotourism is concerned. Moreover, ecotourism is construed as having adverse impact upon environment of the host nation. The early definition of ecotourism was put forwarded by the International Ecotourism Society (1991) which defines it as "responsible travel to natural areas that conserves the environment and sustains the well being of local people". Ceballos-Lascurain² (1996) has given a comprehensive definition on ecotourism which states "ecotourism is environmentally responsible travel to natural areas in order to enjoy

1 Annual Report 2010-11, Ministry of Tourism, govt. of India, p-6

2 Ceballos-Lascurain, H. (1996): Tourism, Ecotourism and Protected Areas, Gland, Switzerland, ICUN, 20

and appreciate nature (and accompanying cultural features, both past and present) that promotes conservation have low visitor impact and provide for beneficially active socio-economic involvement of local people". In a similar vein, UN World Tourism Organisation (WTO) defines it as "travelling to relatively undisturbed natural areas with the specific object of satisfying, admiring and enjoying nature and its wild plants, animals as well as existing cultural aspects (both past and present) found in these areas". Thus, ecotourism is understood as purposeful travel to natural areas for understanding and appreciating cultural, natural and ecological environment for not altering the ecosystem; while making opportunities for conservation of natural resources which are beneficial to local populace. Ecotourism is also as tool to promote environmental sustainability of a destination side by side percolating its benefits to local population.

In recent times, ecotourism has emerged as a powerful alternative to the traditional form of mass tourism- as it takes place in natural setting; sustainable in nature as it increases awareness towards conservation of natural and cultural assets while maintaining aesthetic sense of it. It is also carried out in small scale especially for maintaining carrying capacity of the host nation while providing allowances for economic benefits and employment opportunities for locals. Eco-tourists' are motivated by the sense of admiration and learning experience (Fennel, 1999; Goodwin, 1996; UNEP, 2002; Weaver, 2001). Studies have shown that eco-tourists overtly show their concern for nature than the other tourists. Hvenegaard and Dearden (1994), while analyzing visitors' impact in a Thailand National Park, concluded that visitor whose primary motivation was to watch birds were more likely to be member of conservation or wildlife group. Such tourists donated more money to conservation related issues than other tourists. Further, Uysel et al (1994) found that national park visitors, who are primarily motivated to visit parks and sanctuaries, concerned about the fragility of the natures balance. According to the data released by the World Tourism Organisation (2006), eco-touristic journeys comprised up to 7 per cent (45 million of all journeys), while it is expected that the number will increase upto 70 million per year in 2010. Ceballos-Lascurain (1996) shows that the share of ecotourism journeys reaches 20 to 60 per cent of all journeys. The diversity in geography in India provides a wealth of natural areas that could support ecotourism activities. The natural reserved areas for the tourists include national parks, biosphere reserves, wetlands, mountain areas and forests, coral reefs and mangrove under ecotourism. In this way, the natural reserved areas have been opened for the tourists that include 13 biosphere reserves (to limited extent in outer buffer zone), 89 natural parks and 490 wildlife sanctuaries³.

3 MOIB (Ministry of Information and Broadcasting)(2004): India 2004-A Reference Annual Publication Division, MOIB, GOI, New Delhi

The Government of India, through policy initiatives, has acknowledged the significance of ecotourism with policy measures. Both the Ministry of Tourism and the Ministry of Environment and Forests have responded to the development in the field of ecotourism. The Department of Tourism issued Policy and Guidelines on ecotourism in July, 1998. The policy lays down the objectives for ecotourism and contains operational guidelines for major stakeholders. During 2000, Ecotourism in Protected Areas and was Territorial Forest Divisions recognized as one of the fifteen thrust areas of the Ministry of Environment and Forests. The Indian chapter of the Pacific Asia Travel Association (PATA) has formulated an action plan for National Ecotourism Policy, which has been forwarded by the Ministry of Tourism for the State Governments for review⁴.

