

## IDENTIFYING ENVIRONMENTALLY-CONSCIOUS SEGMENTS OF TOURISTS TO THE BIODIVERSITY-RICH DESTINATIONS OF NORTH-EAST INDIA

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*Destinations with rich biodiversity can provide an enriching experience to tourists. However, such areas are faced with concerns about depletion of natural resources and tourism may have negative impacts on biodiversity. For areas such as the 'biodiversity hotspot' North-east India sustainable tourism offers an opportunity in terms of conservation of biodiversity and sustainable use of its components. The concept of 'market-driven' sustainable tourism, aims at attracting tourists who have an environment-orientation. The purpose of this study is to identify segments of tourists visiting North-east India that display sensitivity to the natural environment. A combination of hierarchical and k-means Cluster analysis has resulted in three segments – passive players, environmentally-conscious tourists and sustainable tourists. These have displayed significant differences with regard to demographics, travel-related variables and vacation preferences. The results have interesting implications for destination marketers who may gain useful insights regarding the environment-conscious segments of tourists to this biodiverse region of the country.*

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Environmentally-conscious tourists, north-east India, market segments, cluster analysis.

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### INTRODUCTION

The earth is, indeed, a fascinating place with an amazing diversity of life. It is this wide variety of life forms that makes up biodiversity. In specific terms, biodiversity refers to the number, variety and population sizes of living species in their various physical habitats (Wilson and Peter, 1988). There is no arguing the fact that the biodiversity of this earth not only makes the world a wonderful place to live in but also plays a crucial role in its very survival. Yet, in recent times, there have been growing concerns about the loss of biodiversity and the depletion of our natural resources (Christ et al. 2003). The case of South Africa which has an extremely rich biodiversity may be cited in this regard. Even though natural resources contribute significantly to the country's economy and are the basis of millions of people's livelihoods, yet South Africa's biodiversity is one of the most threatened in the world (Huntly et al., 2005).

There is general agreement about the need for conservation efforts, however, there are constraints regarding the resources for conservation. Such constraints make it imperative to set priorities and focus on critical areas where the needs are greatest. According to the 'hotspots' approach, those areas that feature exceptional concentrations of endemic species and that face exceptional threat of imminent habitat destruction, are identified as hotspots for conservation. 25 such biodiversity hotspots have been identified in the world (Myers, 2001). One human activity that has potential impacts on biodiversity is –

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tourism. Indeed, biodiversity and tourism have close links, each affecting the other. This is explored in the following section. The paper then goes on to discuss the role of sustainable tourism development particularly in the case of bio-diversity rich yet vulnerable regions such as North-east India. Tourism promotion is desirable for the economy of the region but due consideration has to be given to attract the right kind of tourist viz. tourists that display sensitivity to the natural environment. The present study therefore tries to identify environmentally-conscious segments of tourists to North-east India and delineate their profiles to gain an improved understanding regarding them.

## **LITERATURE REVIEW**

### ***Biodiversity and Tourism***

Destinations with a rich biodiversity can provide an enriching experience to visitors. In fact, biodiversity is the major attraction in a number of biodiversity hotspot developing countries (e.g. Madagascar, Costa Rica, Belize) (Christ et al., 2003). The principal attraction for tourists in areas such as the Silent Valley National Park in Kerala in India is biodiversity (Somanathan, n.d). However, while biodiversity of destinations enhances the tourism experience, tourism, too; can have several positive and negative impacts on biodiversity. This gives tourism an ambivalent position in relation to biodiversity. Tourism impacts comprise those arising from its three components – transport, accommodation and recreational activities – and should take into account not just the impacts of construction and maintenance of tourism infrastructure but also use of those facilities by tourists (Duim and Caalders, 2002). Though tourism can be attractive for developing countries, yet there are negative social, economic and environmental impacts such as undermining social standards, cost of importing special amenities like vehicles, impacts on environment by building tourist infrastructure such as hotels and polluting the natural environment (Lea, 1988). In fact studies have pointed out the adverse social and cultural effects of mass tourism in developing regions (Zurick, 1992). It must be realized that when the tourism industry depends on the uniqueness of the environment, as in Egypt's Red Sea Coast, the resources must be protected to continue to draw tourists (Hassan, 2000).

