CHAPTER - III

TOURISM AND ECOLOGY OF THE KOYANA BASIN

3.1 Introduction

3.2 Eco-Tourism

3.3 Environment in Tourism

3.4 Need For Planning

3.5 Tourism-Environment Relationship

3.6 Sustainable Tourism Development

3.7 Impacts

3.8 Present Indian Scenereo

3.9 Biodiversity

3.10 Ecology of the Region
- 3.10.1 Flora
- 3.10.2 Fauna:
- 3.10.3 Cultural Environment

3.11 Ecology and Tourism in the Region
- 3.11.1 Climate and Tourism
- 3.11.2 Living Environment and Tourism

3.12 References

3.1 INTRODUCTION:

Tourism growth is one of the greatest success stages of our times and expected to become the largest export industry by the first quarter of the new millennium.

The modern geography is concerned with the nature of environment, the locations of phenomena, spatial distributions and relationships. Tourism is very much concerned with spatial conditions, the location of tourism areas and the movements of people between place to place. Hence geography has a fundamental role to play in examining the spatial interplay of tourist demand and satisfaction (Robinson H, 1996). Geography has an important part to play in the recounciling of tourist activity with other demands upon particular environment. The application of geographical methods in the field of tourism, create the applied nature of tourism geography. Tourism offers a fertile field for investigation by geographers (Robinson H. 1976).

3.2 ECO-TOURISM:

Ecotourism, basically, means, travelling to nature or wilderness areas, for admiring and enjoying the biodiversity and cultural heritage (Mishra, P.K., 1996). Ecosystem refers to the set of organisms interacting with each other, and their set of surrounding physical and chemical factors in a given space. A small development of any tourist spot, brings about a change in the biotic and abiotic components of the ecosystem, which finally alters the various balances and flow of energy

and nutrients into the ecosystem. A natural ecosystem has an inbuilt capacity to restore the imbalance created by this development, but to a threshold level. Alterations in Biotic and Abiotic components, beyond a certain limit cannot be looked after by the ecosystem.

3.3 ENVIRONMENT IN TOURISM:

Environment can biologically, be defined as the life support system of an organism, a community, a species or other life system complexes. An integrated approach, to the problems of environments must be confined to the discovey of temporal and spatial relationships between organism and environmental factors. It is now a well established fact that the environment works in totality and that the biotic and abiotic factors of the environment are inseparable. This fact launches and supports the "Holocoenetic" concept of environment. Environment in reference to tourism can be perceived as the "Health of Tourism Spot", the resource generation at a spot, and overall infrastructural development.

In recent years, there have been increasing warning sings; the deterioration of some destinations, the over whelming of some cultures, bottlenecks in transport facilities, and growing hostility of residents in some destinations. Therefore, the overriding concern for the industry must be to seek out ways to enhance rather than degrade its core product: the environment, upon which all of human being must depend for survival. In other words, the environ nent is tourism's resource. It is our environment or rather the experience or enjoyment of it, that the

tourism industry promotes and sells. The close relationship between tourism and the environment, and the importance of environmental planning and sustainable tourism development planning are becoming increasingly recognized.

The Manila Declaration (1980) of the World Tourism Organization (WTO), the most comprehensive international statement adopted on the goals of modern tourism, emphasizes the importance of both natural and cultural resources in tourism and the need for conservation of these resources for the benefit of both tourism and residents of the tourism area. The Joint Declaration of the WTO and United Nations Environment Programme (UNEP), "The protections, enhancement and improvement of the various components of man's environment are among the fundamental conditions for the harmonious development of tourism. Similarly, rational management of tourism may contribute to a large extent to protecting and developing the physical environment and the cultural heritage as well as improving the quality of life....."

3.4 NEED FOR PLANNING:

The importance of national and regional tourism planning as a conservation and sustainable development technique was expressed at a WTO/UNEP Environmental workshop in 1983 is as below:

Regional planning provides probably the best opportunity for achieving environmental protection goals through the use of zoning strategies. Thus the zoning strategies and regulations can be used to

encourage the concentration in some areas and/or dispersion in other areas of tourist activity, so the extreme pressures are restricted to resilient environments and fragile environments can be given the most rigid protection measures. In this manner, nature conservation interests can be accorded their appropriate priority where it is the prime land use designation.