In the midst of these developments, several State Governments have also taken policy measures to promote ecotourism. The Govt. of Himachal Pradesh has announced a 'Policy on Development of Ecotourism' in May, 2001 with special focus on local people. The Govt. of Madhya Pradesh has announced an 'Eco and Adventure Tourism Policy' for 2001-02 placing emphasis on the involvement of private sector. The Forest Departments of Kerala, Goa, Karnataka, Himachal Pradesh and Sikkim have designated officials to coordinate ecotourism activities. Several State Governments including Madhya Pradesh, Rajasthan, Karnataka and Andhra Pradesh have issued order for recycling of entry fees from protected areas for conservation and community development. The Forest Corporation of West Bengal and Uttaranchal has initiated ecotourism activities and Govt. of Kerala has launched the Thenmala Ecotourism Promotion Society to develop a model for ecotourism. Recently, the practitioners and individuals interested in Sikkim tourism established Ecotourism and Conservation Society of Sikkim (ECOSS), with the objective of promoting conservation and ecotourism projects, research and advocacy. In fact, Sikkim Ecotourism Policy envisioned establishing the state as an ultimate and unique ecotourism destination offering memorable and high quality learning experience to the visitors; while contributing towards poverty alleviation and promotion of nature conservation⁵. In the private sector there are examples of eco-friendly concept hotels such as Orchid Hotel and Project Development by the Casino Group in Kerala. Ecotourism activities occur not only in and around national parks and wildlife sanctuaries but even in the forest areas and other natural areas which have varied attractions and more relaxed legal restrictions⁶.

4 Boora, S.S. (2005): Ecotourism and Environmental Sustainability in India, Bulletin of the National Institute of Ecology 15, p. 249-258

5 FEWMD (2011): Sikkim Ecotourism Policy 2011, Govt. of Sikkim

6 Corbett-Binsar-Nainital(CBN)(2002): Corbett-Binsar-Nainital Initiative 2002.
www.corbettbn.com

To be with overall development paradigm for the Sikkim state tourism development will have to be sustainable- environmentally, culturally and economically with a focus on 'non mass' segments, such as ecotourism, adventure tourism, village tourism etc. This will entail a shrinking role for the Government in the active provision of tourism services and increasing participation of private service providers. Rural communities and village based Non Government Organisations (NGOs) will play an important part in making a success of rural tourism, spreading environmental awareness, training local people and ensuring more equitable dispersion of the benefits. The Government in turn needs to be actively involved in providing enabling infrastructure, preserving natural habitats, promoting the State as a whole, enabling involvement of other agencies and, most important, regulating tourism services and benefits⁷.

Objectives:

The basic objective of the study is to assess the issues pertaining to sustainable ecotourism development in select pockets in Sikkim and ways and means of addressing it. The objectives of the study are:

- i) To appraise the growth of ecotourism sector in Sikkim;
- ii) To assess the extent of local involvement in ecotourism in the state; and
- iii) To offer suggestion for sustainable ecotourism development in Sikkim.

Database and Methodology:

The nature of the survey calls for collection of both primary data and secondary data. The primary data was collected from the tourist survey covering all the four districts of the state. Schedules were prepared by using direct and open ended questions specifically required for the study. The researcher himself directly collected information from the respondents as per requirements of the study. The secondary data were collected from published sources of Central and State Governments, regional bodies as well as available research work carried out in the field of study. The collected data was processed and analyzed as per the need of the study.

Hypothesis:

The hypothesis of the study is:

Ecotourism activity in Sikkim involves unsustainable practices over a period of time.

Scope and Limitations:

The scope of the study confined to geographical area to the Indian state of Sikkim only. Though for comparison, all India figures as well as tourism practices of

7 Sikkim Development Report (2008), Planning Commission, Government of India. p28

adjoining areas may be taken into account, but the broad scope of the enquiry is limited to the tiny Himalayan state. The major limitations of the study are the coverage of the study. The proposed study is limited to select tourism sites in Sikkim.

Ecotourism Practices in Sikkim and Potential Areas:

Ecotourism program was kicked off in Sikkim during the adoption of 'Sikkim Biodiversity and Ecotourism Project' in the year 1995-98. Yuksam in West Sikkim was the project site for the same where people were sensitized regarding environmental conservation and preservation of natural resources. The project has shown positive impact on the environmental and socio-cultural system of the state. But this form tourism got momentum in the first decade of twenty first century in which the tiny Himalayan state has experienced increased amount of tourists' influx; well beyond the total population of Sikkim. The following discussion will draw attention to some of the ecotourism practices in Sikkim over the years.

