

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

NATURE-BASED TOURIST BEHAVIOR AND THE CONSERVATION OF
NATURAL RESOURCES: THE CASE OF ITACARE IN THE BRAZILIAN
ATLANTIC FOREST

DISSERTATION

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
OF THE MASTER'S IN ENVIRONMENTAL SCIENCES

BY

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UNIVERSITÉ DU QUÉBEC À MONTRÉAL

LES COMPORTEMENTS DES TOURISTES EN MILIEU NATUREL ET LA
CONSERVATION DES RESSOURCES NATURELLES : LE CAS D'ITACARE EN
FORÊT ATLANTIQUE BRÉSILIENNE

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TABLE OF CONTENTS

LIST OF FIGURES.....	vii
LIST OF TABLES.....	viii
RÉSUMÉ.....	x
ABSTRACT.....	xi
INTRODUCTION.....	1
CHAPTER I	
METHODS	6
1.1 Study Purpose.....	6
1.2 Perspective of Analysis	7
1.3 Study Design and Approach.....	9
1.4 Study Strategy	11
1.5 Target Population and Sample.....	13
1.6 Data Collection Methods and Instruments	16
1.7 Data Collection Procedure.....	20
1.8 Data Analysis.....	22
1.9 Ethical Issues.....	23
CHAPTER II	
SUSTAINABLE NATURE-BASED TOURISM.....	24
2.1 Brief history of the concept of Sustainability.....	24
2.1.1 Achieving Sustainability.....	27
2.1.2 Sustainability Hierarchy	30
2.2 Nature-Based Tourism.....	32
2.2.1 Nature-Related Tourism Terms	33
2.3 Sustainable Nature-Based Tourism	41
2.4 Nature-Based Tourism and the Case of Itacare, Brazil	44
2.4.1 Tourism in Brazil.....	44
2.4.2 Nature-Based Tourism in Brazil.....	46
2.4.3 Nature-Based Tourism in Itacare.....	48

2.4.4 Itacare’s Nature-Based Tourism Sector Representatives participating in this Study	51
2.4.5 The Definition of Nature-Based Tourism, Ecotourism and Sustainable Tourism in Itacare	54
2.5 Conclusion.....	59
CHAPTER III	
NATURE-BASED TOURIST BEHAVIOR	60
3.1 Tourists and the Environment: Leaving more than a Footprint Behind	60
3.2 Tourist’s Adaptation to Local Norms	62
3.2 Tourist’s Motivations and Expectations	65
3.3 Tourist Types.....	75
3.3.1 Tourist’s Environmental Commitment	78
3.4 Case Study Analysis	80
3.4.1 Tourists and behaviors in Itacare during Activities and Tours	80
3.4.2 Motivations and Expectations of Tourists to Itacare	83
3.4.3 Types of Tourists to Itacare	86
3.4.4 Environmental Commitment of Tourists to Itacare	88
3.5 Conclusion.....	90
CHAPTER IV	
ECOLOGICAL IMPACTS CAUSED BY NATURE-BASED TOURISTS AND NATURAL RESOURCES CONSERVATION STRATEGIES	91
4.1 Ecological Impacts of Undesirable Actions Committed by Nature-Based Tourists	91
4.1.1 Different Ecosystems, Different Impacts.....	94
4.1.2 Hidden Ecological Impacts of Casual Actions	96
4.2 Natural Resources Conservation Strategies within the Tourism Industry	101
4.3 Case Study Analysis	107
4.3.1 Tourist Activities and Tours Offered in Itacare	107
4.3.2 Ecological Impacts of Undesirable Actions Committed by Tourists to Itacare during Activities and Tours	111
4.3.3 Natural Resources Conservation Strategies in Effect in Itacare	118
4.4 Conclusion.....	121

CHAPTER V

DISCUSSION.....	122
5.1 Nature-Based Tourists and the Natural Resources of the Areas they Visit.....	122
5.2 Nature-Based Tourism Sector Representatives and the Natural Resources of the Areas where they Operate.....	127
5.3 The Relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites.....	130
5.4 Recommendations to the Nature-Based Tourism Sector on How to Use Nature-Based Tourism as a Tool for Sustainability	132
5.4.1 Pre-Arrival Sustainable Actions	133
5.4.2 On-site Sustainable Actions.....	135
CONCLUSION.....	136
APPENDIX A – Time Line of Nature Conservation and Historical Events	141
APPENDIX B – Questionnaire and Interview Guides for Data Collection	143
APPENDIX C – Ethics Form	151
APPENDIX D – Pamphlet	153
REFERENCES	155

LIST OF FIGURES

2.1 The representation of the weak sustainability model	28
2.2 The representation of the strong sustainability model.....	29
2.3 Garbage in tourist areas in Itacare. Source: author's collection	49
2.4 Garbage collection system in Itacare. Source: author's collection.....	50
3.1 Concept map for the understanding of tourist behavior.	66
3.2 Shades of green consumer in tourism.....	78
3.3 Careless and uninformed actions committed by tourists to Itacare	81
4.1 Tourists touching the fauna for a picture.....	115
4.2 Tourists walking on coral reefs	115
4.3 Tourists parking on native vegetation	115

LIST OF TABLES

1.1 Nature of the empirical data by specific objective	10
1.2 Populations, sampling techniques, and sample groups.....	15
1.3 Design, data source and expected results for each data collection instrument.....	20
2.1 Elements of the definitions of six nature-related tourism terms.....	39
2.2 Management challenges faced by travel agency representatives	52
2.3 How would you define nature-based tourism, ecotourism and sustainable tourism?.....	55
3.1 Categories of tourist motivations and tourist motivators.....	67
3.2 Personal determinants of tourist behavior	74
3.3 External determinants of tourist behavior	74
3.4 Tourist types	76
3.5 Frequency of types of tourists and their adaptation to local norms.....	77
3.6 Motivations of tourist to Itacare	84
3.7 Expectations of tourists to Itacare	85
3.8 A cross table of the expectations of tourists to Itacare	85
3.9 Travel arrangements of tourists to Itacare	87
3.10 Level of the environmentally-friendly actions that tourists to Itacare do on a daily basis	89
4.1 Nature-based tourism activities according to the level of physical rigor demanded.....	93
4.2 Five common inappropriate nature-based tourist behaviors and their potential negative impacts on soil and water.....	99
4.3 Five common inappropriate nature-based tourist behaviors and their potential negative impacts on flora and fauna.....	100
4.4 Natural resources conservation strategies and management approaches.....	104
4.5 A description of the main activities and tours offered in Itacare.....	109
4.6 Participation of tourists in the activities and tours offered in Itacare and their level of physical rigor	111
4.7 Level of tourist's knowledge about the fragility of nature in Itacare.....	112

4.8 Tourists to Itacare's perceptions of the level of ecological damage caused by undesirable actions committed by nature-based tourists during activities and tours	112
4.9 Undesirable actions committed by tourists to Itacare and their potential direct negative ecological impacts	114
4.10 Tourists to Itacare's perception of the fragility of the visited area versus their expectations in relation to activities and tours performed in these areas.....	117
4.11 Natural resources conservation strategies in effect in Itacare	118

Résumé

Le tourisme en milieu naturel connaît aujourd'hui une montée spectaculaire. Cela engendre une augmentation de la pression anthropique sur des écosystèmes fragiles. Le secteur du tourisme en milieu naturel a développé des stratégies pour gérer l'industrie du tourisme, les sites touristiques ainsi que les visiteurs. Cependant, on observe toujours des impacts écologiques négatifs causés par des comportements indésirables commis par les touristes lors d'activités et excursions touristiques. Ces impacts se produisent parce que le secteur du tourisme en milieu naturel possède peu de connaissances sur les comportements des touristes de nature. La majorité des études sur les comportements des touristes se concentrent sur la satisfaction du client et la commercialisation des destinations et peu sur la conservation des ressources naturelles des sites visités. Ce constat nous a menés à questionner la relation entre les comportements des touristes de nature et la conservation des ressources naturelles des sites visités. Par le biais d'une étude de cas conduite au village d'Itacaré, dans la forêt atlantique brésilienne, nous avons identifié deux grandes lignes pour répondre à notre questionnement : la relation que les touristes établissent avec les ressources naturelles des sites visités et la relation que les représentants du secteur du tourisme en milieux naturels établissent avec les ressources naturelles des sites où ils opèrent. Les touristes sont attirés par les milieux naturels pour vivre des expériences qui leur permettent de satisfaire leurs désirs personnels de divertissement. Certaines déficiences dans le degré d'encadrement peuvent aussi contribuer au manque de respect accordé à la conservation des environnements visités. Les visiteurs sont ainsi plus susceptibles de commettre des actions indésirables lors d'activités et excursions touristiques afin de satisfaire leurs désirs et leurs attentes. Afin de contrer et influencer les comportements des touristes de nature, le secteur du tourisme en milieu naturel doit établir une relation symbiotique entre le tourisme et l'environnement. Des activités et excursions touristiques orientées vers la communion entre les touristes et les ressources naturelles des sites visités doivent être favorisées pour que le tourisme en milieu naturel contribue au développement durable de la planète.

Mots-clés : tourisme, milieu naturel, tourisme de nature, comportement des touristes, conservation des ressources naturelles, impacts écologiques.

ABSTRACT

Nature-based tourism is a growing sector within the tourism industry. This growth causes a rise in anthropogenic pressures on fragile ecosystems. The nature-based tourism sector has developed strategies to manage its activities, the tourist sites, and the visitors. However, we can still observe negative ecological impacts caused by undesirable actions committed by tourists during activities and tours. These impacts occur because the nature-based tourism sector lacks knowledge on tourist behavior. The majority of tourist behavior studies focus on client satisfaction and commercialization of destinations. Very few studies focus on the conservation of natural resources of the visited sites. Through a case study of Itacaré village in the Brazilian Atlantic forest, we have identified two main topics: the relationship that tourists establish with the natural resources of visited sites and the relationship that the representatives of the nature-based tourism sector establish with the natural resources of the areas where they operate. Certain deficiencies in the degree of framing and management can also contribute to the lack of respect accorded to environmental conservation. Visitors are therefore more susceptible to committing undesirable actions during activities and tours in order to satisfy their desires and meet their expectations. Tourist activities and tours oriented towards the communion between tourists and natural resources of visited sites must be encouraged so that nature-based tourism can contribute to the sustainability of the planet.

