Sustainable Development in Ecotourism Destinations of Munnar : A Study

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Abstract

The term 'ecotourism' is generally used in the context of tourism in ecologically sensitive areas like the protected areas. Ecotourism has been formulated and studied as an instrument for sustainable and equitable tourism. Ecotourism is thought to encourage both conservation and development and synergistic relationships between tourism, biodiversity and local people. Overdevelopment of ecotourism has resulted in a series of problems which also degrade an environment. Natural resource attractions can be jeopardized through improper uses or overuse. Physical site alteration and disturbance of biota; removal and redistribution of materials; pollution; loss of biodiversity and a host of other problems result from unplanned and uncontrolled tourism development. It is in this context that zoning of ecotourism spots for development activities assumes importance. Proper identification of ecologically fragile areas based on ecosystem, biodiversity and landscape and topography patterns is the major subjective research that has to be undertaken to zone the destinations and state down guidelines for their pattern of development. Munnar, 'the Kashmir of South India' in Kerala has become a very popular ecotourism destination in recent times and is also suffering from unplanned and haphazard development. Hence, this paper reveals the use of zoning in ecotourism destinations taking the major tourism spots of Munnar as a case study.

KEYWORDS: Ecotourism, Zoning, Ecosystem, Biodiversity, Landscape and topography patterns

Introduction

Tourism today is one of the fastest growing industries in the world. It has made rapid advances in recent years. The growth of the industry is now recognized in each and every nation by governments as well as the private sector. Around the globe, eco-tourism is quickly becoming one of the most popular forms of vacationing. In an era of heightened environmental consciousness and accessibility to exotic locales, countries are busily promoting their natural resources as lures for tourists. The aim of Eco-tourism is to preserve the natural resources while also promoting them and accommodating volumes of tourists. Responsible 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 term 'ecotourism' is generally used in the context of tourism in ecologically sensitive areas like the protected areas. Ecotourism has been formulated and studied as an instrument for sustainable and equitable tourism. Ecotourism is thought to encourage both conservation and development and synergistic relationships between tourism, biodiversity and local people.

Tourism is an industry with enormous economic impacts. It is also an industry that has many environmental and social consequences. A thorough understanding of each component of the tourism phenomenon is essential so that those involved with planning,

management, and policy determination have a basis for decision-making. A goal of developing ecotourism in a community is maximizing selected positive impacts while minimizing potential negative impacts. Overdevelopment of ecotourism has resulted in a series of problems which also degrade an environment. Natural resource attractions can be jeopardized through improper uses or overuse. Physical site alteration and disturbance of biota; removal and redistribution of materials; pollution; loss of biodiversity and a host of other problems result from unplanned and uncontrolled tourism development.

It is in this context that zoning of ecotourism spots for development activities assumes importance. Proper identification of ecologically fragile areas based on ecosystem, biodiversity and landscape and topography patterns is the major subjective research that has to be undertaken to zone the destinations and state down guidelines for their pattern of development. This paper aims to use a subjective methodology to zone the major tourism spots in a destination so that they can be demarked for conservation or leisure purpose based on their importance. The methodology has been applied as a case study for tourism spots in and around Munnar, which happens to be the most popular and most developed hill station of Kerala.

Study Area

Overview

Munnar, located 5000 ft above MSL is a charming hill station surrounded by 12000 hectares of tea plantations. The towering Anamudi peak, the highest in South India looks over Munnar town.

Munnar Grama Panchayath was formed in 1961. The village was earlier called Kannan Devan Hills. The three hill streams Mattupetty, Kannanmali and Nallathanni flow through and join together in Munnar town giving the place its name ‘the land of three rivers’. The original inhabitants of Munnar are a group of tribals known as ‘Muthuvans’.

The history of Munnar begins in the middle of the 19th Century by Mr.John Daniel Munro, an adventurous Englishmen and Kannan Thevar, the tribal chief of Anchunadu, one of the earliest settlements of South India. After getting the permission from his Highness Maharaja of Poonjar for acquiring 588 square kilometers of land, with the assistance of Kannan Thevar, Mr.Munro and his companions visited the misty mountains and hills of Munnar. Immediately they understood that the place is best suited for plantations and the tea and cardamom belt around sprout up.