Bhattacharya and Kumari⁸ have shown a comparative study of ecotourism practices in Yuksam and Pelling village of Sikkim. While in May, 1996, participatory community based planning was developed in Yuksam with the help of local people only and it has served the basis for future growth of ecotourism in the state. The rhetoric of Yuksam Community Based Ecotourism (CBE) entirely relies on local peoples' participation with negligible presence of outsiders; has brought increased income and employment opportunities for the locals in the area with minimal impact on ecological balance of the destination. Although, there are less number of sophisticated hotels and lodges in Yuksam, primarily because of local financing, but the economic impact of CBE percolate down to locales in the area. The CBE is almost absent in Pelling and due to pressure and influence of outsiders, local people participation in ecotourism is significantly low over there.

Sikkim Industrial Development Corporation (SIDICO) in conjunction with Voluntary Health Association of Sikkim (VHAS) promotes ecotourism in two remote villages, Rong in the south district and Lading in the west district. An interesting finding from these projects is that success in involving villagers in the developmental work and effecting changes among the community is inversely related to accessibility to government funding. In Lading, which is more remote than Rong and thus had lower recourse to government resources, the project was able to secure higher level of villagers' participation⁹.

8 Bhattacharjee, Prodyut and Kumari, Smriti (2004): Application of Criteria and Indicator for Sustainable Ecotourism: Scenario Under Globalisation, the paper submitted for the IASCP Bi-Annual Conference on 'The Commons in an Age of Global Transition: Challenges, Risks and Opportunities', at Oaxaca, Mexico from 9-14 August, 2004

9 Govt. of India (2008): Sikkim Development Report, Planning Commission, p-151

Table 1 : Parks and Sanctuaries in Sikkim (under Protected Area Network)

Sl No	Name of Parks and Sanctuaries	Area in sq kms	District	Altitude (metres)	Date of Notification
1	Varsey Rhododendron Sanctuary	104	West	2200-100	08.06.96
2	Fambonglho Wildlife Sanctuary	51.76	East	1524-749	02.04.84
3	Kyongnosla Alpine Sanctuary	31.00	East	3292-116	05.12.92
4	Maenam Wildlife Sanctuary	35.34	South	2300-263	09.03.87
5	Pangolakha Wildlife Sanctuary	128.00	East	NA	07.11.2000
6	Shingba Rhododendron Sanctuary	43.00	North	3048-575	05.12.92
7	National Park Khanchendzonga	1784.00	North/West	NA	26.08.72
8	Biosphere Reserve	2620.00	North/West	NA	NA
9	Kitam Bird Sanctuary	6	NA	320-875	NA

Source: Tourism Department, Govt. of Sikkim

Right to issue permits for the purpose of checking and regulating the flow of visitors. Other than the protected areas, there are certain vintage cultural and religious sites where local institutions reserve the operational rights related to tourism. For example, in west Sikkim, the sacred lake of Khecheopalri, a popular tourist destination, is being looked after by the Khecheopalri Holy Lake Welfare Committee (KHLWC). The revenue earned from the visitors visiting the lake is used for the development of the lake area and the local community at large¹⁰.

Asian Development Bank (ADB) project¹¹ also highlights community based tourism activities focused on culture, ecotourism through promotion of home stays and community supported treks in Sikkim. The objective is to enhance local access to livelihoods based on tourism activities. Rey Mindu, a Lepcha village along the Sajong-Lingdum-Gangtok road, has the potential to be developed as heritage village tourism project, apart from trekking and handicrafts. Rey Mindu, being situated in the periphery of the Gangtok city, has maintained its traditional character; and offer significant potential for development of treks leading to the Fambong Lho Wildlife Sanctuary on the upper reaches of the village. Fambong Lho Wildlife Sanctuary has

10 Sharma, E., Jain, N., Rai, S.C. and Lepcha, R. (2000): Ecotourism in Sikkim: Contribution Towards Conservation of Biodiversity Resources. In D. Marothia : Institutionalizing Common Pool of Resources, Concept Publishing, New Delhi, p-533

11 ADB (2010): Inception Report: Regional Technical Assistance for Improving Connectivity and Destination Management of Cultural and Natural Resources in the South Asian Sub-region, Sikkim, A South Asian Tourism Infrastructure Development Project, p-34

been identified by the Department of Forest, Environment and Wildlife Management (FEWMD), Government of Sikkim as an ideal destination for ecotourism including the development of one or two days trek. Uttarey and Damthang are the two villages critically located within the Singalila trek and Singalila Ecotourism Zone starting from Hilley to Uttarey for a length of fifty kilo meters within the Khanchedzonga National Park. The project comprises of two major components i.e. capacity building to the communities in development of village products, imparted training for guides, management of home stays, cooking etc.; and minimal improvement of infrastructure in the village in the form of sanitation, waste management and other amenities such as information center within the village as well as upgrading other products such trekking routes etc.