### ***Sustainable Tourism Development***

Interestingly however, though there have been many discussions on the negative impacts of tourist activities, yet, at the same time, different writers have pointed out the potential benefits of tourism. It has been pointed out that tourism can contribute to the prosperity of regions through economic benefits such as foreign exchange earnings, contribution to government revenues, generation of employment and income, and stimulation of regional development (Jithendran, 2002). However, the negative impacts of tourism often raise legitimate concerns. Increasingly there is recognition that uncontrolled growth in tourism aiming at short-term benefits often results in negative impacts, harming the environment and societies, and destroying the very basis on which tourism is built and thrives. Hence, there has been a growing emphasis on sustainability. The principle of sustainable tourism was proposed as early as 1988 by the World Tourism Organization, with sustainable tourism “envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems” (WTO, 2002).

It has been pointed out that travel and tourism is able to contribute to development which is economically, ecologically and socially sustainable, because it (a) has less impact on

natural resources and the environment than most other industries, (b) is based on enjoyment and appreciation of local culture, built heritage, and natural environment, as such that the industry has a direct and powerful motivation to protect these assets; (c) can play a positive part in increasing consumer commitment to sustainable development principles through its unparalleled consumer distribution channels; and (d) provides an economic incentive to conserve natural environments and habitats which might otherwise be allocated to more environmentally damaging land uses, thereby, helping to maintain bio-diversity (WTTC and IH&RA, 1999). In the same vein, it has been argued that tourism may lead to an increased appreciation of the value of nature, which will encourage public support for the protection of biodiversity (Duim and Caalders, 2002).

It has been argued that the contribution of tourism towards poverty alleviation, natural and cultural heritage, and to overall sustainable development, is regarded as especially significant in developing countries where natural resources and landscapes are still relatively untouched and where few other economic activities have a sustainable development potential, from an economic or environmental perspective (WTO, 2002). In this regard Zurick (1992) cites the example of Nepal's Khumbu Sherpa ceremonies, such as Mani Rimdu festival at Thyangboche Monastery, that have attracted international recognition and have helped in financing the reconstruction of local religious sanctuaries. Somanathan (n.d.) contends that while biodiversity per se may not be the attraction for most tourists visiting areas with high biodiversity, their willingness to pay for the preservation of such areas in their 'natural' state or for the survival of some charismatic species of birds and animals means that habitat protection for these species has a market demand and biodiversity conservation thus finds a source of finance. According to Huntly et al. (2005), tourism has emerged in many countries (developing countries, in particular) as a means of providing the financial resources needed to conserve biodiversity, as well as increasing employment and providing foreign exchange. In their opinion, tourism may have a role in building public support for biodiversity and in helping to fund its conservation. Kiss (2004) discusses Community-based Ecotourism as a means for promoting conservation efforts. In her view, the attraction of CBET is the prospect of linking conservation and local livelihoods, preserving biodiversity whilst simultaneously reducing rural poverty, and of achieving both objectives on a sustainable (self-financing) basis.

The present study is regarding one unique region in India - the North-eastern region - which has an enviable heritage of biodiversity. The following section provides an overview of its biodiversity profile and thereafter explores the possibilities with regard to encouraging sustainable tourism development in the region.

## **STUDY BACKGROUND AND OBJECTIVES**

### ***Biodiversity of North-east India***

Situated in the eastern most corner of India, the North-east region comprises of eight states namely - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. After the Andaman and Nicobar Islands and the Western Ghats, North-east India forms the main region of tropical forests in India, especially the species-rich tropical rain forests (Ramakantha et al., 2003). This region represents an important part of the Indo-Myanmar biodiversity hotspot, which is one of the 25 hotspots of the world. Significantly, this is included among the eight 'hottest' hotspots (Myers, 2001).

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The region has lush forest cover. According to an official estimate based on satellite images (survey report of Forest Survey of India), northeastern region has 1, 63,799 sq. km of forest, which is about 25% of the total forest cover in the country (Roy and Joshi, 2002). 51 forest types are found in the region broadly classified into six major categories viz., tropical moist deciduous forests, tropical semi evergreen forests, tropical wet evergreen forests, subtropical forests, temperate forests and alpine forests.

