

## Challenges of Biodiversity Conservation & Ecotourism In HP

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### **Abstract**

Biodiversity of a geographical area includes the variety and variability of living organisms and the ecological complexes in which they exist. Himachal Pradesh is rich in biodiversity having geographical area 55,673 sq. km. with 66.52% forest cover. It harbours many species of plants and animals, but there is a major risk that many species will extinct due to over exploitation and destruction of biodiversity as there is an increased demand for natural resources and increase in exploitation of resources. More over beautiful landscapes, lush green forests with diversity in flora and fauna, ethnic communities and colorful people also attract many visitors for fun and recreation which has opened the new avenues in tourism. Poorly managed tourism without sustainable ecosystem is deteriorating the balance of environment and threatened the biodiversity. In order to combat with the problem of destruction of biodiversity, tourism activities should be made more eco friendly. Ecotourism has received much attention in recent years especially within the developing world. Ecotourism in simple terms means management of tourism and conservation of nature in a way so as to maintain a fine balance between the requirements of tourism and ecology on the one hand and needs of the local communities for jobs, new skills, income generating employment on the other. At present in Himachal Pradesh Eco-tourism needs to be promoted for preserving and sustaining the diversity of natural and cultural environments and involving the local community. Community-based tourism is now sustainable approach as it specifically involves and benefits local communities and helps in the conservation of biodiversity. In this paper an attempt has been made to analyze the challenges in the conservation of biodiversity and emerging ecotourism in Himachal Pradesh.

**Keywords:** Bio-diversity, Conservation, Ecosystem, Ecotourism , Community Tourism.

## **Introduction**

India is one of the 12-mega bio-diverse countries of the world and has a rich cultural heritage too. India has numerous wildlife sanctuaries with countless varieties of flora and fauna. Biodiversity of a geographical area includes the variety and variability of living organisms and the ecological complexes in which they exist. Himachal Pradesh is rich in biodiversity having geographical area 55,673 sq. km. with 66.52% forest cover. It supports 30 Wildlife Sanctuaries, 02 National Parks (Pin Valley NP and Great Himalayan NP) now five and 3 conservation reserves having around 3300 plant species and more than 5700 animal species. More over beautiful landscapes, lush green forests with diversity in flora and fauna, ethnic communities and colorful people also attract many visitors for fun and recreation. All these have opened the new avenues in tourism. Benefits resulting from conservation of biodiversity in certain local regions include income derived from tourism for regional and local communities. Poorly managed tourism without sustainable ecosystem is deteriorating the balance of environment and threatened the biodiversity. In order to combat with the problem of destruction of biodiversity, tourism activities should be made more eco friendly. It is said that there is a "grave error" if we fail to protect biodiversity. If there is a major risk that many species will go extinct due to our inaction then some species will die out that could have provided people or the planet with great benefits, such

as cures for disease, valuable genes, ecosystem services, new sources of nutrition, and the like (Kunich, 2003). The World Charter states "Nature shall be respected and its essential processes shall not be disrupted." Ecotourism needs to be tapped for healthy conservation and preservation of nature and bringing about economic benefits to the local communities. It is stated that developing nations need nature reserves in order to be sustainable ( Naess & Arne, 1995). "Sustainable tourism implies minimizing the negative and maximizing the positive effects of all forms and activities of tourism on: the environment, local communities, heritage (cultural and natural), and inclusive economic growth," (Incredible India, 2013b). Ecotourism is largely based on the concept of sustainable tourism or eco-friendly tourism. It has been seen that in India there are tourist destinations where the ecological balance of a fragile area has degraded drastically due to the pressure of tourism. Hence, the country is trying to promote tourism in a manner in which it generates considerable revenue without disturbing the delicate eco-system in the region. Ecotourism in India has developed recently, for the concept itself is a relatively new one.