Table 2 : Important Bird Areas in Sikkim

Sl. No	Bird Areas	Area (ha)
01	Barsey Rhododendron Sanctuary	10400
02	Dombang Valley-Lachung-Lema-Tsungthang	600000
03	Fambong Lho Wild Life Sanctuary-Himalayan Zoological Park-Ratey Chu Reserve Forest	7826
04	Khanchendzonga National Park and Biosphere Reserve	28500
05	Kyongsola Alpine Sanctuary-Tsomgo-Tamze-Chola	3100
06	Lhonak Valley	5000
07	Low Land Forest (Melli- Bguwa-Kitam-Jorethang-Namchi-Sombarey)	2000
08	Maenam Wild Life Sanctuary- Tendong Reserve Forest	3539
09	Pangolakha Wildlife Sanctuary-Zuluk-Bedong Cho-Nathua la	12400
10	Tso Lhamu Plateau Lashar-Sebula Yumesamdong Complex	5000
11	Yumthang-Singba Rhododendron Wildlife Sanctuary	43000

Source: Islam and Rahmani (2004)

Yuksam-Dzongri is a popular ecotourism high altitude trek along the Rathong Chu River in West Sikkim passing through dense forest, placid alpine lakes and offering breath taking vistas of the Mount Khandzonga, the third highest mountain peak in the world. The number of tourists visiting the destination has increased manifold over the last fifteen years. March to May and September to November are the two main trekking season with October being the peak month for tourists

visiting the site¹². This trail is mainly used by three groups of people, namely, tourists, mountaineers and local communities such as yak-sheep grazers etc. In trekking and mountaineering season, high volume of visitors along with the support staff and pack animal crowd the area¹³.

In Sikkim, eleven zones are declared as important bird areas (IBAs), which are critical not only for birds but also for providing connectivity to protected area (PA) system. All IBAs satisfy three criteria: i) the IBA contain significant numbers of globally threatened (endangered, threatened and vulnerable) bird species; ii) it contains highly restricted range species such as endemics or biome- restricted species; and iii) there is high congregation of migratory or other birds, especially wetlands species¹⁴. These areas, which have been identified by the Birdlife International and Bombay National History Society can also be used as landscape level stepping stones as well for ecotourism.

Community Participation and Regulations:

Government of Sikkim has initiated the process of community participation at different levels of forest management. To implement such measures, Joint Forest Management Committees (JFMCs), Eco Development Committees (EDCs) and Pukhri Sanrakshan Samiti (PSS) (Lake Conservation Committee) are formed for the purpose of joint management and conservation of forest and biodiversity under the jurisdiction of the Forest, Environment and Wildlife Management Department (FEWMD), Government of Sikkim. Till 2009, there are 158 JFMCs, 57 EDCs and two PSS have been formed in the state of Sikkim¹⁵. One PSS is called Changu Lake PSS in the east district which was established in 2007 and registered in April, 2008. The other PSS is called Khecheopalri Lake PSS in the west district, has been established in 2008 and is at an early stage of its operation.

These committees are established for the management of different land use categories: JFMCs are constituted for the management of reserved, khasmal and gorucharan forests'; EDCs are for protected areas and PSS are for lakes. Although gram panchayet ward is the basic unit for establishing these committees, a single gram panchayet ward cannot have both a JFMC and an EDC¹⁶.

12 Tambe ,Sandeep, Bhutia, K.S. and Arrawatia, M.L.(2007): Mainstreaming Ecotourism in Sikkim's Economy, Sikkim's Today, April-June, p-1-3

13 Rai, S.C.,Sharma, E.,Lepcha, R. and Sundriyal, R.C. (1998): Tourism Development in Sikkim. In Suresh Chand rai, Rakesh Chandra Sundriyal and Elalabya Sharma (eds): Sikkim Perspective Planning and Development, Sikkim science Society and bishen singh and Mahendra Pal Sing, Dehradun, p697-711

14 Islam, M.Z. and Rahmani, A.R. (2004): Important Bird Areas in India: Priority Sites for Conservation. Mumbai: Bombay Natural History Society.