Key words: tourism, natural area, nature-based tourism, tourist behavior, natural resources conservation, ecological impacts.

INTRODUCTION

The global environmental crisis is one of the primary challenges for contemporary society. One cause for the crisis is that humans have been using the world's natural resources faster than they can be replenished. For instance, forests have been cut more rapidly than they can regrow, resulting in the loss of habitats and biodiversity (Adekunle *et al.*, 2010; Peres *et al.*, 2010). Minerals, oil, and ground water have been extracted without enough concern for their limits or the need to recycle them, resulting in water shortages and desertification (Botkin and Keller, 2009, p. 7). Transportation has increased greenhouse gases emissions and is partly responsible for climate changes (Doney, 2010; Lee *et al.*, 2010). As consequence of the changes, floods and draughts jeopardize the food security of many countries (Ahamad and Khondker, 2010; Liu *et al.*, 2010). Arctic sea ice is melting and contributing to sea level rise, which threatens the survival of communities living near coastal areas (Warner *et al.*, 2010, p. 691).

Environmental scientists and academics have been warning the world since the 1960s about the fragility of the Earth in view of some anthropogenic activities (Carson *et al.*, 1962; Meadows *et al.*, 1972; Schumacher, 1973) and the necessity to develop a new approach to resource management. In 1987, the Bruntland Report popularized the concept of sustainability and proposed connections among the economic, environmental, and social dimensions. These three spheres are connected differently in the weak and strong sustainability models. The weak sustainability model seeks a balance between economic, social, and environmental spheres of a certain action and classifies natural and artificial capitals as substitutable (Neumayer, 2003, p. 22). The strong sustainability model considers that the social and economic spheres are embedded in a natural system that must constrain our actions (Ott, 2003, p. 63). This model classifies natural and artificial capitals as complementary, therefore not substitutable (Daly, 1996, p. 76; Alexander and Fairbridge, 1999, p. 201). Therefore, the strong sustainability model seems the most effective approach to minimize the negative ecological impacts of modern anthropogenic activities.

Tourism is a fast-growing industry and the main economic activity in many countries. It is also an anthropogenic activity that can threaten the health of fragile ecosystems. Some sectors of the tourism industry have applied, to some extent, the principles of sustainable tourism to provide quality experiences to tourists while limiting site impacts. From a strong sustainability perspective, in which a healthy biosphere provides a healthy economy and consequently a healthy society, tourism, especially nature-based tourism, should be planned, developed, and managed aiming at the conservation of the natural resources.

Nature-based tourism is a type of tourism in which natural elements provide the background for tourist activities (Grenier, 2004, p. 66). In the past three decades, nature-based tourism has grown in popularity for two key reasons (Pickering and Waver, 2003, p. 7). Advances in transportation and technology combined with increases in discretionary income and leisure time have promoted the democratization of the tourism industry (Boyer, 1995b, p. 44; Swarbrooke and Horner, 2007, p. 17-18). Also, the recent rise in environmental awareness has popularized the romantic tourist gaze—"the solitudinous contemplation of an undisturbed nature" (Urry, 1992, p. 17). Places that have been regarded as empty territories and unpleasant locations have recently become curiosities (Laplante, 1996: 17). Wood and House (1992: 145) argue that "the animal kingdom and its habitats seem far removed from our everyday existence" has driven many tourists to experience "real nature" and wildlife in natural sites, hence feeding nature-based tourism.

Evidence has shown that the growth of nature-based tourism has caused increased pressures on visited ecosystems (Pickering and Waver, 2003, p. 7), such as soil erosion, vegetation trampling, alteration of aquatic ecosystems, natural habitat loss, shifts in species habits, and increased pressure on endangered species. In addition to the negative impacts created by new infrastructures, such as trails, parking lots, and accommodations, tourists are also responsible for causing negative ecological impacts during activities and tours. That occurs when nature-based tourists break behavioral norms and rules they are confronted with at the holiday destination. Ironically, nature-based tourism faces the "dual and conflicting tasks of both using natural areas and ensuring that the environmental integrity of those areas is maintained" (McKercher, 1998, p. 8).

Soil and water pollution (Goeldner and Ritchie, 2006, p. 33), vegetation damaging (Pickering and Hill, 2007), erosion and soil compaction (Mill and Morrison, 1998, p. 216), and animal disturbance (Newsome *et al.*, 2002, p. 124) are the most common negative impacts of undesirable actions committed by nature-based tourists during activities and tours. These impacts alter the structure and functioning of the ecosystems involved and therefore they threaten the sustainability of the visited area (Ceballos-Lascuráin, 1996, p. 55; Marion and Reid, 2007).

In an attempt to minimize the negative ecological impacts caused by tourists, some of the stakeholders involved in nature-based tourism (i.e: tour operators, tourism developers, tourism office, parc managers) have developed management strategies aimed at visitors and operators alike. These strategies include road and trail management, codes of conduct; environmental education programs, requirement of specific skills and equipment, access limitation, visitor fee, and zoning. Some tourist destinations have implemented natural resources conservation strategies while others have not. However, in tourist areas where natural resources conservation strategies have been implemented, negative ecological impacts caused by nature-based tourists during activities and tours can still be observed (Grenier, 2004, p. 422; Fennell, 2009, p. 48; Newsome and Dowling, 2010). Among the many reasons that may explain what prevents tourism managers from designing and implementing effective management strategies to minimize such impacts, Grenier (2009: 7) singles out a lack of understanding about what triggers nature-based tourists to commit undesirable actions conducive of ecological damage during activities and tours.

Traditionally, studies on tourist behavior (Cohen, 1984; Pizam and Mansfeld, 1999; Pearce, 2005; Swarbrooke and Horner, 2007) focus on customer satisfaction. An increasing number of studies (Orams, 1998; Grenier, 2004; Luo and Deng, 2008; Grenier, 2009) apply the knowledge on tourism behaviour to natural resources conservation. This study pursues this latest direction and aims to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites. To do so, this study examines

- a) the perceptions of the nature-based tourism sector's representatives about their activities in natural areas;
- b) nature-based tourists' undesirable actions, traveling motivations, expectations and environmental commitment;
- c) ecological impacts caused by undesirable tourist behavior;
- d) the natural resources conservation strategies brought by the tourism industry to mitigate these impacts.

The findings of this study are expected to orient the nature-based tourism sector towards ecologically-concerned management approaches that prevent heavy-impact practices conducive of the degradation of fragile ecosystems.

To reach its objective, this study associates the environmental sciences with the sociology of tourism. The environmental sciences provide insights on the functioning, structure, and fragility of the visited ecosystems while the sociology of tourism provides insights on tourist behavior. The understanding of tourism behavior can be a valuable tool for the sustainable management of the ecosystems visited during tourist activities and tours.

This study uses a case-study conducted in the village of Itacare, in the Brazilian Atlantic Forest, to nourish the theoretical framework. The data comes from semi-structured interviews, a self-administered questionnaire and participant observations. The interviews conducted with two government representatives, four travel agency managers, two private nature reserve owners, and eight tour guides were used to set the tourism management model in effect in Itacare, Brazil. Both qualitative and quantitative data from the self-administered questionnaire filled out by 190 tourists participating in guided activities and tours provided the information on the motivating factors that drove tourists to spend their holiday in Itacare as well as their expectations, types and level of environmental concern. The participant observations conducted by me aim to identify behaviors conducive of negative ecological impacts committed by tourists during activities and tours. The qualitative data was analyzed by the content analysis method and the quantitative data was analyzed by descriptive statistics.

This study is divided into five chapters. The first chapter presents the methodological approach and the purpose of this study, the perspective of analysis, the design, and the approach adopted. Further, it presents the target population and sample chosen, the data collection methods, the instruments selected, the data collection procedure, and the data analysis. This chapter also addresses the ethical issues involved in this study.

The second chapter examines the concept of sustainability as well as the weak and strong models of sustainability and looks at the roots of nature-based tourism. The chapter brings a discussion on the application of sustainability to nature-based tourism (and its diverse denominations). Then, it focuses on the application of the concept of sustainability to nature-based tourism. This chapter also presents the case study analysis related to the subjects examined.

The third chapter examines the types of undesirable actions committed by nature-based tourists during activities and tours. It looks at the motivating factors that drive tourists to spend their holiday in a nature-based tourist site and their expectations in relation to the activities and tours they engage in. Then, it examines the types of nature-based tourists and their level of environmental concern. This chapter also presents the case study analysis related to the subjects examined.

The fourth chapter examines the negative ecological impacts caused by nature-based tourists during activities and tours. Then, it looks at the natural resources conservation strategies brought by the tourism industry to mitigate these impacts. This chapter also presents the case study analysis related to the subjects examined.

The fifth chapter discusses the results of the case study and relates the findings to the theoretical framework to reach its objective, i.e. to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites.

1. CHAPTER I

METHODS

This chapter shows the way in which the present study was structured to reach its objective. It first presents the purpose of this study, the perspective of analysis, the design, and the approach adopted. Further, it presents the target population and sample chosen, the data collection methods, the instruments selected, the data collection procedure, and the data analysis. Finally, this chapter addresses the ethical issues involved in this study.

1.1 Study Purpose

The purpose of this study is to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites. According to Callahan (2000, x), practitioners of environmental sciences, “unlike their colleagues in the traditional sciences, do not simply conduct studies and report the results. In most cases, they are expected to produce solutions.” That is why this study is divided into descriptive, explanatory, and prescriptive stages.

A descriptive study is that in which the researcher is interested in process, meaning, and understanding gained through words or pictures (Creswell, 1994, p. 145). This type of study collects, organizes, and summarizes information about the research problem to make

complicated phenomena more understandable (Punch, 2000, p. 38). The main focus of a descriptive study is to answer what-questions, such as “What is the case or situation here?” (Punch, 2000, p. 38). Descriptive studies are concerned with identifying patterns or trends in a situation; however, they cannot ascertain the causal linkage among its elements (Grimes and Schulz, 2002, p. 145). The descriptive stage of this study intends to describe the current nature-based tourism framework, nature-based tourist behavior, the negative ecological impacts caused by tourists, and the strategies in use to minimize or avoid such impacts.