This type of tourism is extremely essential for India considering that it has one of the richest biodiversities in the world. The Indian topography boasts of an abundant source of flora and fauna. India has numerous rare and endangered species in

its surroundings. Today, India has many wildlife sanctuaries and protection laws. There are numerous botanical and zoological gardens in India, which are working towards the enhancement of the ecosystem. There are severe punishments for poachers, hunters and illegal traders of animals and trees. There are several animal and plant rights organisation, which fight for the rights of the animals and plants. Numerous organisations and NGOs are coming forward to provide environmental education to common people at the grass root level. At present in Himachal Pradesh Eco-tourism needs to be promoted for preserving and sustaining the diversity of natural and cultural environments and involving the local community. Major challenge is conservation and ensuring no damage is done to the flora and fauna or the environment. Himachal Pradesh state government revised its ecotourism policy in May 2016 with the objective to make this Himalayan state a leading ecotourism destination in India. The creation of the Himachal Pradesh Ecotourism Society (HP ECOSOC), a special-purpose vehicle in 2006 was the first effective major step to promote ecotourism in the state. Apart from projecting the pristine natural beauty of the state, the mandate of the HP ECOSOC was to encourage ecologically sustainable and financially viable ecotourism that is beneficial to the local community in terms of livelihood and income generating opportunities. Creating awareness about nature, cultural sensitivity,

and protection of flora and fauna has also been suggested .

### **Objective**

The main objective of the study is to analyze the major challenges in the conservation of biodiversity and emerging opportunities of local people for ecotourism in H.P.

### **Methodology**

This paper is basically descriptive and analytical in nature. Pub med research has been carried out on net on various related topics. Many tourist places were visited by me and information is also collected from local people about tourism activities and their effects in conservation of biodiversity according to the need of the study.

### **Discussion**

In discussion I tried to cover many aspects of biodiversity conservation, ecotourism and challenges in conservation of biodiversity. Activities of ecotourism promoting biodiversity conservation and sustainable ecotourism have been discussed.

#### **I. BIODIVERSITY**

#### **II. ECOTOURISM**

#### **III. CHALLENGES**

#### **IV. NEED OF BIODIVERSITY CONSERVATION**

### **Biodiversity**

As a term, biodiversity may be used to refer to the variety of life of all of Earth or to any part of it. It is the variety within and between all species of plants, animals and micro-organisms and the ecosystems

within which they live and interact. Usually bio-diversity is classified into three groups: (i) genetic diversity, which refers to the variation of genes within species. It explains genetic variation between distinct populations of the same species and also genetic variation within a population, (ii) species diversity, which refers to the variety of species. It can be measured on the basis of species richness, species abundance and phylogenetic diversity and (iii) ecosystem diversity, which encompass the broad difference between ecosystem type and the diversity of habitat and ecological process of occurring within each ecosystem. India is immensely rich in biodiversity; it has 7-8% of recorded species of the world. It ranks seventh in mammals, ninth in birds and fifth in reptiles in terms of species richness. Its position is tenth in birds with 69 species, fifth in reptiles with 156 species and seventh in amphibians with 110 species. Himalayas sustain over 10,000 species of plants, and nearly 2,000 species of animals. This ecosystem has species that represent all families in the animal kingdom; this includes mammals, birds, reptiles, amphibians, and fish. In addition to these, population of insects and arachnids also hold a key role in this mountainous biome (Conservation International, 2013).

Himachal Pradesh having total Geographical area -55673 with total Forest area-37,033, Unreserved- 2094, Reserved Forest- 1896, Protected Forest -33,043 (Source: Report of FSI 2003 ). Forests are a

basic ecological and natural resource and constitute the essential life support system besides being a source of timber, fuel, fodder and medicines etc. Himachal Pradesh has 66.52% forest cover. Biodiversity can be easily seen in a forest area in form of different kinds of plants and animals. Forests are a basic ecological and natural resource and constitute the essential life support system besides being a source of timber, fuel, fodder and medicines etc. In Himachal fauna Invertebrates constitute 88.4% (5,055 species) and vertebrates 11.6% (666 species). In Invertebrates Insects and other Arthropods form predominant group (464 species whereas vertebrates are dominated by birds comprising 447 species. Out of total 45,000 plant species found in the country, about 3245 species (7.32%) of plants and out of 77,450 species of animal area in India, Himachal Pradesh harbours about 5,721 species which is 7.4% in Indian fauna. But there is a major risk that many species will extinct due to, tourism activities , over exploitation and destruction of biodiversity. Some species will die out that could have provided us with great benefits, such as cures for disease, valuable genes, ecosystem services, new sources of nutrition etc. Biodiversity has also great aesthetic value. Examples of aesthetic rewards include ecotourism, bird watching, wildlife, pet keeping, gardening, etc. Ecotourism in particular, is a growing outdoor recreational activity. It is also essential for the maintenance and sustainable utilization of