15 Forest, Environment and Wildlife Management Department (FEWMD)(2009) Government of Sikkim

16 Ibid.

The JFMCs, EDCs and PSSs consist of a general body and an executive committee. The general body comprised of one member from each household of the ward whereas executive committee composed of ten members including one panchayet nominee, six elected representatives of the beneficiaries (1/3rd of which should have women members), one NGO representative and the concerned range officer. The president of the executive committee is elected by the members of the committee. The specific roles and responsibilities of each of the members of the executive committee of JFMCs and EDCs are not defined; rather it was confirmed by the committee members during stakeholders meeting¹⁷. However, in the case of PSS, the ex-officio president is a panchayet ward member whereas the president of JFMC or EDC is elected by the executive committee out of the elected members.

The duties of the EDCs include¹⁸:

- i) Protection and conservation of forests, environment, wildlife and biodiversity;
- ii) Assistance in forestry works;
- iii) Assistance in eco-development activities;
- iv) Assisting in implementation of various forest legislations; and
- v) Assistance in ecotourism activities.

According to the notification, assistance to ecotourism refers to such activities, like providing quality service to the visitors; and ensuring responsible behavior of the visitors and ecotourism service providers in protected areas (PAs).

Table: 3 : Acts and Rules related to Forest Management and Biodiversity Conservation in Sikkim

Category	Acts	Rules
A. Biodiversity	i) Biological Diversity Act 2002 and Amendment 2003 ii) Environment (Protection) Act, 1986	Biological Diversity Rules 2004
B. Forest Conservation	iii) Forest (Conservation) Act 1980 and Amendment 1988. iv) Indian Forest Act, 1927 v) Draft State/Union Territory Minor Forest Produce (Ownership of Forest Dependent Community) Act 2005 vi) Sikkim Forests, Water Courses, Road Reserve (Protection and Preservation) Act 1988 and Amendment 2000	Forest (Conservation) Rules 2003 Forest (Conservation) Rules 1981 and Amendment 1992.

17 FEWMD (1998): Notification No. 202/F, Gangtok Government of Sikkim

18 FEWMD (2002): Sikkim Ecotourism Notification 2002 No. 1/WL/F/76/204, Gangtok Government of Sikkim

Category	Acts	Rules
	vii) Compensatory Afforestation Strategy for the proposed Project Act 1988 viii) Forest Right Act 2006	
C. Wildlife	xi) Wildlife Protection Amendment Act 2002 x) Indian Wildlife (Protection) Act 1972 and Amendment 1993	National Board for Wildlife Rules 2003 The Declaration of Wildlife Stock Rules 2003 The Wildlife (Specified Plant Stock Declaration) Central Rules 1995 The Wildlife (Specified Plant Condition for Possession by License) Rules 1995 Recognition of Zoo Rules 1992 The Wildlife (Protection) Rules 1995
D. Forest Management and Biodiversity Conservation	xi) Sikkim Ecology Fund and Environment Cess Act 2005	Sikkim Ecology Fund and Environment Cess Rules 2007 Sikkim State Biodiversity Rules 2006 State Environment Agency Guidelines 2006 Guidelines for Lake Conservation in partnership with Gram Panchayet 2006 Sikkim Wildlife (Regulation of Trekking) Rules 2005

Source: Department of Environment, Forests and Wildlife, Govt. of Sikkim

The main duties of PSS are to ensure the protection of the lakes, their environment, wildlife and biodiversity in the PSS area and to provide assistance to ecotourism; same as EDCs. Their main activities include¹⁹:

- i) Conducting awareness and education campaigns on lake conservation;
- ii) Adopting garbage control measures;
- iii) Cleaning lakes;
- iv) Managing tourist shops near the lakes;
- v) Observing the biodiversity around the lakes; and
- vi) Patrolling for illegal activities around the lakes.

19 *ibid*

Apart from these, there are numerous area based small conservation programs that dot the entire state through the initiative of NGOs like Ecotourism and Conservation Society of Sikkim (ECOSS), Voluntary Health Association of Sikkim (VHAS), Khancendzonga Conservation Committee (KCC), Sikkim Paryavaran Sangrakshan Sangh (SPSS), Travel Agents Association of Sikkim (TAAS) etc. for tourism promotion in the state. NGO's are also entrusted with the task of imparting education for ecological ethics through workshops, fairs, street plays and modal demonstrations exposing among students about the conservation activities; conducting seminars and quizzes in for developing awareness about conservation as well as extending collaboration with agencies like WWF (World Wildlife Fund) for conservation activities. Similarly, different skill development training for porters, vegetable farmers, cooks, pack animal operators and local guides etc. It also includes training and capacity building of NGOs and stakeholders involved in ecotourism and conservation.