The Koyana basin is a region having different types of pockets such as overpressure like Mahabaleshar and having almost no pressure in the area of Walmiki plateau but having large potential for tourism. Here, it is pertinent to make areas like Mahabaleshwar to reduce pressure and divert tourist population to some other nearby areas. While other areas like Koyana wildlife sanctuary, Walmiki plateau, need exists to encourage the concentration of tourist population. In this manner the increase of tourists number in neglecting but good potential areas like Walmiki, Koyana wildlife sanctuary and reducing the pressure on Mahabaleshwar plateau help to develop tourism activity in the region. It is observed that during last twenty five years Mahabaleshwar plateau is under heavy strain of tourists as increase of tourists seven times than the year 1975. It causes tremendous deforestation, increase of urbanization and heavy load on infrastructural facilities, hence the region of Koyana basin needs some definite planning.

3.5 TOURISM-ENVIRONMENT RELATIONSHIP:

Appropriate relationships between tourism and the natural and socio cultural environments, which places responsibilities on both the tourist-receiving countries and the tourists themselves, were further specified by the WTO in 1985 during its Sixth General Assembly through its adoption of the Tourism Bill of Rights and Tourist code. This statement contained the following provisions:

1. In the interest of present and future generations, protect the tourism environment which being at once human, natural social and cultural, is the legacy of all mankind
2. The population constituting host communities in places of transit and stay are entitled to free access to their own tourism resources.
3. They are also entitled to expect from tourists, understanding of and respect for their customs, religions and other elements of their cultures which are part of human heritage.

To facilitate such understanding and respect, the dissemination of appropriate information should be encouraged on:

1. The customs of host communities, their traditional and religious practices, local-taboos and sacred sites and shrines, which must be respected;
2. their artistic archaeological and cultural treasures, which must be preserved; and

3. Wildlife and other natural resources, which must be protected.

Tourists should, by their behaviour, faster understanding and friendly relations among people, at both the national and international levels, and thus contribute to lasting peace.

At places of transit and stay, tourists must respect the established political, social, moral and religious order and comply with legislation and regulations in force. In these places, tourists must also:

1. Show the greatest understanding for the customs, beliefs and behaviours of the host communities and the greatest respect for their natural and cultural heritage and,

2. Refrain from exploiting others, The Huge Declaration on Tourism, adopted at the Inter-Parliamentary Conference on Tourism (Organized Jointly by the Inter-Parliamentary Union and the WTO) in 1989 set forth several principles for development of tourism, including emphasizing the importance of integrated planning of tourism. This declaration also pointed the essential relationship of the environment and tourism as follows (WTO, 1989).

"An unspoilt natural, cultural and human environment is a fundamental condition for the development of tourism. Moreover, rational management of tourism may contribute significantly to the protection and development of the physical environment and the cultural heritage, as well as to improving the quality of life."

3.6 SUSTAINABLE TOURISM DEVELOPMENT:

It shows that it needs sustainable tourism development. Sustainable implies permanence. This conveys on integrated act in the environment, the "Optimum" use of the resources, the involvement of the local population, the preservation and improvement of the surroundings, all of which allow a sustainable and therefore, lasting process as against the popular concept of the maximum use of space and time. But some tourist activities are not sustainable, and therefore scientific approach for sustainable tourism development is required. Forms and styles of sustainable development of tourism should be evolved which conserve and not consume the environment, establishing tourism environment capacity. Such a development has to explore the relationship between the natural resources and the visitor community, with special regard to its conservation through sensitive planning and management. Sustainable tourism was defined by the Globe 90 conference on sustainable development as the management of tourism resources in such a way that fulfils economics, social and aesthetic needs while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems. In the words of inskeep, continuous maintenance of environmental resources and cultural integrity while still bringing equitably distributed socio-economic benefits of tourism to residents of the area is the essence of sustainable tourism development. According to the World Tourism Organization (1993) "Sustainability" is a more powerful concept of defining an appropriate approach to tourism

development. It encompasses the requirements of all forms of tourism, from individuals travelling to the most sensitive environments to large groups visiting resort destination. Sustainable tourism development is the development that has been carefully planned and is carefully managed. It is the antithesis of tourism that has developed for short run gains with the expectation that they will have a "Product Life Cycle", declining after some years of fashion. Because of the pressure on the world's resources, it is the only sensible approach. The most successful tourism development of the future will be sustainable that is they will not overconsume the resources used to attract tourists.