goods and services from ecological systems as well as from the individual species. For conservation of biodiversity in 1998, the HP Forest Department introduced a Joint Forest Management programme, known as **Sanjhi Van Yojna (SVY)** participatory approaches being implemented as pilot in two districts of Mandi and Kullu. **Apne Van Apne Dhan ('Our Forest Our Wealth')** is another forestry scheme of HPFD with participatory mechanisms. The Integrated Conservation and Development Projects (ICDPs) are major examples where the people-friendly approaches have been tried to conserve biodiversity (Machlis and Tichnell 1985; Larson et al. 1997).

## II. ECOTOURISM

*Ecotourism promotes economic growth, while conserving the environment of an area by preserving the ecosystem and biodiversity. It promotes a spirit of community participation, environmental awareness and social sensitivity.*

The tourism industry is especially important to developing countries since it is the principal foreign exchange earner for 83% of developing countries. But in contrast to the enjoyment of tourism and the beauty of the destinations it serves, it can be as destructive as tourism requires a great deal of infrastructure—including hotels, roads, parking lots, and restaurants etc. All these have increased pollution levels, the destruction of natural habitats, the displacement of natural wildlife and undesirable influences to once remote

cultures. As Dr. Sheryl Elliot, professor at the George Washington University's School of Tourism Administration has noted, —"*Finding the right balance is the key for tourism as it is for the overall globalization system*". Being able to see tourism through multiple lenses (financial, political, social, environmental, and technical) helps in accomplishing this goal. At the 1995 World Conference on Sustainable Tourism held in Lanzarote, it was agreed that: Tourism is sustainable when its development and operation include participation of local population, protection of the total environment, fair economic return for the industry and its host community, as well as a mutual respect for and gratification of all involved parties .

To promote sustainable tourism, which is not only conserving the biodiversity of the area but also leads to economic betterment of the rural people, ecotourism is now the fastest growing sector in the tourist industry. Ecotourism means responsible travel to natural areas that conserves the environment and improves the well-being of local people (Gail & Austin, 2003).

Ecotourism helps in creating sustainable tourism opportunities, and limit the ill impact on the environment. It consists of a number of core principles, including minimizing industrial impact on the environment and biodiversity, building environmental and cultural awareness and empowering local communities through ecotourism. As without biodiversity

conservation ecotourism cannot flourish. Without an active effort to uphold ecotourism best practices, a site can degrade as a result of a short-lived spike in high profitability, at the cost of natural preservation (Lindsay, 2003). Eco-tourism includes programs that minimize the adverse effects of traditional tourism on the natural environment, and enhance the cultural integrity of local people. The concept of eco-tourism was initially proposed by the Mexican Expert H. Ceballos Lascurain special consultant of IUCN, in 1983. He holds that eco-tourism is especially featured by sightseeing without harming the natural spectacles. As biodiversity conservation is main issue for human beings for the survival of all species. In present scenario ecotourism is receiving more attention among conservationists as a means to promote both biodiversity preservation and income generation. The most significant feature of the ecotourism industry in India is its capacity to generate large-scale employment opportunities, particularly in remote and underdeveloped area. It offers enormous potential for utilising natural resources like landscapes, mountains, biodiversity areas, rivers etc for the benefit of people. Ecotourism is not only a travel statement; it gives the message of our relationship with nature and its own inhabitants. Ecotourism focuses on Indian local cultures, wilderness, adventures, and environmental protection. In India the movement is gathering momentum with more travel and travel related organisations for

addressing the needs of the eco tourists and promoting ecotourism in the country. Community-based tourism is now sustainable approach which involves and benefits local communities. The 'community based eco-tourism' policy in the state is proposed with a long-term goal of conserving the rich cultural and ecological heritage of the state. Initiatives are taken by the ecotourism for hospitality providers to promote recycling, energy efficiency, water reuse, and the creation of economic opportunities for local communities. Eco Tourism also places the highest value on culture and natural heritage and protect the heritage and culture. The tourists can be attracted towards adventure, trekking, sports, recreation, wildlife parks, towns and villages. The increased contributions of communities to locally managed ecotourism create viable economic opportunities. Under the project Green Vision EFSO has adopted few eco friendly farm house & orchards to promote ecotourism. The state government has also been working extensively with the Ecotourism Society of Himachal Pradesh (Eco Soc), the most predominant ecotourism society in the state. Eco Soc is an independent body that works with the Tourism and the Forest Departments. Their aim is "to preserve and protect the natural, historical and cultural heritage of Himachal Pradesh" and their core objective is to increase awareness of cultural and historical heritage of Himachal Pradesh. Along with the Forest Department, these two bodies are