The legal framework for forest management and biodiversity conservation in Sikkim includes national and state acts, which the FEWMD is responsible for executing. Interpretation and application of these acts are constrained by a Supreme Court order (1996), which bans green felling without a proper working plan. The National Forest (Conservation) Act (1980) and amendments (1988) along with state notification led to the establishment of JFMCs (1998) in the state followed by setting up of Sikkim Eco Development Committees as per subsequent notifications. For operation and sustainable management of natural resources from the perspective of ecotourism, the following rules and guidelines got special attention²⁰:

- i) Sikkim Ecology Fund Environment Cess Rules 2007;
- ii) State Biological Diversity Rules 2006;
- iii) State Environment agency Guidelines 2006;
- iv) Guidelines for Lake Conservation in partnership with Gram Panchayet 2006;
- v) Sikkim Ecology Fund and Environment Cess Act, 2005; and
- vi) Sikkim Wildlife (Regulation of Trekking) Rules 2005.

Results and Discussion

Preliminary study points to the fact that majority of tourists' (more than 90 per cent) are ignorant about the concept of ecotourism and its sustainability aspects. The share is more in case of domestic tourists' (more than 93 per cent) than the foreign tourists' (60 per cent). Ecotourism is known to be practiced in protected areas (PAs), especially in biosphere reserves, wildlife sanctuaries as well as in national parks; but in Sikkim, ecotourism is practiced in trekking routes, mountaineering, village home stays over and above of wildlife sanctuaries. Thus, the

20 FEWMD, Govt. of Sikkim.

concept of ecotourism is broadened in Sikkim and the visitors' get an opportunity to visit this pristine environment in a hospitable atmosphere. But using the broader concept of ecotourism often lead to the question: whether ecotourism is practiced in Sikkim at al. Studies²¹ reveal that confusion reigns among stakeholders about the concept of ecotourism and too often the term is used to suit their own objectives. There have been mistakes made in the name of ecotourism such as inappropriate construction in this pristine environment; which can lead to catastrophe in this fragile ecosystem.

Bhattacharjee and Kumari's study²² reported that ecotourism in the Yuksam-Dzongri trail corridor and surrounding areas has been facing immense pressure on its natural resources because of increase in the number of visitors in the Khanchendzonga National Park (KNP). The study further reveals that forest remain undisturbed on the steeper slopes and degradation increased near the settlement and tourist campsites where interference was more pronounced. It added that firewood and fodder resources are easily accessible from the forests. Rai et al²³ argued that littering of the trekking corridor, fuel-wood extraction, trail site erosion as a result of large number of trekkers', pack animal movement and unregulated grazing by animals are the issues need to be addressed urgently. Chakraborty's²⁴ study concluded that the construction boom in Sikkim and pattern of construction in Gangtok and other urban centers' have raised serious question of transforming the state into eco-friendly destination and greenest place in India.

Rai et al²⁵ revealed that ecotourism can ensure greater benefits trickling down to local communities. Sikkim Biodiversity and Ecotourism Project (SBEP) has been working with this objective involving local communities, enterprises and the government for tourism development in the major trekking destinations of the state. Bhattacharjee and Kumari's study highlighted the positive aspect of community

21 FEWMD (2009): Preparatory Study on Integrated Project for Sustainable Development of Forest Resources in Sikkim, Final Report, Nov, Govt. of Sikkim. P-115

22 Bhattacharjee, Prodyut and Kumari, Smriti (2004): Application of Criteria and Indicator for Sustainable Ecotourism: Scenario Under Globalisation, the paper submitted for the IASCP Bi-Annual Conference on 'The Commons in an Age of Global Transition: Challenges, Risks and Opportunities', at Oaxaca, Mexico from 9-14 August, 2004

23 Rai, S.C., Sharma, E., Lepcha, R., and Sundriyal, R.C. (1998): Tourism Development in Sikkim. In S.C.Rai, R.C. Sundriyal and E. Sharma (eds): Sikkim Perspective for Planning and Development, Sikkim Science Society and Bishen Singh and Mahendra Pal Singh, Dehradun.p-709