An explanatory study pushes a descriptive study further by finding the cause of the descriptive information. The main focus of this type of study is to answer why- or how-questions, such as “Why is this the case or situation?” and “How does this situation come about?” (Punch, 2000, p. 38). Punch (2000, p. 38-39) notes that explanatory studies are considered more powerful than descriptive ones on the grounds that knowing not only what happens but also why or how something happens helps the researcher elucidate the nature of the problem under investigation and propose solutions. The explanatory stage of this study intends to explain why nature-based tourists exert the impacts described in the descriptive stage of this study so that this problem can be resolved.

A prescriptive study is that in which researchers use their understanding of the various interconnected influencing factors obtained in the descriptive stage to propose to decision makers implementable solutions for the investigated problem (Blessing *et al.*, 2009, p. 16). The prescriptive stage of this study intends to provide insights on how nature-based tourism managers can render nature-based tourism sustainable.

1.2 Perspective of Analysis

This study adopts the reasoning that “tourism is socially and culturally produced, constructed, and generated” (Wang, 2000, p. 43) and has emerged from an overall historical process. In the case of nature tourism, it emerged with the Romantic Movement in the late 18th century that reacted against industrialization, urbanization, and exploitation of nature

(Mill and Morrison, 1998, p. 12; Swarbrooke and Horner, 2007, p. 15). Later on, in the late 20th century, it was reinforced by the environmental consciousness resulting from the global environmental crisis (Swarbrooke and Horner, 2007, p. 197; Goeldner and Ritchie, 2009, p. 470). Appendix A shows some important historical events related to nature tourism and nature conservation in Brazil and in the world.

Tourist motivations are stratified into several levels and influenced by different conditions. Various perspectives are useful for explaining the need and demand for tourism. Based on factors such as an increase in disposable income, free time, and transportation, the economic and technological approach explains *why* people travel. The social-psychological approach explains not only why people travel but also *what* people actually want and do in their travels. The sociological approach goes one step further by taking into account the historical process through which tourism arises as a collective fact—modernization—and seeks to identify a deeper reason for tourist motivation emerging as a social fact. (Wang, 2000, p. 43-45)

Since nature tourism depends on healthy ecosystems to exist, the ecosystem approach has been developed to promote the conservation of natural resources. The ecosystem approach means that “less attempt is made to break down the environment into its components for study, but rather to take a holistic view to see how components work together” (Barrow, 1995, p. 29). This type of approach seeks the conservation of ecosystem structure and functioning to maintain ecosystem services as well as the appropriate balance between, and integration of, conservation and use of the biodiversity (Shepherd, 2004, p. 12).

Due to its multidisciplinary aspect, this study adopts the sociological and the ecosystem approaches as complementary perspectives of analysis. Since this study aims to understand the relationship between nature-based tourist behavior and natural resources conservation, the sociological approach is the basis for the analysis of the data on tourist behavior and the ecosystem approach is the basis for the analysis of the data on natural resources conservation.

1.3 Study Design and Approach

The study design is a strategic plan that guides the researcher's decision on the data to be gathered, from whom to collect them, the data collection methods to be used, and the way the data is analyzed. There are three types of study designs: qualitative, quantitative, and the combination of both.

The approach adopted by this study is the combination of qualitative and quantitative designs. A qualitative study is concerned with understanding people's attitudes, beliefs, knowledge, and fears (i.e. qualities). The data obtained is in the form of words or ideas. The focus is to understand why people behave as they do. Qualitative methods allow the respondents to give richer answers and insights about the subject studied. A quantitative study is concerned with numerical measurements (i.e. quantities). The focus is to test hypotheses, and usually to identify numerical differences between groups.

According to Creswell (1994, p. 177), there are three models of combined designs. The first is the *two-phased design*, in which "the qualitative and quantitative studies are presented and discussed in two distinct phases" (Creswell, 1994, p. 189). The second is the *dominant-less dominant design*, in which "one paradigm dominates the study and another paradigm is used, typically in the data collection phase" (Creswell, 1994, p. 189). The third is the *mixed-methodology design*, in which "the research combines qualitative and quantitative approaches throughout the study, such as in the introduction, the purpose statement, the research questions, and the methods" (Creswell, 1994, p. 178). Greene *et al.* (2005, p. 276) note that an important dimension of a mixed method design is to decide whether the different methods involved are of equal importance and weight, or whether one methodology is dominant and the other less dominant.

Because the main objective of this study is to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites, its dominant approach is qualitative. Thus, this study follows the *dominant-less dominant design*, the qualitative approach being the dominant and the quantitative approach the less

dominant one. Creswell (1994, p. 179) adds that, in a dominant-less dominant design, a study uses the literature and theory in consistency with the dominant paradigm and incorporates the less dominant paradigm as a complementary component. As for the research questions, they should be posed in the language of the dominant paradigm. In this study, the major qualitative empirical data is supplemented by a few quantitative ones. Different types of data, sources, and methods represent different perspectives or lens and are used with the intention of triangulating the findings to enhance confidence in the validity of the findings, demonstrate convergence in the results, and therefore minimize bias inherent to any particular approach (Creswell, 1994, p. 174-175; Greene *et al.*, 2005, p. 274). Table 1.1 shows the nature of the data necessary to reach the three specific objectives of this study.

Table 1.1 Nature of the empirical data by specific objective

Specific objective	Qualitative data	Quantitative data
(1) to examine the perceptions of the nature-based tourism sector's representatives about their activities in natural areas	from tourists from tourism private and public sector representatives	from tourists
(2) to examine nature-based tourist's behaviors, motivations, expectations and environmental commitment;	from tourism private and public sector representatives	from tourists
(3) to examine the ecological impacts caused by nature-based tourists;	from tourists from tourism private and public sector representatives	-----
(4) to examine the natural resources conservation strategies.	from tourism private and public sector representatives	-----

The first and the second specific objectives require both qualitative and quantitative data. The third specific objective requires only qualitative data. The combination of qualitative and quantitative data aim to validate the findings to minimize any inherent bias.

1.4 Study Strategy

The study strategy is the internal logic or rationale which a study intends to follow to reach its aims. There are qualitative and quantitative strategies, the quantitative ones varying from extremely interventionist to non-interventionist, while qualitative strategies are generally non-interventionist (Punch, 2000, p. 53).

Since the dominant paradigm of sociology is qualitative, the strategy adopted is the case study. Case studies benefit from the prior development of theoretical propositions to guide data collection from various sources such as documents, archives, interviews, observation, and artifacts (Yin, 2009, p. 18). This strategy is non-interventionist since it allows the researcher to observe the unit of study (tourists) in its natural habitat without interfering with or influencing its natural behavior. In a case study, the researcher is deliberately isolating a small study group, one individual case, or one particular population to explain a broad phenomenon (Shuttleworth, 2008). Case studies are preferred strategies for studies whose research questions focus on examining the reasons behind a situation (Yin, 2009, p. 9-10).

This study benefits from the existing theoretical propositions by reviewing the literature on sustainability, nature-based tourism, tourist behavior, ecological impacts, and natural resources conservation strategies to guide the analysis of the fieldwork data. Because the issues within this study come from different fields, this study adopts a multidisciplinary approach. To facilitate the comprehension of the reader, I grouped the subjects involved in three chapters. The first section of each chapter is the literature review and the second section is the case study analysis related to the theoretical framework presented in the first section.

The case study was conducted in Brazil. The country was selected for its high biodiversity and potential for nature-based tourism. Moreover, there are few studies relating nature-based tourist behavior and natural resources conservation in Brazil. Most of the studies on this subject have been conducted in North America and Australia (English speaking regions). As stated by Pearce (2005, p. 67), “it is important, given the global nature of tourism, to test

ideas, concepts and theories developed in Western countries with other emerging traveler nationalities.” Hence, the knowledge that emerges from a study on nature-based tourism in an emerging traveler nationality as Brazil is an invaluable contribution to the field.

The Brazilian biome chosen for this study is the Atlantic Forest. The Atlantic Forest is a World Biosphere Reserve which contains a large number of highly endangered species as well as an extremely diverse and unique mix of vegetation and forest types (CI, 2007). Newsome *et al.* (2002, p. 62) add that “[t]ropical rainforests are typified by a diversity of tree species that coupled with numerous insect-plant specific associations and the large range of animal niches, provides for the most structurally complex and biodiverse terrestrial ecosystem on earth.”

The case-study site chosen for this study is the municipality of Itacare. It has seen extensive tourism development since 1998. Anthropogenic activities resulting from tourism have caused the degradation of Itacare’s ecosystems (mangrove, beach, river, forest, and island). Itacare is an interesting site to study nature-based tourist behaviors conducive of natural resources degradation during guided activities and tours for two reasons: first, the variety of ecosystems provides a variety of nature tourism experiences and attracts different types of tourists; and second, Itacare is located in one of the few remnant areas of primary Atlantic forest.

The limitation of case studies is that they provide little basis for scientific generalization. Yin (2009, p. 15) notes that “case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes.” He adds that in doing a case study, the researcher’s goal is to expand and generalize theories and not to enumerate frequencies (2009, p. 15). Shuttleworth (2008) agrees and notes that case studies can rarely be generalized to represent the entire population since they are more of a tool to explore trends and understand a phenomenon. In the case of this study, I am aware that the case study findings are not representative enough to be generalized to the entire population or to create new theories. However, the findings of this study should provide valuable insights about the relationships between nature-based tourist behavior and the conservation of the natural

resources of the visited areas. I expect that other nature-based tourist destinations will benefit from these insights.

1.5 Target Population and Sample

The target population of a study comprises “the entire group of people or cases of direct interest to the investigation” (Sommer and Sommer, 2002, p. 235) to which researchers are interested in generalizing the conclusions (Castillo, 2009b). Since researchers cannot study all the people or cases of a given phenomenon because it would be too expensive and time consuming, they have to select a smaller group of study. That group is called *the accessible population* or *study population*, i.e. the population to which the researchers have access and can apply their conclusions (Castillo, 2009b). Since it is very rare that researchers study the whole accessible population, they have to select an even smaller group of study, which is called *the sample* (Sommer and Sommer, 2002, p. 235). The sample group is used to make generalizations about the target population.