The region has diverse habitats, which support a variety of flora, fauna and avian life. The striking feature of the flora of North-east India is the presence of many primitive flowering plants and about one third of the flora of North-east India is considered to be endemic to this region. Orchids, believed to have evolved in this region, form a very noticeable feature of the vegetation here. North-east India supports some of the rarest, least known and most sought-after birds of the Oriental Region. More than 400 species of birds are recorded from Kaziranga National Park alone in Assam and although not thoroughly explored, the State of Arunachal Pradesh has a record of 665 species of birds. (Chatterjee et al., 2006). There are many National Parks and wildlife sanctuaries of outstanding natural beauty in the various states of the region. The region has four biosphere reserves, 48 sanctuaries, 14 national parks, and two world heritage sites (Yumnam, 2008). Though blessed with ample resources, yet, unfortunately this region faces various threats to its biodiversity. Three major factors that threaten the biodiversity of this region are; over-exploitation, habitat loss and fragmentation (Roy and Joshi, 2002). The conservation of the region's natural ecosystems and biodiversity poses a major challenge particularly since it is one of the least developed regions of the country. It is in this context that the role of tourism assumes importance.

### ***Sustainable Tourism Development and North-east India***

Though very rich in tourism resources, North-east India is one of the least developed regions in the country – economically and industrially. The economy of the region is primarily agrarian. Industrially, this continues to be the most backward region in the country, and the states of the region hardly have any industrial base, except perhaps Assam, because of its traditional tea, oil and wood based industries. To some extent Meghalaya has made some headway in setting up of small and medium industries. It is felt by many that labor-intensive industries such as tourism should be encouraged in the region, which would contribute to the development of the region's economy. However, according to available figures, the North-eastern region (excluding Sikkim) accounted for less than 1 percent of domestic tourist arrivals during the years 2002 through 2004. In terms of foreign tourist arrivals the region accounted for around 0.7 percent during the years 2003 and 2004 (MOT, 2004; FHRAI, 2007). This is surprising since the region has such diversity of offerings in terms of natural and cultural attractions.

In many biodiversity-rich developing countries of the world, travel and tourism has emerged as a significant industry. Increasingly, wildlife and its habitats in the biologically rich areas of the developing world are becoming popular tourist destinations with growing numbers of people flocking to the mountains of Nepal and Madagascar, the

tropical forests of Costa Rica and Thailand and the beaches of Belize and Sri Lanka. Notably, in countries like Nepal, Madagascar and Thailand, attempts have been made to encourage new livelihoods including nature tourism based employment to discourage encroachment into protected national parks for hunting, logging and farming; as part of the USAID supported integrated conservation and development activities (USAID, 2002). Keeping this in view, it has been recognized that, notwithstanding possible negative impacts, tourism based on the natural environment does present a significant potential for realizing benefits in terms of the conservation of biological diversity and the sustainable use of its components. It may, therefore, be reasonable to state that tourism development in the North-eastern region, with due consideration to sustainability, could actually usher in an overall development of the economy, benefit the local populace and even provide the resources for conservation of biodiversity in the long run. For the purpose, the destinations of the region will have to be marketed effectively through adoption of appropriate marketing strategies.

#### *Attracting 'Desirable' Segments of Tourists*

To increase the inflow of the right kind of tourists into the North-east India region, the destinations need to be marketed effectively using appropriate marketing strategies. It has been pointed out in the literature that to remain competitive, major world-class destinations are diversifying to attract those segments of tourists who have an environment-orientation (Hassan, 2000). Likewise, according to Dolnicar (2004), the USP of some destinations is their natural beauty and the optimal target segment for such a destination would be a group of tourists who not only seek to experience natural beauty but also wish to preserve it. In his article, Singh (2002) suggests certain ways through which some of the problems associated with mass tourism and pilgrimage in the Indian Himalayas can be managed. These include: travel regulation, education of visitors, marketing of alternative destinations and targeted marketing aimed at desirable types of tourists. He further opines that preference for certain types of tourists with specific behavioral characteristics has to be expressed through suitable educational and marketing techniques.