24 Chakraborty, Anjan(2009): Tourism in Sikkim: Quest for a Self Reliant Economy, NEHU Journal, Vol.III,No1, p-89

25 Rai, S.C., Sharma, E., Lepcha, R., and Sundriyal, R.C. (1998): Tourism Development in Sikkim. In S.C.Rai, R.C. Sundriyal and E. Sharma (eds): Sikkim Perspective for Planning and Development, Sikkim Science Society and Bishen Singh and Mahendra Pal Singh, Dehradun.p-697

based ecotourism (CBE) in Yuksam village as there is less negative impact on resources, vegetation, forest etc. due localized ecotourism initiative. However, contrasting results are observed in Pelling in which due to less involvement of locales in CBE lead to severe pressure on resources on the one hand and scarcity of income and employment opportunities for the residents' on the other. Maharana's study²⁶ divulge that nearly 69 per cent of the total household income comes from tourism related activities, which increased the income and consumption pattern of the community. The study further reported that the local stakeholders have increased their share to conserve biodiversity through organizing themselves in Khanchendzonga Conservation Committee (KCC), and managing site enhancement activities.

The existing network of protected areas suffers from their small physical size, inadequate landscape level distribution and insufficient development and management of physical infrastructure. They are all small in size despite their boundaries have been repeatedly expanded²⁷. There are also small sized state park, butterfly park, birds park etc visible in most of the places of the state. Management of these types of program requires large human resource inputs as well as financial resources. Similarly, most of the PA's are surrounded by different categories of land use including forests. As the land use changes over time due to over extraction of resources and land hunger, smaller PA's suffer more than the larger ones in terms of faunal collapse because spatial heterogeneity is non-existent. Meeting the habitat requirement of large ungulates and predators is important for biodiversity conservation in the parks and reserves. If a flagship species is suppressed because the small area cannot accommodate their habitat resources, including food and cover, this would not result in biodiversity conservation²⁸.

Joshi et al²⁹ argued that increasing trend of tourists' inflow in Sikkim would create numerous jobs and income opportunity in the state, implications of the large turnout on the resources, cultural environment and ecotourism would be significant. With the declining livestock population, production of food grains and switch towards cash crops results in replenishing these products from outside would result in leakage and increase in the cost of popular tourist pockets. Our study reveal that during peak season tourism and ecotourism sector in Sikkim

26 Maharana, Iyata (2000): Economic Benefits and Conservation Linkages from Tourism Development in the Sikkim Himalaya, PhD Thesis submitted to the North Bengal University

27 FEWMD (2009): Preparatory Study on Integrated Project for Sustainable Development of Forest Resources in Sikkim, Final Report, Nov, Govt. of Sikkim. P-116

28 Ibid,p-116

29 Joshi, R & Dhyani, P.P. (2009): Environment Sustainability and Tourism-Implication of Trend Synergies of Tourism in Sikkim Himalaya, Current Science, vol.97, No.1

depend on import of goods as well as employ workers from outside the state, thus reducing the benefits accrued to the Sikkim's economy. The leakage has its effect on all sphere on tourism activities, namely, transport, tour operators, travel agents to name a few. Package tours by outside tour operators had its evil effects on the Sikkim's economy as it deprived off valuable economic resources for the locals on the one hand and also failed to develop local resource base; especially in human resource sector. In the field of tourist transport, the state is following a restricted policy of movement of tourist vehicles from one place to another inside Sikkim; aimed at trickling down economic benefits to local vehicle drivers. Tourists are also not allowed to drive hired cars within the state is also a welcome step in the right direction. However, this rule is, most often, relaxed for outside tour operators create confusion in the mind of locals. Recent introduction of officially recognized twelve luxury cars, which can be used by tour operators throughout the state, can bring a welcome change in tourist-transport facility in the state. The present system of waste management practices and environmental cleanup call for constant review and up-gradation. Municipal solid waste in Sikkim consists of garbage, refuse and other discarded solid materials from industrial, commercial and agricultural operations as well as from community activity. Sikkim generates 0.45 kg per capita of solid waste per day. The total quantity of solid waste generated is about 42 tonnes per day and the problem is mainly on the urban areas³⁰.