3.7 IMPACTS:

Tourism industry, covers diverse activities such as transport, accommodation, entertainment, catering, handicrafts and souvenirs among many others. Some may have severe negative impacts on visiting destinations and population, in the absence of proper checks and balances. Tourism development puts pressure on all local resources, tourists consume energy, water, food and other raw materials, some of which may be in short supply locally. Tourists now go every where and on account of this, some of the destinations have come up very recently, some have achieved balanced position in tourism business and a few of them have reached saturation point.

3.8 PRESENT INDIAN SCENEREO:

Developing countries like India where tourism as a business activity is a recent happening have already started to realise repercussions at a number of tourist places. India receives much smaller number of tourists in comparison to some other countries. But due to haphazard development, some tourism destinations have lost their naturality and are likely to become the centres of garbage and litter very soon. 2.3 million foreign tourists are a much smaller number of cause great deal of damage who come into this vast country of 950 million people, but the much large number of domestic tourists, leisure and pilgrims cause greater damage. According to a rough estimate of the Ministry of Tourism, Govt. of India, the domestic tourists today account to about 135 millions. Besides this, there are visitors to special events like Kumbha melas where lakhs of people congregate at one place and take a holy dip which cannot be prevented them to visit sacred holy places as it is linked to their religious sentiments. It is estimated that every year Indians are paying Rs. 34,000 crores due to the effects of massive environmental degradation which will eventually threaten our future generations. Water and air pollution alone impose a health cost of Rs. 24,500 crores every year.

3.9 BIODIVERSITY:

India, the country of rich cultural and natural heritage, is endowed with equally rich bio diversity. All the bio geographical zones of India

possesses their own peculiar floral and faunal wealth. The country possesses 372 species of mammals, 1175 species of fishes, 181 species of amphibians, 5000 species of molluscs, 60,000 species of insects and 15000 species of flowering plants. Some of the worlds richest and most diverse natural areas are included within the boundaries of the country.

Western ghats, identified as one of the eighteen global biodiversity hot spots (Brij Gopal Edt. 1997) with its unique ecological spectrum and has soloman beauty of its own. The area exhibits unique biodiversity. It consists of 1500 plant species, 79 mammals, 403 birds 93 reptiles, 22 amphibians, 166 fish species (Samant, et.al. 1986). It has the potential to develop as a wildlife and nature tourist resorts. The location and easy accessibility can provide the required infrastructure to this growing industry. Since wild-life tourism is a resource based recreation supply, conservation should be the top priority in any wildlife tourism. Conservation and recreation, the two forms of landuse, often conflict, as the need to integrate both. Eco-tourism is the path of sustainable wild-life and nature tourism development. The region "Koyana basin" is of unique relief features in western ghats, affects the climate flora and fauna. The association of natural and cultural factors attribute the present ecology of the region. This region has also gifted with many natural, historical and religious places which endear the tourism. It seems that this region has the great potential to develop as a wildlife and nature tourist resorts.

3.10 ECOLOGY OF THE REGION:

Ecology of the region is the effect of living and non living environmental factors. The non living environmental factors of the region are peculiar. Geologically the region is covered by basalt sheets with lateritic capping cover, constitute the innumerable rugged and bold flat topped hills with steep slopes caused the spread of forts in the region. The crestline with the steep slopes on Konkan side provide forbidding beauty to the tourists. The steepslope valleys with the cliffs, supporting luxurious vegetation bands against the dark rampart of the main scarp. The gorges, the water falls, the valley in the valley, river capture points provide scenic sites. The Babukada, of Vasota, Nageshwar half cut hill (Plate-I, Photo 2). Artherseat point of Mahabaleshwar are the places of tourist interests. Bamnoli spur proves an important site for wind power generation. The cols in the crest line provide the roads and become the gate way between Konkan and Desh. Climate of the region is favourable to create evergreen forests, especially in the upper Koyana basin.

3.10.1 Flora:

The floral wealth shows unique biodiversity in the region. The flora of the region is associated with relief, soil and climate. It indicates the seasonal change. In the monsoon, barren hill sides and plateau tops cover with greenery. From the month of July herbs start flowering. The Bamnoli spur with Kas, Chalkewadi, Vankusavade plateaus and Crestline slopes with Walmiki plateau and spurs top show beautiful bands of

different coloured flowers. August and September are the months in which the weekly change in flowering occurs (Plate 2, Photo 2). From August, most of the shrubs being flowering within the Koyana valley. The widespread (100 to 200 hectors) patches of Karvi (STrobilanthes colossus), about 2 to 3 metres height and at different altitudes show valley flower phenomena in September and October. The blue flowers with insects song is unique. The violet plant flowering is once in the life. The plant life varies from 3 to 7 years. It dies after flowering and fruting. The Karvi patches are in large number in the region. For seasonal tourism, it is necessary to find out the actual period of flowering of different Karvi patches.