The target population of this study comprises all tourists visiting Itacare. I then narrowed the study group to tourists participating in guided tourist activities and tours, i.e. organized by travel agencies or independent tour guides. This decision was made since there are tourists who do not participate in guided activities or tours but visit the same natural areas. This way, I ensure that all nature-based tourists approached belong to the same group, that of tourists who participate in guided activities or tours. However, by narrowing the study population to tourists participating in guided tourist activities and tours, this study excludes all tourists who visit the area by themselves. Moreover, in most cases, foreigners are also excluded because they rarely participate in guided tourist activities and tours. That happens because foreigners cannot understand the tour guides, who in most of the cases only speak Portuguese. The foreigners who are part of this study’s sample could communicate in Portuguese.

Since this study adopts the strategy of a case study, a within-case sampling is used to access data. Sampling is the practice of selecting a subset of individuals, subjects, or cases from a

given target population (Sommer and Sommer, 2002, p. 235). The data required to answer the research question stem from various sources, such as nature-based tourists, tour operators, tour guides, and government representatives. Since not all nature-based tourists, tour operators, tour guides, and government representatives based in Itacare can be included in this study, the data sources will be narrowed into sample groups. There are two methods of creating sample groups. The first is the probability sample, in which the probability for the inclusion of any given individual is known, i.e. members of the population have equal chance of being selected (Sommer and Sommer, 2002, p. 236). The second is the nonprobability sample, in which the probability for the inclusion of any given individual is unknown, i.e. members of the population do not have equal chance of being selected (Sommer and Sommer, 2002, p. 237).

Probability samples can be constructed through the techniques of random samples or stratified samples. In random sampling, the researcher must have access to each member of the target population, to know how many they are as well as where to reach them. In stratified sampling, the researcher sets up the same criteria and proportions of the target population to the sample group to ensure representation (Sommer and Sommer, 2002, p. 239). These criteria include gender, age, religion, education, and occupation.

Nonprobability samples can be constructed through the techniques of quota samples, purposive samples, and convenience samples. In quota sampling, the researcher deliberately sets up criteria and proportions to the sample groups that differ from the criteria and proportions of the target population to ensure representation of particular members of the target population and not the entire target population. However, individuals within the quota should be chosen randomly to avoid bias. In purposive sampling, the researcher targets the individuals considered to be central to the investigated problem. Snowball sampling is a special type of purposive sampling in which the researcher accesses the next individual to be approached through members of the sample group. Finally, in convenience sampling, the researcher selects the individuals that are more conveniently accessible. Nonprobability sampling techniques do not produce representative samples and are used when either a

researcher cannot obtain representative samples or a non-representative sample is satisfactory. (Sommer and Sommer, 2002, p. 236-239)

Nonprobability sampling is a useful technique for narrowing target populations into sample groups in pilot studies, case studies, qualitative research, and hypothesis development (Castillo, 2009a). This case study uses three types of nonprobability techniques to narrow its target populations into sample groups: convenience, snowball, and purposive. I selected the first travel agency manager randomly through a website that lists all travel agencies in the case-study site. The other three travel agency managers were selected through the snowball sampling technique. Nature-based tourists were selected according to their availability and willingness to participate in the study during the guided tourist activities and tours they were taking. The tour guides were selected the same way as the tourists, according to their availability and willingness to participate. As for government representatives, the researcher purposively chose to approach the Municipal Secretary of Agriculture and Environment and the Secretary of Tourism. Table 1.2 summarizes this study's populations and the sampling techniques used to define the sample groups.

Table 1.2 Populations, sampling techniques, and sample groups

Target Population	Accessible Population	Sampling Technique	Sample Group
nature-based tourists	nature-based tourists to Itacare participating in guided activities and tours	convenience	190 nature-based tourists to Itacare participating in guided activities and tours
travel agency managers	Itacare-based travel agency managers	snowball	4 Itacare-based travel agency managers
tour guides	Itacare-based tour guides	convenience	10 Itacare-based tour guides
government representatives	Itacare Municipal Secretaries	purposive	2 Itacare Municipal Secretaries (Secretary of Agriculture and Environment and Secretary of Tourism)

Even though nonprobability sampling techniques are useful for case studies, they are limited methods. The case study findings are not representative of the target population; however, they can be representative of the accessible population. Thus, the findings of this study

cannot be generalized to all nature-based tourists but can be generalized to nature-based tourists to Itacare participating in guided activities and tours. To add credibility to a convenience sample, Sommer and Sommer (2002, p. 239-240) suggest that the researcher add randomness when approaching the accessible population, for instance, by conducting observations at different times of the day and on different days of the week. This suggestion was applied to this study by collecting data at different times of the day and on different days of the week.

1.6 Data Collection Methods and Instruments

Since this study combines qualitative and quantitative data, I use both qualitative and quantitative data collection methods to accomplish the study's aim. The tools used by researchers to gather data are called data collection instruments. They include surveys, tests, questionnaires, standardized measuring instruments, rating scales, observation schedules, interviews, intake forms, case logs, attendance records, audio-visual materials, diaries, and journals. Some of these instruments can be used to collect either qualitative or quantitative data, depending on the way they are designed. For instance, a questionnaire with open-ended questions provides qualitative data while one with closed questions provides quantitative data. Punch (2000, p. 58) notes that researchers may develop specific instruments for their studies, modify existing ones, or simply use existing instruments without any modification.

This study used data collection techniques used in social science research: questionnaire, observation, interview, and literature review (Appendix B). The combination of these four data collection instruments allows the researcher to have a broader view of the phenomenon being studied (Sommer and Sommer, 2002, p. 59). Questionnaire survey, observation, and interview are complementary ways to approach the same problem. As Sommer and Sommer (2002, p. 60) note, "if you want to find out what people do, you should observe them. If you want to find out what people think, you should ask them directly." That is what this study did by using a questionnaire.

The questionnaire was a useful instrument to gather information about people's beliefs, attitudes, values, and behavior. The questionnaire in this study comprises open-ended and closed. In open-ended questions, the respondents write their answers in their own words while in closed questions they have to choose among alternatives provided by the researcher. Open-ended questions allow more freedom to respondents and provide more detailed answers. However, it is time consuming for the respondent as well as for the researcher during the analysis phase. Ranking and rating scales are a type of closed question that allow a little bit more of freedom to respondents than a multiple choice question. Arranging the items to be rated and the proposed answers in a matrix facilitates the task of the respondent. A Likert-type scale is a widely used instrument to measure attitudes. The proposed answers usually range from one to five, one being related to a negative answer and five to a positive one. Sommer and Sommer (2002, p. 141) suggest that researchers combine closed questions with open-ended questions, ratings, and ranks to add reliability to the study. A pre-test is also recommended so that the researcher can make adjustments to avoid ambiguous questions in the final version of the questionnaire.

This study used a self-administered questionnaire that comprises twenty-two questions, four being open-ended, fifteen closed, and three Likert-type rating scales. Closed questions are preferred because they are less time consuming and we suppose that tourists do not want to spend their vacation answering open-ended questions.

In behavioral research, observation is a useful data collection instrument since it deals with behavior in its natural state. Jones and Somekh (2005, p. 139-140) list four ways of observing: structured observation, unstructured observation, shadow studies, and participant observation. Structured observation uses a schedule prepared in advance containing predetermined categories. The observer's task is that of filling the observation schedule with the observed data. In unstructured observation, the researchers do not follow any predetermined category of observation even though broad decisions are usually made in advance about the kinds of things to be observed. The researchers are guided by prior knowledge and experience and see through the lenses of their own socio-culturally constructed values. A shadow study is that in which the researcher tracks one of the

participants to either study the person shadowed or to share that person's experience. Participant observation provides the observers with unique insights into the behavior and activities of the observees since the former participate in the activities of the latter and are absorbed into the culture of the group.

Sommer and Sommer (2002, p. 48-57) go further and list three other types of observational procedures: casual observation, systematic observation, and ethnography. The first two procedures provide quantitative data and the researcher is apart from the participants while the third one provides qualitative data and the researcher becomes acquainted with the observees. Researchers conduct observations to infer the data gathered through a questionnaire on the grounds that people sometimes say one thing and do another (Gray *et al.*, 2007: 63).

The objective of the observation in this study is to register the actions committed by tourists that could cause negative impacts on the natural resources of the visited area. Participant observation was chosen since it allows me to immerse and be part of the phenomenon being observed. In participant observation, it is important that the researchers/observers fit in the group, to make their presence the most natural possible. I have already participated many times in the same kind of activities and tours as those I observed, which made me feel comfortable doing my tasks. A researcher, who is not comfortable in the woods, not fit enough for trekking or not used to the heat and humidity of the forest might jeopardize the observation session. To gather the data collected, I developed an observation schedule based on the literature review on negative environmental impacts of nature-based tourism.

The interview is an effective instrument to collect information about beliefs, opinions, and personality characteristics. One advantage of this data collection method is that the researcher is able to gather more detailed information than that gathered through a questionnaire. There are three types of interviews: unstructured, structured, and semi-structured (Sommer and Sommer, 2002, p. 113-116). In unstructured interviews, the researcher does not follow any predetermined order specified to the questions and the interviewee takes the lead of the interview to a greater extent (Sommer and Sommer, 2002,

p. 113-116). This method is used to explore all the alternatives and define areas of importance. In structured interviews, the researcher formulates the questions beforehand and asks them in a set order. Questions can be open-ended or linked to a selection of answers. This method is used to provide consistency and facilitate the combination of the answers. In semi-structured interviews, the researcher may ask the same questions but in a different order and manner if the interviewee has somehow already answered the following question. This method is used for obtaining in-depth information where the interviewer does not want to be restricted to a question order but has to ask to same question to all respondents. One disadvantage of this method is that the researcher loses consistency and increases the risk of interviewer bias.

The objective of the interview in this study is to gather information about the context of nature-based tourism in the case-study site as well as about nature-based tourist behavior. I followed the principles of unstructured interviews to conduct informal conversations with tourists before or after the observation session as well as after the administration of the questionnaire. Tour guides, travel agency managers, and government representatives granted a face-to-face structured interview. Theses types of interview were chosen due to their flexible formats, which allows respondents to express themselves freely and interviewers to reshape questions when needed (Rubin and Rubin, 1995: 122-138; Tashakkori and Teddlie, 2003: 305-307). Table 1.3 summarizes the design used and the data source for each data collection instruments.