In fact, Hassan (2000) urges tourism researchers to correctly identify and thoroughly understand the changing motivations of the environmental travel segment. He refers to the concept of 'market-oriented' or 'demand-driven' sustainable tourism which implies targeting those travel segments that exhibit similar environmental behavior. According to him, visitors are becoming highly involved in making travel decisions based on the expectation of experiencing quality tourism that maintains the environmental integrity of the destination. This sentiment is echoed by Dolnicar (2004), according to whom 'an excellent market-driven way to successfully implement sustainable tourism in a destination is to find a segment of tourists or potential tourists interested in the unique natural beauty of the destination, willing to preserve it, and who are also highly attractive in terms of high expenditures, long stays, high return rate, high recommendation rate etc.' It is becoming critical for tourism researchers to correctly identify and thoroughly understand the environmentally-conscious tourist segments.

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The present study, therefore, tries to identify such segments of 'desirable' tourists from among the leisure travelers visiting the varied destinations of North-east India. It may be noted here that there is hardly any available literature related to tourism marketing in this region of India. Of the few that may be found (such as Panda, 2000; Nazir, 2002; Sarma, 2002; Bhattacharjee, 2003; Sarma, 2004, Dey and Sarma, 2010), none deal with the above mentioned aspect of tourism marketing i.e. identification of environmentally conscious segments of tourists.

### ***Study Objectives***

The broad purpose of the study is to gain an understanding of those segments of tourists visiting North-east India that display an interest in the natural environment and its preservation and to examine their profiles and vacation preferences. Specifically, the objectives are:

- (a) To identify segment(s) of environmentally-conscious tourists visiting North-east India
- (b) To assess the profiles of these segment(s) based on demographic and travel/trip-related variables
- (c) To examine the vacation preferences of the environmentally-conscious tourist segment(s)

### **METHODOLOGY**

The present study utilizes primary data that had been collected through a sample survey (n=509) of tourists in North-east India during the period October 2006 - January 2007. A self administered questionnaire was used to collect the data. To fulfill the objectives of the present study, a few questions were drawn from this questionnaire. These questions elicit information on variables that would assess the importance attached by travelers to nature and environment and sustainable attitudes. The variables had been included based on a review of extant literature. For example, in a study of sustainable tourists in Austria, Dolnicar (2004) used the statement 'On holiday the efforts to maintain unspoiled surroundings, play a major role for me' as an indicator of sustainable attitudes. This statement has been slightly modified and included as a variable in the questionnaire. Thus, to derive the traveler segments, visitors were asked the question: 'When you are visiting a place, how important are the following factors to you?' and they were required to indicate their responses regarding each of the three variables - 'pleasant and unpolluted environment', 'efforts on my part to maintain unspoiled surroundings' and 'the quality of a destination's natural environment'. Responses to these were measured using 5-point importance scales. Further, in order to profile the segments derived thus, demographic variables such as age, marital status and gender as well as some travel/trip-related factors like travel frequency, trip duration, travel expenditure and travel experience have been included. To fulfill the third objective, a list of 15 vacation ideas was included in the study and respondents were required to indicate their preferences on 5-point preference

scales. The questionnaires were administered in English to tourists (both foreign and domestic) visiting different destinations of Northeast India. The locations from which the data was collected were: Dibrugarh, Guwahati, Kaziranga National Park, Majuli, Nameri National Park, Shillong and Tezpur.

### ANALYSIS OF DATA

The data has been analyzed using SPSS for Windows. In order to derive the segments of tourists, Cluster Analysis has been used in the present study. As it has been suggested that hierarchical and non-hierarchical methods be used in tandem to complement the benefits of each (Kang et al., 2003), therefore, in this study too such an approach has been followed. An initial clustering solution is obtained using a hierarchical procedure and then the number of clusters so obtained is used as input to the non-hierarchical k- means clustering procedure used next. Thus, a hierarchical method using squared Euclidean distance and the Ward's procedure has been used here. From an inspection of the Agglomeration schedule, a three-cluster solution seemed appropriate. So, a non-hierarchical k-means cluster analysis has been run pre-specifying three clusters. Table 1 shows the final clusters. A description of each of the three segments is provided in the following section.

**Table 1: Final Clusters**

<b>Variables/Segments</b>	<b>Passive Players</b>	<b>Environment ally-conscious Tourists</b>	<b>Sustainable Tourists</b>
Pleasant and unpolluted environment	4.21	2.75	4.72
Efforts on my part to maintain unspoiled surroundings	2.01	1.25	4.78
The quality of a destination's natural environment	4.24	1.24	4.40

#### *Segments of Tourists*

##### *a. Passive Players (n=184)*

Apparently, this is a group of relatively less eco-conscious tourists as they have the lowest scores on all the dimensions amongst all the three segments. Within the segment itself, the travelers attach the highest importance to 'pleasant and unpolluted environment' out of the three dimensions. Since they seem less concerned about the natural environment as well as their role in preserving it, therefore, this group of travelers may at best be referred to as the 'passive players' out of the three segments of leisure travelers derived in this study.