The evergreen forests of western side in Koyana valley shows only slight seasonal change. Most of the deciduous trees in the region have the flowering season from January to June. The flowering of Kate Sawar (Bombax Malbarica), Palas (Butea Mono sperning) Pangera (India Coral tree) Gorak Chinch (Adansonia digitata) with purple red and orange colours form a beautiful land scape in lower Koyana basin (Plate 2, Photo 4). The flowering of these deciduous trees occur in February to April and the different birds gathered in large number to collect honey and insects on flowering tree. The Katesawar and Pangera are the ideal trees for bird watching during flowering period. Bava (Cassia fistula) is flowering from mid April to May end. The yellow garlands increase the beauty of the region. The trees become garden plants because of its beautiful flowering.

The evergreen tree Anjani (memecylon Umbellatum) occurs in patches on the plateaus with violet blossom in February and March months and looks very beautiful.

The flora in the region also provide medicinal plants, burning wood, industrial timber and the scenery. It provides a shelter for wild animals. Dev Raies are reserved at several places in the region. These are the sacred forests protecting the old trees.

3.10.2 Fauna:

The upper Koyana basin with wild life sanctuary and Walmiki plateau with Ghotil forests, is included in Chandoli wildlife sanctuary. It includes the rare animals. The animals like Patta wagh (Panther tigris) Biblya (Pathra-pardus), Asval (Melursus Vrsinus), Gava (Bos gaurus), Taras (Hyaena hyeana), the flying squareis, giants squarrel shekru (Ratufa indica) found in the forest. The Ajgar (Python Molurus) Ghonas (Vipera russelli), Manyar (Bungarus Caurulus), Nag (Naja Naja), Phorse (Echis carinatus), Dhaman (Pytas mucusus) are the common snakes and mongoo (Herpestes edwardosi) is also found in the jungle. The peacock with the other birds found in plenty. The black eagle, bats are common in the region. The grass lands within the jungle areas are useful for watching the gava. The season of fruits of various trees like Umbar (Ficus racemosa) are the best for watching Asval in the jungle.

Within the insects, the Kajava (The fire worm) appears in monsoon months. It is believed that the large number of Kajavas indicate higher

rainfall in monsoon months. The valleys at night shines with the green on-off light of these insects. It is soloman beauty in the jungle nights (Dandekar, 1974).

The ants in heavy rainfall areas built their houses on the tree branches. The shape is of pagoda type. The other type of ants build their house in the sloppy soils with taking precaution, not to enter water in the house. For it 1 to 2 inches high walls built. It is the pecular ecological adjustment of insects (Plate-2, Photo 5). The honey combs built houses in the hollows of old tree trunk. The birds give an opportunity to watch on the flowering of the decidous trees like Kate Sawar, Palas and Pangera. The bats stay in the tall and large trees in day time. The seasonal migration of honey bees and some birds appear in the region.

3.10.3 Cultural Environment:

From thousands of years man live in the region and the ruined monuments show the imprints of the culture. Karad is the oldest town in the region, has 2300 years old history. Kshetra Mahabaleshwar has also ancient pilgrimage centre.

The forts on the hill tops and spur ends reveal the historic monuments and cultural heritage, having the history of more than 500 years old. The great Maratha King Chhatrapati Shivaji built the Pratapgad fort in 1656 A.D. on the main Sahyadri Crestline have become an important tourist place. The forest of Makarandgad, Mahiman gad, Vasota, Jangli Jaygad, Bhairavgad on the Crestline and Gunvantgad,

Gheradategad, Vasantgad on the spurs increase the beauty of the region. Konkan towards west attribute the forbidding beauty. The Koyana valley, towards east with the settlements and the terrace farming create scenic land scape.

The Koyana dam was constructed in 1962 in the region. The dam site, the Shivaji Sagar reservoir, the Neharu Udyan, Lake taping point, Pophali project, Alore project and Kolkewadi project are the cultural attractions and have greater tourist potentials.