Table 1.3 Design, data source and expected results for each data collection instrument

Data Collection Instrument	Qualitative Design	Quantitative Design	Data Source	Expected Results
Questionnaire	self-administered with open-ended questions	self-administered with closed questions	nature-based tourists to Itacare participating in guided activities and tours	tourist's motivations, expectations, knowledge about the fragility of the visited ecosystems, and environmentally-friendly actions
Observation	participant observation	-----	nature-based tourists to Itacare participating in guided activities and tours	tourist's behavior towards the flora and fauna of the visited ecosystems
Interview	unstructured face-to-face interview and structured face-to-face interview	-----	nature-based tourists to Itacare participating in guided activities and tours; private and public sectors representatives	tourist's motivations and expectations the local tourism management model

The questionnaires provide both qualitative and quantitative data from nature-based tourists while the observation sessions and the interviews provide qualitative data from nature-based tourists, tours guides, travel agency managers and government representatives.

1.7 Data Collection Procedure

The actual process of collecting data in an empirical research is called data collection procedures. It refers to the procedural choices, that is, the use and administration of the data collection instruments (Punch, 2000, p. 59). In the case of fieldwork, it refers to the way it is carried out.

The fieldwork lasted eight weeks, from December 2009 to February 2010. The first week was devoted to learning how the case-study site is organized and administered, as well as

how the tourism industry works. Informal talks to locals and people who were officially interviewed later helped me set the context of nature-based tourism in Itacare. The second week was devoted to the questionnaire pre-test. Ten tourists participated in this phase, and two questions were modified because the majority of the respondents had the same difficulty to understand the same two questions. The following weeks were devoted to the questionnaire distribution, the observations, and the interviews.

Respondents to the self-administered questionnaire comprise any national and international tourist to Itacare, over eighteen years old, who had participated or intended to participate in tourist activities or tours organized by travel agencies or independent tour guides during their stay in Itacare. The study population was limited to this kind of tourists to ensure that people who answered the questionnaire (whether approached during the practice of tourist activities and tours or not) belonged to the same group as people who were observed.

After pre-testing the questionnaire, I started to distribute it following three strategies defined prior to my arrival in Itacare. The first one was to approach tourists at the end of the tourist activities and tours. That strategy was adopted to avoid that respondents changed their behaviors during the activities and tours after having answered the questionnaire and having known the research subject. The second one was to approach tourists strolling in the city or relaxing on the beach. The third one was to leave questionnaires at hotels and ask the staff to hand them in to guests during the check out. The first and the second strategies worked well, but not the third one since the hotel staff rarely handed in the questionnaires to guests. Thus, I decided to go in person to the hotel at the check out period and approach tourists myself. This strategy provided successful results.

I was expecting tourists to be reluctant to fill in a questionnaire while on vacation, but the respondents were friendly and most of them started making comments on the questions what facilitated the approach to casual interviews. At the beginning of the questionnaire, respondents were asked to inform which tourist activities and tours they had participated or intended to participate until the end of their stay in Itacare. After having informed the activities and tours, respondents were asked to answer a set of questions about their

knowledge of nature-based tourism and ecotourism, their motivations and expectation, their knowledge of the fragility of the visited ecosystems, and their daily behavior back home towards the environment. A set of socio-demographic questions was asked at the end of the questionnaire to help the researcher analyze the data.

In parallel to the questionnaire distribution, I conducted the participant observation phase, which consisted of observing tourists' practices and behaviors towards the natural resources during tourist activities and tours offered by four travel agencies. The data collected were written down at the end of every observation session on a schedule and as fieldwork notes. In each session, I observed around 10 people. The observation schedule was developed based on studies on the negative environmental impacts of tourism. Data were not written down in front of the tourists in order not to give them the impression of being observed, which could provoke a change in behavior. Moreover, the observations occurred in places that did not allow me to take notes as they occurred. The points observed through the participant observation were those listed in the question ten of the questionnaire that reads "Please check the box that indicates the level of damage that each action practiced by visitors may cause to nature."

Informal conversations with public and private actors were conducted in the first weeks of the fieldwork. In the last weeks of the fieldwork, structured interviews were conducted based on an interview guide developed in the pre-fieldwork phase and questions that emerged at the study site as the researcher learned about the subject. I interviewed tour guides, travel agency managers, and government representatives. By the end of the eight weeks, a hundred and ninety questionnaires had been filled, ten observation sessions had been done, and nineteen interviews had been conducted.

1.8 Data Analysis

The qualitative data gathered through the interviews were analyzed through the content analysis method, which allows the researcher "to find logic in the identified themes so that

the characteristics of authors or their audiences may be better understood (Gray *et al.*, 2007: 298). Both words and groups of words were used as categories to represent the results. The quantitative data gathered through the questionnaires were tabulated with the help of the software SPSS. Tables of frequency and cross tables were generated with the SPSS data.

1.9 Ethical Issues

This study involves the participation of human beings and therefore implicates a variety of ethical concerns. These include freedom of participation, confidentiality, anonymity, and privacy. To comply with the Ethics Committee of the Science Faculty of UQAM requirements, I sent them the questionnaire, the observation schedule, the interview guides, as well as the consent form prior to the fieldwork phase for approval. All documents were analyzed by the committee and a letter of acceptance was issued allowing me to conduct the study (Appendix C).

I asked all respondents to the questionnaire and interviewees to read the consent form and, if they agreed with the clauses, to sign it before filling out the questionnaire or granting an interview. During the observation sessions, I did not introduce myself as a researcher and behaved as any other tourist based on Jones and Somekh's (2005, p. 140) statement that "if researchers go into role and imitate the general behavior of the group they often attract surprisingly little attention and have relatively little impact on group behavior" as well as on Sommer and Sommer's (2002, p. 54) statement that when people become aware of being observed they do not behave as they usually do. If my identity was revealed, I would stop the observations at the very moment. In fact, it happened once that a tour guide who knew that I was conducting a study saw me during an activity and introduced me as "a researcher". Even though none of the tourists seemed to bother, I stopped observing them and finished the tour as any other participant in the group.

2. CHAPTER II

SUSTAINABLE NATURE-BASED TOURISM

The incorporation of the concept of sustainability into the planning of anthropogenic activities can be a toll to combat the depletion of the world's natural resources. The application of the principles of sustainability to nature-based tourism can help this sector of the tourism industry to deal with the paradox of using natural areas while ensuring their ecological integrity. This chapter focuses on three issues. First, it examines the concept of sustainability and the weak and strong models of sustainability. Second, it looks at the roots of nature-based tourism as well as the multitude of nature-related tourism terms. Third, it focuses on the application of the concept of sustainability to nature-based tourism. After examining these three issues, this chapter presents the case study analysis related to these issues.

2.1 Brief history of the concept of Sustainability

The idea of sustainability dates back as early as the ancient Egyptian, Mesopotamian, Greek, and Roman civilizations that faced environmental problems such as deforestation, salinization, and loss of soil fertility. However, the term *sustainability* was first used only in 1713 by the German mining administrator Hans Carl von Carlowitz in his work *Sylvicultura Oeconomica*, in which he advocated sustainable forestry and recommended measures for the conservation of forests. (Pisani, 2006)

Overall, sustainability means “property whereby a process can be continued indefinitely without depleting the energy or material resources on which it depends” (Wright, 2005, p. 700). Within the context of natural systems, it means “the management of natural resources and the environment with the goals of allowing the harvest of resources to remain at or above some specified level, and the ecosystem to retain its functions and structure” (Botkin and Keller, 2009, p. G-16). Within the context of human systems, it means “transforming our ways of living to maximize the chances that environmental and social conditions will indefinitely support human security, wellbeing, and health” (McMichael *et al.*, 2003, p. 1919). Botkin and Keller (2009) add a temporal dimension by placing the concept of intergenerational equity at the core of their definition of sustainability. To them, sustainability refers to “ensur[e] that future generations have equal opportunity to the resources that our planet offers, or (at a minimum) that future generations inherit an environment with human-induced environmental damage no greater than that of today” (Botkin and Keller, 2009, p. 7). Holden (2008, p. 174-175) notes that due to the various dimensions of the term, the most useful way of thinking about it would be to think of sustainability as a guiding philosophy instead of an end point. In both human and natural systems contexts, sustainability means that both a certain practice and the resources required to its existence will endure over the long run.

The first report on the world’s state of the environment was published by the International Union for Conservation of Nature (IUCN, 1951, in (Najlaoui, 2008, p. 5). The report showed the state of deterioration of the natural resources and made people see economic growth (growth in gross national product) and natural environment conservation as conflicting concepts. Other reports and essays have followed, such as the *Silent Spring* (Carson *et al.*, 1962), *The Limits to Growth* (Meadows *et al.*, 1972), and *Small is Beautiful* (Schumacher, 1973). These works warned about the fragility of the environment in view of the development models and the unlimited economic growth. The 1973 oil crisis happened as a practical example of the theoretical warnings made by environmentalists.

Dryzek (2005, p. 145) notes that in the 1970s, sustainability was the core of the radical discourse for the Third World. Many developing countries were seeing their economies

prosper in the post-World War II period and therefore found it unfair to limit their economic growth to protect the global environment for the benefit of the developed countries that had already depleted substantial resources for the prosperity of their economies (Gould and Lewis, 2009, p. 270). The development of the poorer countries could not be stopped. The question was to define *how* their development should be done in order to meet sustainable management.

Thus, based on the concept of sustainability, organizations such as the United Nations started to work on the conception of new forms of achieving sustainability while promoting development. The 1972 United Nations Conference on the Human Environment held in Stockholm introduced the concept of ecodevelopment which was later defined by Sachs (1981, p. 21) as the harmonization of the strategies of social-economic growth and the management of the environment with the resources, the space, and the quality of the physical environment. In 1980, together with the United Nations Environment Program and the World Wildlife Fund, the IUCN published a report called *World Conservation Strategy*. The report discusses strategies to satisfy human needs without depleting the natural resources and taking into consideration economic constraints.

In 1983, the United Nations convened a World Commission on Environment and Development to debate the environmental and developmental concerns of different groups of countries. The establishment of this commission was a living proof that the environmental issues back then were serious and deserved global attention. The World Commission on Environment and Development's final report *Our Common Future*, popularly known as the Bruntland Report, popularized the concept of sustainability and the connections among the economic, environmental, and social spheres of the planet. It was the first time that these three spheres were brought together into development planning. The report defined sustainable development as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43). The Bruntland Commission's definition of sustainable development is perhaps the most widely mediated and seems to be based on the ethical argument that "future generations have a right to expect an inheritance (in the form of natural capital/physical capital/human capital

bequests) sufficient to allow them the capacity to generate for themselves a level of welfare no less than that enjoyed by the current generation” (Turner *et al.*, 1993, p. 32). Then in the 1992 Earth Summit held in Rio de Janeiro, Brazil, the terms sustainability and sustainable development gained notoriety. The conference drew the world’s attention to the integration of the environmental sphere into policy making (Marshall and Toffel, 2004, p. 1). After that, other conferences and summits continued to discuss environmental issues with the objective of planning a sustainable future for the planet.