##### *b. Environmentally-conscious Tourists (n=211)*

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This is the largest segment. Among the three groups of tourists, this segment attaches the highest importance to the dimensions ‘pleasant and unpolluted environment’ and ‘quality of a destination’s natural environment’. However, they have lower scores on the variable ‘efforts on my part to maintain unspoiled surroundings’. This shows that while this group is interested in a pristine natural environment and are much more environmentally-conscious than the ‘passive players’, yet, they don’t seem that concerned about their own contribution towards maintaining such an environment. However, this would represent a lucrative group of tourists from the marketers’ perspective considering its size and environmental orientation.

*c. Sustainable Tourists (n=97)*

This group, the smallest of the three, may actually be a very desirable segment of tourists considering the fact that they attach the highest importance to the variable ‘efforts on my part to maintain unspoiled surroundings’ among all the segments. This shows that they are sensible to their responsibility towards the natural environment and hence represent a comparatively sustainable group of tourists. They also display interest in ‘pleasant and unpolluted environment’ (the next highest score out of the three variables within the segment). So, these tourists prefer unspoiled surroundings and also want to contribute their part in maintaining the same.

**Profiles of Segments**

In order to profile the above-mentioned segments a set of socio-economic and demographic were used. For the purpose, cross-tabulation analysis has been used. The Pearson’s chi-square statistic has been employed to assess whether there were any statistical differences between the segments. It may be observed from Table 2 that significant differences (at the .05 significance level) were found to exist on the variables age, travel frequency, travel expenditure and travel experience. However, no such differences were found on the variables gender, marital status, occupation and trip duration.

**Table 2: Pearson’s Chi-square for Socio-economic and Demographic variables**

<b>Variables</b>	<b>Pearson’s Chi Square</b>	<b>Sig.</b>
Age	25.677	.004
Gender	10.102	.202
Marital Status	11.065	.073
Travel Frequency	31.064	.000
Travel Expenditure	32.808	.000
Trip Duration	15.573	.103
Travel Experience	56.237	.000

Occupation	12.049	.061
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As far as age is concerned, the majority of people in the segment ‘Passive Players’ are in the age range ‘26-35’, those in segment ‘Environmentally-conscious tourists’ are mostly in the category ‘56-65’ while majority among the ‘Sustainable tourists’ are in the age range ‘46-55’. With regard to travel frequency, it has been found that the majority of ‘Passive Players’ travel ‘once a year’ those among the ‘Environmentally-conscious tourists’ mostly travel ‘at least twice a year’ and the majority within the group ‘Sustainable tourists’ travel ‘more than twice a year’. Regarding the variable travel experience, the results show that in both the segments ‘Environmentally-conscious tourists’ and ‘Sustainable tourists’ the majority of people have traveled in ‘more than 20 places’ whereas the ‘Passive Players’ have mostly see ‘between 6 and 7 places’ or ‘between 11 and 20 places’. As far as travel expenditure is concerned, the results show that both the groups ‘Environmentally-conscious tourists’ and ‘Sustainable tourists’ have a median expenditure of ‘between Rs. 1000- Rs.1500’ (per day per person) while the ‘Passive Players’ have a median expenditure of ‘between Rs. 500-Rs.1000’ during the trip.

Thus, it may be summarized that the ‘Passive Players’ are relatively younger, the ‘Sustainable tourists’ comparatively older while the ‘Environmentally-conscious tourists’ are the oldest of the lot. The ‘Sustainable tourists’ are the most frequent travelers and the ‘Passive Players’ are the least frequent, and, both the segments ‘Environmentally-conscious tourists’ and ‘Sustainable tourists’ have higher travel exposure/experience compared to the ‘Passive Players’. Again, it is interesting to note that both the groups ‘Environmentally-conscious tourists’ and ‘Sustainable tourists’ have incurred relatively higher expenditures during the trip in comparison to the ‘Passive Players’.