The spurs in the region have greater wind power potentials some sites are developed on Bamnoli spur from Chalkewadi to Ghanbi. More than 450 wind mills produce 175 mega watt electricity (Plate 3, Photo 5). Bachuli-Gudhe Panchgani plateau have 55 wind mills produce about 25 mega watt Electricity. The roads are constructed within the wind mills zone.

3.11 ECOLOGY AND TOURISM IN THE REGION:

The region provides tremendous tourist potentials. The cliffs with steep terraced slopes towards the west. The Bombay point, the arthersheet point of Mahabaleshwar attract tourists and such type of points on the Crestline are found in large number. The Babukada and the deep valley between the two Vasota forts, a suitable site for Roap climbing and rope ways are also significant places. The tourists can enjoy the view of Koyana valley as well as the forbidding beauty of

Konkan side . The Nageshwar in the cave is becoming a religious place (Plate-1, Photo-2) visited by many pilgrims.

The waterfalls in the region have also greater tourist potentials. The region possesses a lot of water falls in which some are known to tourists. Dhobi fall of Mahabaleshwar, Ozarda fall of Navja are developed. But many others are hidden which can be developed in future.

The terrace slopes with small ampethaeters, the gorge at Dare, the valley in valley phenomenon of tributaries of Koyana, the plateaus of Kas, Vankusavade, Walmiki, Gudhe Panchgani, the Atoli-Panchagani are the tourist potentials. In addition, the river capture points at Urul of Thomse stream and stream of Kandat river captured by Jagbudi river stream of Konkan are important.

3.11.1 Climate and Tourism:

Climate plays an important role in tourism. A case study of Mahabaleshwar plateau shows that most of the tourists visit the place in summer months. But the region has greater tourist potential throughout the year. Rainy season provides the greenery and rain showers as well as the flowering patches at various places. The cold season with the flowering of trees create natural beauty which provides satisfaction to the tourists. The summer is worth for survival from heat and greenery of the region. The seasonal change in climatic elements play an dominant role

in floral and faunal wealth. It reveals that the climate of the region is a great attribute to the floral change.

3.11.2 Living Environment and tourism:

1. Flora and Tourism:

The region has greater floral potential. The Mahabaleshwar, being developed as hill station because of the height and abundant floral wealth. The region includes the Koyana wildlife sanctuary and Chandoli wild life sanctuary.

After the first monsoon shower in June the herbs growing and flowering from July. The plateaus of Kas, Chalkewadi, Vankusavade and the Crestline with the spurs have the patches of the herb flowering. The Kas plateau is occasionally visited by the tourists to admiring and enjoying the floristic wealth of the plateau. The region has many other places having similar beauty of flowers.

From mid September to November are the shrub flowering. The shrubs like Karvi create the valley of flowers. The shrubby flowering patches are observed in the region.

The months of December to February have the flowering season within the evergreen forests. The trees with blossom create scenery in the forests.

The summer months have the flowering season of deciduous trees. February and March are the months of flowering of Kate saver, pangera, Palas and Dhyati crates the natural beauty landform in lower

Koyana basin. April and May are the flowering months of Bava. The yellow flower garlands increase the beauty of the region.

2. Fauna and Tourism:

The region has great faunal wealth and the greater tourist potentials. While observing the forests, the ecological adjustment of the animals and insects may be seen. The honey combs observed in the hollows of the tree trunk. The ants built the home on the tree and on the soil with picular manner. The bird watching, the Kajava (Fire warm) light in June to October nights the Gava, Asval, Bibta (The Jien squarel) Shekar are the attractions of the region and these are the greater tourist potentials.

Since historic time the region is culturally rich. Karad is an oldest town in the region. Kshetra Mahabaleshwar is having pilgrimage importance. Agashiva caves near Karad town have architectural importance. The forts within the region reveals the historic significant of the region.

Mahabaleshwar is the hill station where tourists attract more. In the region Bamnoli spur, Walmiki plateau, Gudhe-Panchagani Spur, Atoli-Gudhe spur have favourable climate with plenty vegetal cover indicates greater tourists potential. Chalkewadi-Ghanbi belt on Bamnoli spur develops as new Mahabaleshwar. Maharashtra Government takes keen interest in developing this centre. Koyana Dam, Shivaji Sagar reservoir, Navja hydel power project, Helwak and Kolewadi hydel project, lake taping, Nehru Udyan, Wind mill farms provide greater potential for tourism because of technological development.

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