All these conferences, summits, and reports aim to change the relationship between economic growth, social development, and nature conservation by managing them in such a way that they do not interfere with ecosystem structure and functioning so that sustainability is guaranteed. The question is how to conceptualize sustainability. Thus, defining and implementing sustainability remained a more challenging task.

2.1.1 Achieving Sustainability

A variety of models have been developed to promote the world’s sustainability. The most adopted are the weak and the strong sustainability models. The weak sustainability model (Figure 2.1) seeks the balance and the compromise among the economic, social, and environmental dimensions of a certain action and classifies natural and artificial capitals as substitutable (Neumayer, 2003, p. 22). In the weak sustainability interpretation, all three spheres are considered similar forms of capital and the loss of one can be offset by the increase of another (Alexander and Fairbridge, 1999, p. 201). For instance, a reduction in biodiversity (natural capital) can be compensated by an increase in consumption opportunities (artificial capital) or a reduction in the world’s level of clean water (natural capital) can be compensated by higher levels of clean air (natural capital) (Neumayer, 2003, p. 23). The flaw of this model is that some elements of the natural capital stock cannot be substituted by artificial, man-made capitals. Ott (2003, p. 63) criticizes the weak sustainability paradigm by arguing that natural resources as well as ecosystem services and

functions are mutually non-substitutable. For instance, clean water cannot be substituted by clean air. Humans and the wildlife cannot drink clean air or breathe clean water.

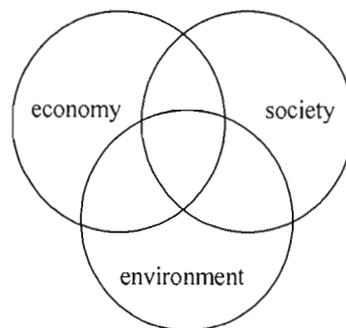


Figure 2.1 The representation of the weak sustainability model

The strong sustainability model (Figure 2.2) states that the human sphere is embedded in a natural system (the biosphere) and assumes that natural limits must constrain our actions (Ott, 2003, p. 63). Advocates of the strong sustainability model (Turner *et al.*, 1993; Daly, 1996; Neumayer, 2003; Ott, 2009) state that this paradigm assumes that the economy is not a sphere separated from the environment in which it occurs, but rather a sub-system. The interdependence between economy and the environment lies in the fact that the way the economy is managed impacts on the physical environment and, likewise, the way the physical environment is managed impacts on the economy (Pearce *et al.*, 1989, p. 4). The strong sustainability model classifies natural and artificial capitals (means of production) as complementary, therefore not substitutable (Daly, 1996, p. 76; Alexander and Fairbridge, 1999, p. 201). Daly (1996, p. 76-77) notes that capitals are complementary when several types of capitals are necessary to ensure a continued stream of useful goods, i.e. when one type of capital disappears, the stream of goods declines or stops. Daly (1996, p. 76) goes further and states that artificial capital (or human-made capital) is a physical transformation of natural capital; therefore, the production of more artificial capital (substitute) requires more natural capital (the thing being substituted). Daly (1996, p. 76) concludes that this logic is the defining condition of complementarity.

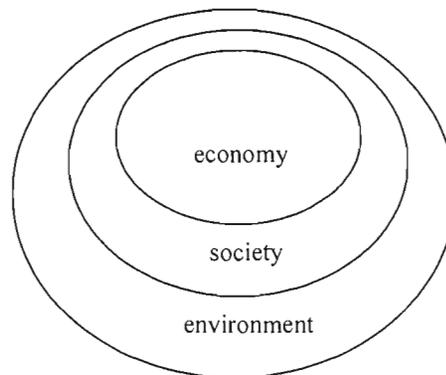


Figure 2.2 The representation of the strong sustainability model

Advocates of strong sustainability are not opposed to the achievement of weak sustainability. On the contrary, they note that achieving weak sustainability is an important first step, but insufficient, to achieve strong sustainability and sustainable development (Daly, 1996, p. 76; Neumayer, 2003, p. 24). Turner *et al.* (1993, p. 55) criticize the Bruntland Commission by stating that they “took a fairly optimistic view of the possibilities for decoupling economic activity and environmental impact and in terms of our classification system has put itself into the weak sustainability camp.”

In short, the strong sustainability model defends the idea that natural resources be exploited to the level at which ecosystem functions be kept unaltered to guarantee the survival of the planet. The weak sustainability model, however, defends the idea that natural resources can be exploited to their maximum because advances in research and development, for example, can develop synthetic substitutes to the depleted resources. That way of thinking raises the question of whether the synthetic substitutes will be able to exert the functions of the depleted resources in real-life ecosystems.

The models of sustainability presented in this chapter are widely used in Western society. The current state of the environment has shown that if some of these models continue to be used, the degradation of the natural resources will continue until exhaustion. An effective model of sustainability should not attribute a utilitarian value to nature as most of the models

currently in use have attributed, but instead acknowledge that any natural resource has the right to exist *per se*, regardless of its potential use to humans.

Sustainability models can be applied to different fields of study and sectors of the economy. In economics, the principles of sustainability have been applied to development and growth, giving rise to the concept of sustainable development. In tourism, the principles of sustainability have given rise to the concept of sustainable tourism, which has been adopted by some managers and practitioners to render both urban and nature tourism more environmentally sound, economically viable, and socially just. Applying the strong sustainability model to tourism, the objective is that a healthy biosphere provides a healthy economy and consequently a healthy society.

2.1.2 Sustainability Hierarchy

Marshall and Toffel (2004) argue that the Bruntland Commission's definition of sustainability is unhelpful to policy makers. They ground their criticism on the fact that the definition identifies meeting future human needs as the goal of sustainability. According to them, human needs vary and change over time; therefore, predicting the needs of future generations seems an impossible task due to the inaccuracy of historical predictions of today's needs and available technologies. Moreover, in a culturally diverse world, satisfying all people's values simultaneously seems another impossible task (Marshall and Toffel, 2004, p. 679). The authors criticize the "definitional chaos" created around the terms *sustainability* and *sustainable development* and discuss four leading sustainability frameworks: the Triple Bottom Line, The Natural Step, the Ecological Footprint, and Graedel and Klee's (2002) method to calculate sustainable emissions and resource usage. Marshall and Toffel (2004, p. 675) state that the four sustainability frameworks are ambiguous with regard to what is being sustained and propose a sustainability hierarchy, analogous to Maslow's hierarchy of needs, as a framework to categorize "the several distinct but related concepts" of sustainability that scholars, policy makers, companies, and NGO's have been using.

Marshall and Toffel (2004, p. 675)'s sustainability hierarchy comprises three levels: (1) actions that, if continued at the current or forecasted rate, endanger the survival of humans; (2) actions that significantly reduce life expectancy or other basic health indicators; and (3) actions that may cause species extinction or that violate human rights. What is interesting about this hierarchy is that the levels can overlap and one action can be considered sustainable at one level while unsustainable at another. This hierarchy of sustainability can be considered anthropocentric since it places human survival at the basis of the pyramid, indicating that only after human life is guaranteed that other issues, such as the survival of other forms of life, should be taken into consideration. In an ethnocentric perspective, services provided by ecosystems should ensure human survival, quality of life as well as biodiversity and human rights.

An ecosystem consists of living (biotic) organisms such as plants, the soil, landforms, microbes, and animals—including humans—that interact with each other and their non-living (abiotic) environment such as the wind, rain, and water (Newsome *et al.*, 2002, p. 27; Wright, 2005, p. 30). Perturbations to structure and function can cause alterations in the health of the ecosystem and threaten sustainability. An ecosystem provides the goods and services required by the natural environment to support human life, human health, and species viability (Marshall and Toffel, (2004, p. 676). Ecosystems are the functional units of sustainable life on the planet since no organism can live separately from its environment or without interacting with other species (Wright, 2005, p. 30). Therefore, maintaining the structure and functioning of ecosystems is at the core of sustainability. Marshall and Toffel (2004, p. 677) note that the first (human survival) and the third (biodiversity and human rights) levels of their sustainability hierarchy highlight the need to sustain ecosystem functioning to achieve sustainability.

The current global environmental crisis, however, shows that contemporary societies are failing to maintain the structure and functioning of ecosystems. Modern anthropogenic activities have been consuming the world's natural resources beyond their regenerative rates. Tourism is one anthropogenic activity that can threaten the health of fragile ecosystems.

2.2 Nature-Based Tourism

The Romantic Movement of the second half of the eighteenth century that occurred in Western countries was a rejection of the precepts of order, calm, harmony, balance, idealization, and rationality typified by the Classicism and the Neoclassicism by exalting emotion over reason and senses over intellect (EB, 2010). It was a critique of modern capitalist industrial civilization. The ideals defended by the Romantic Movement made urban dwellers aware of the physical dimension of modernity, which consists of artificial and built urban environments (Wang, 2000, p. 75). Urban dwellers started then to realize that the same technology designed to improve human environments creates a crisis in both the physical and the natural environments. As Wang (2000, p. 79) states, the deterioration of the physical environment in modern societies causes psychological discomfort and leads to a sense of rootlessness and helplessness. In urban environments, nature is an ingredient of decoration (parks, gardens, squares). That is why urban dwellers who seek “natural nature” head to non urban areas to get back to nature.

The Romantic Movement promoted a taste—in the sense of Bourdieu (1984)—and passion for scenery, landscapes, and nature, “fuelling people’s lust for nature and their love of nature or landscape tourism” (Wang, 2000, p. 82-85). Until then, areas uninhabited by humans, such as the wilderness and the sea, had been regarded as inhospitable and frightful spaces. As Wang (2000, p. 86) puts it, “romantic taste for nature is spread throughout society as a whole, and constitutes the cultural foundation of contemporary nature, green, or rural tourism.” Thus, it is argued that the roots of nature tourism are closely related to romanticism since the latter promoted a taste and passion for nature.