Physiographic features

Munnar is located in Iddukki district in Kerala state. The tourism zone of Munnar shares borders with Theni and Palani regions of Tamilnadu. Munnar falls within the high hill ranges of the Western Ghats. The region is a typical example of par-humid area where tropical climate has been remarkably modified by high altitude. The mean annual temp varies from 17.5o to 19.5o C.

The mean maximum temp is 25o C during March to May and the mean minimum temp is around 8oC during January. The area receives rainfall both from south-west and north-east monsoons, the first being more active. The mean annual rainfall ranges from 300cms in the western part of the area decreasing progressively to less than 100 cms in the north-eastern and the eastern parts (Resource Atlas 1984). The area offers picturesque

landscape of high hills which rise to more than 2000 m, dissected by deep steep valleys. All the valleys in area fall above an elevation of
1400 m. The highest mountain peak in Peninsular India 'Anaimudi' (2695 m) falls on the Northern boundary of Munnar Panchayath. The area around Munnar stands out as an elevated portion when compared with the surrounding Periyar plateau (Resource Atlas, 1984) In general the terrain is characterized by steep to very steep slopes.

Soil

Soils in the area are known by the common name forest loam which falls in the soil group Hapuldolls-Tropudalfs-Tropeptic Eutrorthox (Dept. of Agriculture, 1978; ICAR, 1982). This type of soil is developed in the eastern part of Kerala within the forests over the weathered Precambrian Crystallines. The top layer is highly enriched in organic matter. The soil is dark and reddish brown to black in colour. It is rich in nitrogen but poor in bases. The soil under forest cover is quite fertile and promotes prolific undergrowth. In denuded areas, the soil is highly susceptible to erosion.

Drainage

The drainage pattern in the Munnar and Devikolam Panchayats shows profound structural control with straight linear courses. The alignment of streams along certain linear directions further emphasizes fracture/lineament control. The diversity of stream directions like N-S, NE –
SW, E – W etc contrary to normal westerly streams with tributaries joining from north and south is a peculiarity noted in this plateau landform of the highland. The diversity in drainage directions in the high altitudinal zone may be due to the presence of remnants of an older drainage network which is constantly being captured and eliminated by the headword erosion of the prominent present day westerly drainage.

Land use

In all the Panchayaths under discussion the main land use is Tea Gardens. This entire area was originally covered by tropical evergreen forests and natural grass lands which gave place to tea gardens during the colonial period. However, the planters maintained strips of original forest vegetation in between estates and meticulously maintained the same during the colonial period.

Geology

The rock types in the area comprising the six Panchayaths belongs to the Precambrian crystallines forming part of the high-grade granulite terrain of South India. The major mappable,
lithological units in the area are migmatites, calc-silicate rock, granite gneiss, fissile gneiss and granite.

Structure

The area shows evidence of high grade metamorphism and multiple deformations. Except the
Granite all other rock types show well developed foliation.

Problems of overgrowth of Tourism in the study area

Munnar's surge from a quiet plantation town to a bustling tourist destination is a recent phenomenon. Today, Munnar enjoys the coveted position of the most important hill station of Kerala. The salubrious climate, enchanting natural beauty, unique biodiversity, splendid geographical attractions and vibrant cultural facets make Munnar very special among the travelers. A sudden spurt of tourism combined with haphazard developments in the name of tourism and allied infrastructure was the immediate outcome. Once a peaceful town known for its sprawling tea gardens, gurgling brooks, forests and grasslands has been converted into an urban concrete jungle today. (TDP Munnar; Kerala Tourism (June 2010).