### ***Vacation Preferences of Segments***

The segments were next examined with regard to their vacation preferences using one-way ANOVA. For those of the 15 vacation preference variables in which the test of homogeneity of variances could not establish homogeneous variance, the Bonferroni post hoc test has been examined whereas for the rest the results of the Games-Howell post hoc test were examined. There were significant differences (at the 0.5 level of significance) between segments 1 and 3 and segments 2 and 3 on all the 15 vacation ideas under study. However, no significant differences were found between segments 2 and 3 on any of the dimensions except one (visiting friends and relatives). This shows that the two ‘desirable’ segments of tourists (from the eco-consciousness perspective) have similar preferences for vacation destinations/ideas. It may be observed from Table 3 that out of all the 15 vacation ideas, the top five preferences for both the segments ‘Environmentally-conscious tourists’ and ‘Sustainable tourists’ are: visiting places with scenic beauty, observing wildlife in its natural habitat, visiting national parks/forests, visiting wilderness and undisturbed areas, and finally, visiting mountains.

**Table 3: Vacation Preferences of Segments**

Variables/Segments	Passive Players	Environmentally-conscious Tourists	Sustainable Tourists
Visiting places with scenic beauty	3.146	<b>4.575</b>	<b>4.059</b>
Going on pilgrimages	1.703	2.342	2.118
Visiting sites of historical/cultural and archaeological interest	2.373	3.565	3.225
Visiting mountains	2.266	<b>4.005</b>	<b>3.294</b>
Visiting wilderness and undisturbed areas	2.000	<b>4.187</b>	<b>3.382</b>
Visiting museums	1.905	2.824	2.412
Attending festivals and special cultural events	1.816	2.927	2.431
Cruise	1.430	2.554	1.559
Attending sports events/participation in sports activities	1.335	1.881	1.373
Visiting commemorative places	1.405	2.378	1.755
Visiting National parks/Forests	2.513	<b>4.285</b>	<b>3.645</b>
Visiting Friends/Relatives	1.968	2.425	2.167
Enjoying sun and water	1.652	3.409	2.422
Winter vacation in warm areas	1.538	2.466	2.314
Observing wildlife in its natural habitat	2.475	<b>4.440</b>	<b>3.873</b>

## CONCLUSIONS AND DISCUSSION

Many of the biodiversity-rich regions of the world are faced with threats to their biodiversity caused by increased human activity and population growth. There are growing concerns about the overexploitation of biological resources and degradation of ecosystems. Tourism is considered as one such activity that has several negative impacts on the environment. However, proponents of the concept of sustainable tourism development feel that it has the potential to offset some of the negative impacts and provide an impetus to conservation efforts. It has been argued that travel and tourism is able to contribute to development which is economically, ecologically and socially sustainable and is particularly relevant for some of the high-biodiversity developing countries. North-east India represents one such region that is recognized as a biodiversity 'hotspot'. It has, therefore, been proposed that tourism development in the region, with due consideration to sustainability, could actually augur well for the economy while also presenting a significant potential for conservation of biological diversity and the sustainable use of its components. In keeping with the concept of 'market-oriented' or 'demand-driven' sustainable tourism suggested by some researchers, it may be worthwhile to increase the inflow of the 'right' kind of tourists to the region – those that exhibit a sensitivity to the natural environment. Hence, the basic purpose of the present study was to gain an understanding of those segments of tourists visiting North-east India that display an interest in the natural environment and its preservation and to examine their profiles and vacation preferences.

Results indicated the existence of three distinct segments of tourists to the region: 'Passive Players', 'Environmentally-conscious tourists' and 'Sustainable tourists'. Clearly, from the perspective of destination managers and marketers of North-east India the latter two segments i.e. 'Environmentally-conscious tourists' and 'Sustainable tourists' would evince interest considering their concern for the environment which would qualify them as desirable tourists. The 'Environmentally-conscious tourists' which is the largest segment is definitely interested in a pristine natural environment but they don't seem too concerned about their own contribution towards maintaining unspoiled surroundings. The 'Sustainable tourists', on the other hand, (though the smallest segment) not only prefer unspoiled surroundings but also want to contribute their part in maintaining the same and hence the name. On examining their profiles it has been seen that the 'Environmentally-conscious tourists' are relatively older than the 'Sustainable tourists' and are comparatively less frequent travelers than the 'Sustainable tourists'. But in terms of travel exposure and travel expenditure both segments are similar. It would be useful for destination marketers to gain an understanding of these two lucrative segments.