Table 4 : Categories and Methods of Treatment of Biomedical Wastes in Sikkim

Categories of Biomedical Wastes	Treatment and Disposal
Human Anatomical Wastes	Incineration/ Deep Burial
Animal Wastes	Incineration/ Deep Burial
Micro-biology and Bio-technology Wastes	Local Autoclaving/Microwaving/Incineration
Waste Sharps	Disinfection/Autoclaving/Microwaving/shredding
Discarded medicines and Cytotoxic Drugs	Incineration/Destruction and drug disposal
Solid Wastes	Disinfection/Autoclaving/Microwaving/shredding
Liquid Wastes	Disinfection/Discharge
Incineration Ash	Disposal in Municipal Landfill
Chemical Wastes	Chemical treatment and discharge

Source: Assessment of Pollution Action Plan, Report Published by State Pollution Control Board (SPCB), Sikkim

The present system of waste disposal in Sikkim involves collection of wastes by Urban Development and Housing Board (UD & HD) through bins placed at different locations and street sweeping. After collection, the wastes are transported through trucks to the disposable sites on a daily basis and are dumped in open dumps. Some close dumps have been constructed recently. Dumping sites are located near rivers. UD & HD has initiated a project on the treatment of municipal wastes with modern plants in Gangtok³¹. However, this system excludes wastes deposits in rural centers as well as in popular trekking routes which needs immediate and regular attention.

Lack of dispersal of ecotourism spots in a few select tourist destinations in Sikkim has created pressure on natural resources as well as human habitat. As for example, west district has become a nerve center of ecotourism activities and, barring few select sites, commercial considerations get preference over sustainability issues. The more popular trekking routes and wildlife sanctuaries are becoming congested and suffering damage. Therefore, there is need to develop and adapt tourism product based on Sikkim's exceptional nature and culture that do not damage the environment and provide local communities with opportunities to generate income from different market segments.

Conclusion

After threadbare discussion, it is evident that the spread of ecotourism destinations in Sikkim are confined a few select pockets and, thus, has a serious implication on its sustainability. Promotion of satellite areas could be one of the possible options. But, again development of such areas involves huge amount of costs and feasibility related issues. Moreover, in spite of having outstanding plans and policies, the stakeholders found wanting in its proper execution. Though, this is not an exception to the Sikkim alone.

Ecotourism in its purest form embraces positive environmental ethic, fostering preferred behavior. It does not denigrate the resource or erosion of resource integrity. The environment must experience a net benefit from the activity including social, economic, political or scientific benefits. It promotes firsthand experience with the natural environment and not a thrill seeking or physical achievement which are consistent with adventure tourism³². From this point of view, tourism practiced in Sikkim cannot be termed as ecotourism, rather a branch of nature based tourism having a concern for sustainability. However, each of the tourism destinations has its own specificities which make it imperative for them to use the term suit their desirable ends. The promotion of Sikkim as the 'Ultimate Ecotourism

31 Ibid, p-45

32 Butler, J.R. (1992): Ecotourism: Its Changing Face and Evolving Philosophy. The paper presented to the IV World Congress on National Parks and Protected Areas, Caracas, Venezuela

Destination' is a part of building brand image in the world in general and India in particular without disregarding its sustainability concerns. Stakeholders including policy makers, who are directly associated with tourism, must understand this basic needs and take appropriate measures for the well being of future generations.

It can be recalled that high tourism intensity destinations in the state is experiencing tourism congestion which invariably lead to environmental degradation. Silori's study³³ has made it clear that growth of tourism should not be entertained cost of environment; rather stoppage of tourism activity in such areas can be an option which the policy makers can ponder over. However, in such cases, there should be an arrangement of alternative employment opportunities for local inhabitants.

According to Leong³⁴, many countries have made unwise investment in tourism that is often imposed on local communities, especially rural and minority communities, at a level and speed that causes great social disruption. Darjeeling and Simla, two popular hill stations in the North Eastern and North Western India, since British colonial rule, have been victim of resource use conflict and depletion of natural resources due to expanding hotel and tourism industry³⁵. Dodd's paper³⁶ argues that many destinations did not address the issue of sustainability until negative pressures were felt. In the face of such impending challenges, ecotourism industry in Sikkim is heading for a testing time in the future ahead.

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34 Leong, A.M.W. (2008): International Tourism and World Peace, *Journal of Macau University of Science and Technology*, vol.2, no.2, pp38-44.

35 Luhomi, R.(2006); Simla Stresses Out, Chandigarh, India: The Tribune.

36 Dodd's, Rachel (2010): Moving Towards or Away from Sustainability?, *Asia Pacific Journal of Tourism Research*, Vol.15, No.3. p-251-266.

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