Major issues faced by the tourism area include issues related to water supply, sewage, solid waste, energy, loss of green and natural spaces, urban sprawl, land degradation, traffic, transport, housing , space for public utilities and infrastructure, air pollution and noise. The consequential ill effects were not restricted to the environmental destruction alone but in a plethora of other forms like cultural degeneration, displacement of the original inhabitants, encroachment and spiraling price rise in almost every items, to name a few. Intervention is crucial to save Munnar from losing its glory forever. Of late, Munnar is prone to a large number of natural hazards.

These include flash floods, lightning, earth quake etc. The recent landslides during the last monsoon season around Munnar are a result of the uncontrolled growth of tourism infrastructure development.

Objectives of the study

The main objectives of the study include:

• Controlling and guiding developmental activities through zoning the tourism spots in Munnar and balancing the development through specific norms drawn for developmental activities.

• Tailoring tourism development in line with the unique characteristics and the natural attraction of the destination.

• Ensuring the conservation and preservation of its natural and cultural heritage value and also ensure visitor satisfaction and sustainable tourism development.

Approach and methodology

In this study, the focus is given on the conservation and preservation of the resources. This assumes relevance as the area is marked by fragile ecosystems and important cultural and historical endowments. Duly considering the ecological sensitivity and its vital relationship with tourism, the approach is to interconnect both for an organic and sustained relationship. This model initiates a detailed and objective assessment of the plan area and its various sub elements particularly on its tourism characteristics and related ecological sensitivity.

The methodology for the study began with an extensive assessment of the study area with respect to its inherent tourism characteristics and the combined ecological status. The information for both was collected through a systematic and exhaustive process with the aid of structured formats and participatory consultation with respect to its tourism characteristics, infrastructural scenario, land use pattern, institutional presence, population and settlements. Simultaneously a systematic mapping of tourism resources at the local level has also been carried out. The data on tourism resources were collected from both primary and secondary sources. The primary data collection was mainly done through a participative consultation process and secondary data from

a number of reference materials.

Criteria for zoning

Zoning can be defined as 'regulations that demarcate specific areas for different types of land uses and the development standards to be applied within each land use zone' (Inskeep 1991,
p.432). Ideally, all zones should be designated so that they occupy appropriate environments.

For the development of ecological index for each destination, the dynamic attributes which are specific to each tourist spot were taken – ecosystems, biodiversity (flora & fauna) profiles and landscape terrain attributes.

 Ecosystems – This include shoalas, grasslands, evergreen forests, deciduous forests, wetlands or water ecosystems and agro eco systems.

 Biodiversity – This include flora and fauna, species richness, species diversity index, species uniqueness and rating, recreational value and educative value of the tourist spots

 Terrain fragility analysis – Munnar region falls under a very fragile terrain, of Western Ghats, once covered by tropical grasslands and natural forests. Therefore, in this study, for all the identified tourism spots, evaluation of terrain has been done to know its fragility. This includes slope, relative relief, land use, drainage pattern, drainage density, land form and surface materials.

Appropriate scoring for all these attributes was done subjectively and a total weighted score of
100 was given for each of the three criteria. As such, the values obtained for ecosystem and biodiversity was grouped into three – high, medium and low. For terrain fragility, the categorization was into highly unstable, moderately stable and stable.

Category Ecosystem Biodiversity Terrain fragility
High > 60 > 60 > 60
Medium 40 – 60 40 – 60 40 – 60
Low < 40 < 40 < 40

1 Weightage scoring for each criterion

As seen from the table, the total weight awarded for each of the three criteria has been grouped into three categories – high, medium and low. The total average grade point value (AGP) was then calculated and this was converted to a scale from 0 to 1 and the destinations finally grouped into five zones.

Categorization of zones

The methodology was applied to ten major natural tourism attractions or micro destinations in and around the major tourism destination of Munnar. Manmade tourism attractions like religious shrines, museums and parks have not been selected for this study. Depending on the Average grade point value obtained for each site, they have been categorized into five zones – Core Conservation zone, Buffer Conservation zone, Ecotourism zone, Leisure tourism zone and Local recreation zone, from high to low scale.