responsible for the majority of ecotourism activities within the state (Eco Soc, 2010). Eco-lodges are constructed using sustainable materials and aim to maximize the renewable resources available. Home stays are an appealing option, because they provide a unique cultural experience for the ecotourist who is interested in cultural tourism (Wood, 2002). "Tourism development shall be on criteria of sustainability, which means that it must be ecologically bearable in the long term as well as economically viable, and ethically and socially equitable for local communities" (Gormsen, 1997). The main problems of ecotourism development, in developing countries, are economic insufficiency and lack of resources to plan and properly implement it. Honey (2009), also adds, "In all developing countries, a common issue there is movement away from government-owned and government-run tourism projects due to the popular trends of free trade and foreign investment."

### **III. CHALLENGES IN CONSERVATION OF BIODIVERSITY**

Bio-diversity is threatened by many factors. There are many challenges in conserving the biodiversity and at the same time meeting to the demands of tourism in this hilly state. Presently, remaining forest cover is under severe pressure particularly in Himalaya. Bio-diversity is threatened by following causes.

- **Deforestation:** It is a major cause behind destruction of biodiversity. There are many causes for the cutting of forests. Undertaking of development activities in the forest area

is another cause for deforestation. The expansion of tourism in forest areas poses serious environmental degradation leading to endangering flora, fauna species and other environmental resources.

- **Pollution:** Due to tourist activities water pollution, air pollution, land pollution and noise pollution & vibrations all are major factors in deteriorating the nature and so damaging the biodiversity. Heavy traffic with increased number of vehicles during tourist season causes long traffic jams and pollute the natural beauty of the tourist place. Due to global warming, ecosystems generally shift northward or upward in altitude, but in some cases they will run out of space, as 1°C change in temperature corresponds to 100 kilometers change in latitude. Hence, average shift in habitat condition by the year 2100 will be in the order of 140 to 580 km (CPCB, 2002). Land damage, landslides, flow of waste material and soil erosion. Extraction of land, stone and grit from nalla and river beds have different environmental impacts. Haphazard extraction leads to erosion of banks and flooding.

- **Constuction of buildings & Developmental activities :** To meet the demands of tourism industry and power projects developmental activities are required which are destroying the mountains supporting the biodiversity.

- **Loss of natural habitat:** One of the most disturbing facts about ecotourism is that it is mainly promoting the expropriation of wilderness area, national parks, isolated

tribal areas and even the areas having no trace of any permanent settlement. Tour operators succumb to ever increasing demands made by visitors and to facilitate and entertain them, they build completely artificial landscape in the area, which have mega-resorts, luxury hotels, and shopping centers. Such changes cost almost the entire eco system dearly, many of flora and fauna species lose their natural habitat and in the long run this may even lead to species extinction. Tourism competes with other forms of development and human activity for natural resources, especially land and water. The use of natural resources subsequently leads to the transformation of ecological habitats and loss of flora and fauna. Land transformation for tourism development can directly destroy ecological habitats. The use of resources for tourism involves an 'opportunity cost' as they are denied to other sectors of economic development.

• **Impact over Locals:** One of the basic objectives of ecotourism is to engage local communities so that they benefit from conservation, economic development and environmental education. Their traditional economic and social structure undergoes a transformation towards tourism monoculture. They serve mostly as tourist guide, food providers, or souvenir vendors in the locality. The main share of revenue generated goes only in hands of organisers.