Nature tourism has experienced significant growth in the past thirty years (Ceballos-Lascuráin, 1996, p. 53; Pickering and Waver, 2003, p. 7). More and more people are choosing natural sites as their holiday destination, especially those who appear unaffected by humans. The growth of nature tourism can be explained by many factors, two of which appear more important. First, it is a consequence of the growth of the tourism industry itself due to advances in transportation and technology as well as increases in discretionary

income and leisure time (Boyer, 1995b, p. 44; Swarbrooke and Horner, 2007, p. 17-18). Second, it is influenced by the rise of the environmental consciousness brought up by the environmental crisis (Urry, 1995, p. 180; Swarbrooke and Horner, 2007, p. 197; Goeldner and Ritchie, 2009, p. 470). The theme of *conservation of the natural resources* is omnipresent in the media as well as in government and non-government discourses (Lanthier and Olivier, 1998, p. 63), which has reinforced the value of nature (Grenier, 2009, p. 18). Wood and House (1992: 145) point out that the fact that “the animal kingdom and its habitats seem far removed from our everyday existence” has driven many tourists to seek to experience “real nature” and wildlife in natural sites.

With the growth of nature tourism, various related terms have appeared such as ecotourism, adventure tourism, nature-based tourism, nature-oriented tourism, and /environmental tourism. Academics attempt to define them to organize and improve the field of study and tourism managers and practitioners use them to promote their products. There is a multitude of nature-related tourism terms being currently employed by tourism academics, managers, and practitioners, which can be organized according to the fact that they emphasize the environment visited or the environmental management of the experience.

2.2.1 Nature-Related Tourism Terms

From a sociological point of view, nature tourism is “not only a cultural demonstration against but also a cultural compensation for artificial and technological environments”, being built environments considered artificial and factories considered technological (Wang, 2000, p. 87).

Nature tourism regroups various types of tourism such as rural tourism, adventure tourism, wildlife tourism, agritourism, nature-oriented tourism, and nature-based tourism. Ceballos-Lascurain (1996, p. 21) notes that despite sharing general concepts,—all these terms are an alternative to the mass consumptive sea, sun and sand tourism—they are not synonymous. For Ceballos-Lascurain (1996, p. 19-20), “nature tourism denotes all tourism directly

dependent on the use of natural resources in a relatively undeveloped state, including scenery, topography, water features, vegetation and wildlife.” Goodwin (1996: 287) builds on Ceballos-Lascurain’s definition and states that

“nature tourism encompasses all forms of tourism—mass tourism, adventure tourism, low-impact tourism, ecotourism—which use natural resources in a wild or undeveloped form—including species, habitat, landscape, scenery and salt and fresh-water features. Nature tourism is travel for the purpose of enjoying undeveloped natural areas or wildlife.”

Goodwin (1996: 287) not only states that nature tourism uses natural resources but includes the purpose of nature tourists, that is, the enjoyment of undeveloped natural areas or wildlife. The inclusion of the theme tourist behavior in the definition is an evolution since it tells nature tourism managers and policy-makers understand the public they are dealing with and therefore develop more suitable products. Wang’s (2000, p. 87) definition of nature tourism is somehow restrictive since it excludes attractions located in urban environments but based on natural elements, such as zoos and botanical gardens. According to Grenier (2004, p. 65), “nature tourism is a broad term and should include every potential activity focusing on nature (both indoors and outdoors).” By indoors, Grenier means tourist attractions such as natural museums, zoos, and aquariums, which are usually dissociated from nature tourism (Mason, 2000; Grenier, 2004, p. 65-66). At the same time, Grenier (2004: 66) also stresses that the term *nature tourism* creates confusion in the literature because not all activities performed in natural areas are ecologically concerned (Grenier, 2004, p. 66). For instance, when practicing rafting or rappelling while on vacation, people are seeking quests and records and not nature stewardship (Grenier, 2004, p. 66). According to Goodwin’s definition, rafting and rappelling would not be considered nature tourism since the purpose of the activity is not to enjoy undeveloped natural areas or wildlife.

To avoid this confusion, Grenier (2004, p. 66) divides nature tourism into two different concepts: nature-based tourism and nature-oriented tourism. Nature-based tourism is “a form of travel which uses nature as a basis for the activity. Nature is not the main focus but rather the background where the activity is conducted” whereas nature-oriented tourism is “about establishing a communion (as the main goal) with the natural site” (Grenier, 2004, p. 66). In

this sense, nature-oriented tourism can be a form of nature-based tourism, but the contrary is not true (Grenier, 2004, p. 67). In short, Grenier (2004, p. 67) states that nature-based tourism is tourism *in* natural components (from soft-core, such as wildlife watching, to hard-core activities, such as rafting and rappelling) whereas nature-oriented tourism is tourism *for the sake of an harmonious interaction with* natural components (soft-core activities, such as hiking and landscape photography).

Newsome *et al.* (2002, p. 13) follow a different line of thought and state that the primary objective of nature-based tourism is viewing nature. For them (Newsome *et al.*, 2002, p. 13), nature-based tourism occurs in natural settings and fosters the understanding and conservation of the natural environment as well as responsible tourism, that is, a type of tourism that delivers benefits to tourists, host populations, and governments. Newsome *et al.* (2002, p. 13) add that nature-based tourism is sometimes perceived as synonymous with ecotourism, but that they are not because nature-based tourism does not involve environmental interpretation and education as it happens in ecotourism.

Another tourism-related term that causes confusion for academics, practitioners, and tourists themselves is the widely mediated *ecotourism*. The coining of the term is attributed to the Mexican environmentalist Hector Ceballos-Lascurain in 1983. Ceballos-Lascurain (1996, p. 20) classifies ecotourism as a specific category of nature-based tourism and defines it as:

Tourism that consists in travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestation (both past and present) found in these areas. (Ceballos-Lascurain, 1996, p. 20)

This definition of ecotourism has been criticized by tourism experts on the grounds that they restrict environmentally friendly tourism to natural environments. Mason (2000, p. 336) points out that, even though wildlife parks are located in urban areas, “it could be argued that zoos are more appropriate ecotourism destinations than many so-called nature-based, environmentally friendly destinations in relatively remote regions.” What Mason wants to show is that tourists can put in practice their environmental values not only in natural areas

but also in urban areas. After all, why only visitors to undisturbed natural areas, such as the Amazon, can study, admire and enjoy wild plants and animals but not visitors to the Biodome, in Montreal, for instance, where some of the Amazonian species can be found?

Newsome *et al.* (2002, p. 15) state that ecotourism comprises five interrelated components. It is nature-based, ecologically sustainable, environmentally educative, locally beneficial, and generates tourist satisfaction. In an attempt to better define the term ecotourism, Fennell (2001) conducted a content analysis of eighty-five separate definitions of the term and arrived to his own definition. Similarly to Ceballos-Lascurain, Fennell (2001) classifies ecotourism as a form of nature-based tourism, and presents his definition as follows:

Ecotourism is a sustainable, non-invasive form of nature-based tourism that focuses primarily on learning about nature first-hand, and which is ethically managed to be low-impact, non-consumptive, and locally oriented (control, benefits and scale). It typically occurs in natural areas, and should contribute to the conservation of such areas. (Fennell, 2001, p. 24)

Fennell's definition does not restrict ecotourism to natural areas as he states the it "typically occurs in natural areas" (Fennell, 2009, p. 24) but states that the primary focus of tourists is learning about nature. Grenier (2004, p. 63-64) agrees that ecotourism is not restricted to natural areas but disagrees that its main focus is that of learning about nature. In fact, what Grenier (2008) argues is that ecotourism should not be considered as a form or category of tourism, but rather as a management mode that focuses on respecting the environment and thus should not discriminate any type of environment, location, or activity.

The popularization of the term ecotourism has made academics and practitioners use nature-related tourism terms interchangeably and therefore add to the confusion. For instance, Corbett (2006, p. 144) draws upon Boo's (1990, p. 3) definition of ecotourism and states that nature-based tourism is "traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestation found in these areas." Corbett's definition of nature-based tourism is almost a copy of Ceballos-Lascurain's

definition of ecotourism and thus repeats the restriction granted by Ceballos-Lascurain to relatively undisturbed or uncontaminated natural area. According to Boo's (1990) and Corbett's definition (2006, p. 144), nature-based tourism cannot be performed in disturbed or contaminated natural areas, nor by people who are not seeking to study, admire, or enjoy nature. Luzar *et al.* (1998, p. 48) argue that nature-based tourism and ecotourism are synonymous. They state that, "[n]ature-based tourism, also known as ecotourism, nature tourism, or green tourism (used interchangeably here), has been identified as 'traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestation found in these areas'" (Luzar *et al.*, 1998, p. 48). Leung *et al.* (2001, p. 21), however, classify ecotourism as "a fast-growing segment within the nature-based tourism industry."

To add to the confusion, two other terms have emerged in the tourism literature: *environmental tourism* and *sustainable tourism*. Goeldner and Ritchie (2009: 277-279) define environmental tourism as the kind of tourism that draws tourists to remote natural areas and provides them with the opportunity to get back to nature (Goeldner and Ritchie, 2009: 277-279). This definition is similar to Grenier's (2004) definition of nature-oriented tourism on the grounds that the objective of environmental tourists, as well as nature-oriented tourists, is to reconnect with nature through tourism activities. Sustainable tourism is another nature-related tourism term and consists in applying the principles of sustainability to all forms of tourism (Gloaguen *et al.*, 2008: 25). Therefore, it aims to "sustain the quantity, quality, and productivity of both human and natural resource systems over time, while respecting and accommodating the dynamics of such systems" (Prosser, 1994: 31-32). This definition of sustainable tourism does not mention either the location where the tourism activity occurs or the motivations and expectations of tourists. The lack of specification whether the human and natural resources systems are in natural or urban areas, for example, can induce people to think that only tourism in natural environments can and must be sustainable. People forget that there are natural resources in urban areas as well and therefore, urban tourism can and must be as sustainable as ecological tourism. That might contribute to the current confusion in the literature. As for tourists' motivations and

expectations, it should be clear that not only tourists to natural areas should act according to the principles of sustainability but also those to urban areas.