No. Zone AGP Value
(0 – 1 scale)
1 Core Conservation Zone 0.8 – 1.0
2 Buffer Conservation Zone 0.6 – 0.79

3 Ecotourism Zone 0.4 – 0.59
4 Leisure Tourism Zone 0.2 – 0.39
5 Local Recreation Zone 0 – 0.19
Table 2 – Categorization of Zones

Findings of the study

The attractions taken are located in and around Munnar and fall in Munnar and Devikulam
panchayaths. A few attractions are located in Chinnakanal and Pallivasal panchayaths. As mentioned in the methodology, all the natural attractions selected were studied with the three criteria and its categories. Each of the criteria was given the scores subjectively and finally tabulated to total average and AGP value was given. The details have been summarized in the table below.

No. Name of the Tourism attraction AGP Value Name of Zone
1 Attukad Waterfalls 0.58 Ecotourism Zone
2 Chokramudi 0.68 Buffer Conservation Zone
3 Devikulam Lake 0.63 Buffer Conservation Zone
4 Eravikulam National Park 0.97 Core Conservation Zone
5 Gap View / Anayirankal / Powerhouse Waterfalls 0.18 Local Recreation Zone
6 Kallar Waterfalls 0.49 Ecotourism Zone
7 Kundala Dam 0.32 Leisure Tourism Zone
8 Lakkom and Nyamakad Waterfalls 0.63 Buffer Conservation Zone
9 Mattupetty Dam and Echo Point 0.35 Leisure Tourism Zone
10 Pothamedu View Point 0.30 Leisure Tourism Zone
11 Rhodo Valley 0.87 Core Conservation Zone
12 Viewpoints on Pallivasal Road 0.15 Local Recreation Zone
Table 3 – Zoning of Tourism attractions

Maximum conservation and minimum tourism has to be permitted in the Core Conservation
Zone followed by Buffer Conservation Zone. Ecotourism activities and educational activities can
be permitted in Ecotourism Zone. The last two zones, Leisure Tourism Zone and Local Recreation Zone can be mostly used for tourism activities as it falls under the least fragile environment. Based on this study, basic guidelines for each of the zones for a sustainable balance between tourism and environment have been given.

 Core Conservation Zone: This represents spots which are ecologically sensitive. All such areas should be devoid of all kinds of tourism interference including tourism infrastructure. The whole focus should be on conservation and preservation.
 Buffer Conservation Zone: These are normally characterized by fragile environment. However, minimal tourism with a conservation focus can be entertained in these areas. No infrastructural development should be permitted here also.
 Ecotourism Zone: In such spots ecotourism can be allowed, however planned and regulated. The development of minimum basic infrastructure and amenities are permitted at the node which involve eco friendly structures like basic camping facilities, thatched

roof cottages, tree top huts etc. Activities like trekking, camping, angling, adventure activities etc. will be given priority here with controlled tourist numbers at a given time.

 Leisure Tourism Zone: These attractions represent locations less significant from its ecological perspective and hence better suited for infrastructural developments. They can accommodate more tourists and permanent constructions.

 Local Recreation Zone: The areas under this zone are least important from ecological point of view. They serve as picnic spots or are meant for mass tourism projects and infrastructural developments. The tourism focus should be one leisure and entertainment facilities with accommodation, ancillary services, etc.

Conclusion

Earth has provided us with splendid nature and plenty of resources. Nature has the power to soothe the soul and the body. As such, nature based ecotourism is the buzz word round the world today. Ecotourism should be promoted in order to maximize its economic, environmental and social benefits while avoiding its past shortcomings and negative impacts. Zoning is a best solution for ensuring sustainable and long lasting development of any nature based tourism destination. The study can be modified and applied to the case of other similar destinations also.

If some ecologically sound measures and alternative development based on sustainability is not applied to environment, there may arise several serious uncontrollable ecological hazards which may become responsible for the extermination, extinction and devastation of human race from the planet Earth. We have to preserve and conserve our 'Mother Earth', its land forms, culture and heritage not only for us but also for the coming generations. More and more studies in this area are welcomed and this paper may serve as a key for the studies to follow

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