Moreover, it has been found that the top five vacation preferences of both the segments 'Environmentally-conscious tourists' and 'Sustainable tourists' are: visiting places with scenic beauty, observing wildlife in its natural habitat, visiting national parks/forests, visiting wilderness and undisturbed areas, and finally, visiting mountains. This may be a significant finding from the point of view of the destination marketers since a matching of tourist preferences with destination attractions/resources represents an ideal opportunity. North-east India indeed boasts of attractions that would afford the

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opportunity to its marketers to offer to its target market such experiences that keep their distinct preferences in mind. It may be noted that most of the north-eastern states still remain in virgin isolation prompting the Ministry of Tourism to refer to this region as 'paradise unexplored'. Lack of industrial development in the region has been a blessing in disguise as it still retains intact its pristine vistas, diverse tribal heritage and exotic geographical features. This in itself presents a special attraction for those discerning travelers who wish to imbibe the joys of being in a unique, unspoiled region hitherto untouched by the effects of excessive industrialization and pollution. Endowed with dreamy mountains, lush green valleys, enchanting lakes and lovely waterfalls; North-east India is replete with scenic natural attractions and is definitely a delight for all nature lovers. As mentioned earlier, there are many National Parks and wildlife sanctuaries of outstanding natural beauty in the various states of the region. Thus, this region offers ample scope for nature trips and safaris, for observing wildlife and bird-watching.

In order to attract the two 'desirable' groups of tourists identified in this study, i.e. 'Environmentally-conscious Tourists' and 'Sustainable Tourists', tourism marketers may design and develop specific travel packages as well as promotional efforts to cater to their interests and to appeal to them. Such packages may incorporate special bird-watching tours that provide a glimpse of the region's avian wealth, guided tours to national parks/wildlife sanctuaries that provide opportunities to study and observe wildlife in their natural habitats as well as visits to areas that rich in orchids and other flora. Learning or educational tours that offer knowledge of the region's biodiversity while simultaneously pointing out the threats to species and habitats may also have a unique appeal for some of these sustainable tourists. Communication efforts need to highlight the region's rich biodiversity – its species richness, the diverse habitats and unique variety of flora, fauna and avian life. Since, both segments place great emphasis on a pristine environment, all communications directed towards this segment should incorporate this aspect as the highlighting feature of North-east destinations. In communicating to these people, the messages may include testimonials from like-minded environmentally conscious people interested in natural destinations. Another aspect that may be borne in mind by destination marketers in designing their communications is that these groups comprise relatively older people (majority of 'Environmentally-conscious Tourists' are between 56-65 years and those among 'Sustainable Tourists' are between 46-55 years). Messages that are mature in content may be useful in reaching these people. Besides, particularly for the 'Environmentally-conscious Tourists' the specific needs/facilities required for older people may be included while designing tour itineraries and packages.

This exploration represents a preliminary effort towards examining the inter-relationships between biodiversity and sustainable tourism in North-east India. It does suffer from some limitations mainly due to the fact that only a limited number of variables were utilized in effecting the segmentation and profiling task since the data was drawn from a questionnaire used in a previous broad research effort. Future studies may explore various other dimensions of such a relationship both from a marketer's as well as the destination managers' and policy-makers' point of view. For example, further research may be

undertaken to explore the tourists' attitudes towards local communities, their interest in local culture as well as their willingness to help in sustaining the livelihoods of such communities. The extent of interest in and interaction with local communities, who are also important stakeholders, needs to be investigated. Further, studies may probe the willingness of tourists to pay enhanced fees to national parks etc. so as to contribute towards conservation funds. Findings from such studies may be useful in assessing the practical utility/implications of attracting sustainable types of tourists to the region as a tangible step towards preserving its biodiversity. Besides, future studies may also explore host communities' attitudes towards the development of sustainable tourism in the region in order to gauge whether it actually leads to an increased appreciation of the value of nature and helps in garnering public support for the protection of biodiversity. Finally, as sustainable tourism development is generally viewed as having a triangular relationship between host areas (including both social and natural environments), tourists and tourism industry, therefore, the role of tourism industry in ensuring its growth needs to be studied.

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