In fact, the idea of ecotourism was incepted as alternative to mass or conventional tourism which has been thought of as environmentally polluting, economically

disruptive and culturally insensitive (Honey, 2009). So ecotourism came into practice with its key theories and principles to safeguard environment and local culture by benefiting local communities as well as tourists. The definition of ecotourism principally focuses on economic and social development and ecological conservation. The concept was developed with a prime goal of achieving sustainable development through responsible tourism in various remote areas on the planet. However, it doesn't seem easy to achieve the goal because in many places true ecotourism remains a matter of ideal only and the policy and planning of ecotourism seem to fail to address all key issues appropriately. According to Higham, (2007), "inappropriate ecotourism development degrades habitats, landscapes, depletes natural resources, disturbs economic systems, and generates wastes and pollution." Therefore it is essential to keep social, environmental, and economic responsibility the first priority in policy and planning of ecotourism to promote sustainable development through successful ecotourism practices. Ecotourism generally occurs in areas that are environmentally sensitive and fragile. Mountains, protected areas, and cultural and religious sites are very popular destinations of eco-tourists. Like traditional or mass tourists, eco-tourists have caused both on-site and off-site negative impacts to the visited areas. Deforestation for fire wood, water pollution by sewage, soil pollution due to non-biodegradable wastes,

and visual pollution are major environmental problems. According to Kruk and Banskota, mountain ecotourism experts, environmental problems in many mountains including Mt. Everest seem to be very severe (Kruk and Banskota, 2007).

#### **IV. NEED FOR CONSERVATION OF BIODIVERSITY**

We need to promote ecotourism which assist in conservation of biodiversity along with community development. As forests are a basic ecological and natural resource and constitute the essential life support system of biodiversity. The infrastructure must support tourist influx without significantly impacting the environment. For ecotourism it is also important to include regulations on the usage of natural resources to limit deforestation and over-cultivation of land. There is a need to involve communities in the development, conservation and scientific exploitation of forests and all lands classified as forests. Therefore, a massive afforestation programme is needed. Involvement of tourist can be a part in plantation drives. Encourage the people for more participation in survival success of afforestation programmes.

Creation of Biosphere reserves to conserve the genetic stock of endangered species, maintenance of in situ gene Sanctuaries, National parks and Sacred grooves. We can have more botanical and zoological parks to undertake population studies of majority of plants and invertebrates e.g. earthworms, nematodes, protozoans, microscopic

zooplanktons. Great Himalayan National Park in Kullu district, Himachal Pradesh offers a variety of ecotourism options from trekking to bird watching (GHNP, 2013). Within this protected land, the government can provide ecotourism and collect entry fees for proper maintenance of the facilities in place. Furthermore, the government can create regulations that help to protect indigenous populations, and preserve rural communities. Focus could be on preserving the environment can also have a positive impact on it by using profits of tourism to maintain the environment. Training of forest officials at all levels for achieving developmental and participatory management and assessment of forest fire damage and inventory of the appropriate technology/methodology for prevention and control could be provided. There should be participation of Panchayats, NGOs, Mahila Mandals and voluntary agencies in afforestation programmes and in awareness programmes. We can promote of ecotourism to provide benefits to the local community by inclusion of small scale industries of environmental clearance, home stay, rural/village tourism, nature parks. Some plantation drives by involving tourists can enhance the conservation programme to some extent. Nature parks with biodiversity can be established. Public awareness about benefits and importance of biodiversity while promoting ecotourism. Creation of dense vegetation buffer around cement plants and other industries and assessment of Impact

of Industrial emissions and pollutants on human and cattle health and also on agriculture should be mandatory. Provision can be made of incentives for ecofriendly industries.

### **CONCLUSION**

Ecotourism is increasing in popularity across the world, but has significant practical value in developing countries where the needs of impoverished communities may conflict directly with the need to capitalize on the growing tourism industry. In many cases developers move in and designate certain areas as tourism hotspots without giving much thought to the impact that this will have on local communities and biodiversity of the region. As without biodiversity conservation all tourism industry would perish very soon in future . Therefore in order to tourism to be

sustainable, it needs to recognize the importance of biodiversity conservation and benefit of the local community improving the economy of the State. Ecotourism funds should be utilized in biodiversity conservation and in awareness programmes to the society. Its profits can be diverted to fund other areas of sustainable development such as planting trees, recycling waste and creating ecological awareness. We can use the tourism funds in research into developing renewable energy sources such as solar panels and small-scale hydro-turbines, which would provide power for alternative methods of heating during the winter and reduce the need for firewood. In this way, tourism can be sustainable by adopting ecotourism which helps in biodiversity conservation and communities be self-determined, self-sufficient and sustainable .

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