The mixture of definitions goes further and Spilanis and Vayanni (2004, p. 270) note that “sustainable tourism is thought to coincide with alternative forms of tourism and specially with ecotourism, which seems to be the most favored and well known new form of tourism.” Most of the ecotourism definitions state that it is a form of tourism that occurs in natural areas and whose participants aim to learn about the visited ecosystems. Grenier (2004, p. 65) gives theme parks as an example to prove that these terms are not synonymous. Disney World could be an example of sustainability because it promotes the concentration of people in a certain area that has the infrastructure required and therefore does not degrade unexplored natural areas (2004, p. 65). However, Disneyland is not located in a natural area and its visitors are not expecting to learn about the natural environment. This example shows that sustainable tourism destinations are not necessarily nature-based.

Table 2.1 presents the elements contained in the definitions of the six most commonly used nature-related tourism terms.

Table 2.1 Elements of the definitions of six nature-related tourism terms

		Area where it occurs		Participants' main focus/concerns	Benefits to the destination		
		Natural	Urban		economic	social	environmental
Nature Tourism	Goodwin (1996)			enjoy undeveloped natural areas or wildlife			
	Wang (2000)	X					
	Grenier (2004)	X	X	personal motivations			
	Luzar <i>et al.</i> (1998)	X		studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestation			
Nature-based Tourism	Newsome <i>et al.</i> (2002)	X		viewing nature			fosters understanding and conservation of natural environments
	Grenier (2004)	X	X	having nature as the background of their activities			
	Corbett (2006)	X		studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestation			
Nature-oriented Tourism	Grenier (2004)	X	X	establishing a communion with the natural site			fosters the conservation of nature

Scholars (Ceballos-Lascurain, 1996, p. 19-22; Grenier, 2004, p. 65-67; Spilanis and Vayanni, 2004, p. 271) have been defining nature-related forms of tourism to differentiate, for instance, nature tourism from ecotourism. However, nature-related tourism terms continue to generate misunderstandings in the academic circle. For instance, it is still unclear in the literature that nature-based tourism is a neutral term that includes both ecological and non-ecological forms of tourism. What is happening is that some authors are trying to create definitions of nature-related tourism terms that add nothing but more confusion to the current definitional chaos because they use old definitions to define new terms. As a result, a multitude of terms has emerged with the growth of the nature tourism industry and little has been done to build a solid conceptual framework.

In the absence of a consensus, this study adopts Grenier's (2004, p. 66) definition of nature-based tourism to refer to tourism set in natural areas, i.e. "a form of travel which uses nature as a basis for the activity. Nature is not the main focus but rather the background where the activity is conducted". Since nature-based tourism encompasses nature-oriented tourism, the former seems to be the most appropriate to this study on the grounds that it investigates both nature-based and nature-oriented tourist activities.

It is clear that a consensus in relation to the definition of nature-related tourism terms has to be reached. Precise definitions of nature-related tourism terms would contribute to the creation of a conceptual framework that could promote sustainability. However, regardless of the form of tourism in question, tourism managers could apply the principles of sustainability to provide quality experiences to tourists while limiting site impacts.

2.3 Sustainable Nature-Based Tourism

The tourism industry has applied, to some extent, the principles of sustainable tourism to provide quality experiences while limiting site impacts. In a perspective of strong sustainability, in which a healthy biosphere provides a healthy economy and consequently a

healthy society, tourism should be planned, developed, and managed based on resource conservation values.

Hunter (1997, p. 858) argues that the majority of the interpretations of sustainable tourism favor a growth-oriented vision, which lies in the category of weak sustainability since it involves the commodification of nature and the compensation of its loss by economic growth. As he puts it,

Perhaps the most appropriate way to perceive sustainable tourism is not as a narrowly-defined concept reliant on a search for balance, but rather as an over-arching paradigm within which several different development pathways may be legitimized according to circumstance. In other words, there may always be a need to consider factors such as demand, supply, host community needs and desires, and consideration of impacts on environmental resources; but sustainable tourism need not (indeed should not) imply that these often competing aspects are somehow to be balanced. (Hunter, 1997, p. 859)

Hunter (1997, p. 862) argues that sustainable tourism should not be equated to spreading tourism activity in space and time. He notes that sustainable tourism is not only about policymaking but also about how tourists and tourism operators actually behave and function in relation to the utilization of natural resources (Hunter, 1997, p. 859). Hunter (1997, p. 858) goes further and notes that "sustainable tourism must be regarded as an *adaptive* paradigm capable of addressing widely different situations, and articulating different goals in terms of the utilization of natural resources." Hunter (1997) presents four possible approaches through which tourism can promote sustainable development: (1) through a *tourism imperative*, (2) through *product-led tourism*, (3) through *environment-led tourism*, and (4) through *neotenous tourism*. The author equates the first two with the weak sustainability paradigm and the last one with the very strong sustainability paradigm. The environment-led approach is equated with the strong sustainability paradigm and is perhaps most applicable in areas where tourism is non-existent or relatively new. Hunter (1997, p. 861-862) states that the objective of the environment-led approach is to promote types of tourism that rely on the maintenance of a high quality natural environment and create

tourism experiences that highlight environmentally-conscious living through reducing impacts on the environment.

Budowski (1976, in Jacobson, 1994, p.1416) notes that the tourist industry based on the natural assets of the environment can foresee a brilliant future if due consideration is given to the ecological principles that must guide the relationship resource-use. The environment-tourism relationship can be viewed from three standpoints: conflicting, coexistent, or symbiotic. A conflicting relationship occurs when the presence of tourism exploits and is detrimental to the natural environment. A coexisting relationship occurs when there is relatively little contact or effect. Finally, a symbiotic relationship occurs when natural assets are conserved and people gain physical, aesthetic, cultural, scientific, educational, or economic benefits from tourism. (Budowski, 1976, in Jacobson, 1994, p.1416)

To achieve sustainability, nature-based tourism should adopt an environment-led approach. In this approach, forms of tourism that are reliant on a high-quality physical environment would be promoted based on a symbiotic relationship in which tourism is fully integrated with the resource management process. Some nature-based tourism sector representatives, i.e. tour operators, tourism developers, tourism office, have developed management strategies to minimize site impacts while providing quality experiences to tourists. However, in tourist areas where natural resources conservation strategies have been implemented, negative ecological impacts caused by nature-based tourists during activities and tours can still be observed (Grenier, 2004, p. 422; Fennell, 2009, p. 48; Newsome and Dowling, 2010).

One reason why tourism managers and practitioners fail to design and implement effective natural resources conservation strategies is a lack of the understanding of tourist behavior to be able to identify what triggers tourists to engage in behaviors conducive of negative impacts (Grenier, 2009, p. 7). As Pan and Ryan (2007, p. 289) note, the identification and exploration of the motivating factors that lead tourists to decide to visit a certain destination are fundamental to the development of effective sustainable management plans. Dawson et al. (2009, p. 443) note that managers and visitor have different perceptions of problems and argue that managers must try to see situations from a visitor's point of view. Thus, the

understanding of tourist behavior by tourism managers and practitioners can be an invaluable tool to promote sustainable tourism. This topic will be discussed in Chapter III.

2.4 Nature-Based Tourism and the Case of Itacare, Brazil

2.4.1 Tourism in Brazil

Tourism as the economic activity we know today started to consolidate in Brazil in the late 1990s. It is a relatively new phenomenon in a country that has great potential for tourism. Considering that “tourism is socially and culturally produced, constructed, and generated” (Wang, 2000, p. 43) and that it emerges from an overall historical process, some facts of the Brazilian History are vital to the contextualization of tourism in Brazil.

The Portuguese royal family and its court settled in Brazil in 1808. Even though they were far away from Europe, they would adopt and imitate the European and British cultural styles as a means of integration and distinction. They used to move from the cities to the countryside or the seashore in thermal mineral water sites in search of SPA (*Sanus Per Aquam* - health through water) treatments or breeze from the mountains. These activities cannot yet be considered tourism but recreation, since the aristocracy used to stay at their own or friend’s houses.

The first hotels in Sao Paulo were built in the 1850s. Before that period, the immigrants and traders had to spend the night at the same place where they left their animals and goods (Campos, 2009). In 1888, slavery was abolished, and the ex-slaves started to be paid for their work. Some kept working in agriculture in the countryside while others moved to the city. The post-World War II industrialization period gave rise to the middle class, forming a new social structure, in which ex-slaves and European immigrants formed the lower class, the aristocracy formed the middle class and the owners of latifundiums formed the upper class (Bresser Pereira, 1962, p. 317). The growth of the middle class contributed to the growth of

tourism in Brazil on the grounds that the bourgeoisie was no longer the only social class with disposable income and free time to travel.

The recreation of the Brazilian society can be divided into two historical moments: the recreation of the pre-industrial society and the recreation of the industrial society. The latter promoted the birth of tourism, supported by the infrastructure created, such as accommodation and transportation (Camargo, 2007, p. 11-12). In 1907, seven years before the beginning of World War I, the first international tourist excursion arrived in the capital city of Rio de Janeiro on a steamship organized by the Thomas Cook and Son operator. This fact marks the beginning of tourism in Brazil. The 1920s and 1930s were the golden ages of the “healing tourism”, in which people looked for thermal mineral water sites and hotels by the mountains to improve their health conditions (Paixão, 2005, p. 7).

Tourism started to establish itself in 1931 when the Vargas government supported the inauguration of the 39.6-meter statue of Christ the Redeemer¹ (*Cristo Redentor*) at the peak of the Corcovado Mountain, in Rio de Janeiro, in exchange for the support of the catholic church to his authoritarian regime (Santos Filho, 2009, p. 8-9). The statue then became Brazil’s landmark and has attracted a great number of tourists since.

In 1939, the Vargas government attributed to the Department of Information and Propaganda (D.I.P.) the task of supervising, organizing, and inspecting national and international tourism. Then World War II started and both inbound and outbound tourism slowed down. In 1964, the military promoted a coup d’état claiming communist threat and ruled the country until 1985. (Santos Filho, 2007, p. 113)

Brazil was in full industrialization phase and the military regime supported that to promote economic growth. The economic potential of tourism was recognized and in 1966 the Brazilian Tourism Board, EMBRATUR, was created to foster tourism. Besides the mandate to elaborate a national tourism policy, the military government saw in this board a means to

¹ The statue Christ the Redeemer was named one of the New Seven Wonders of the World in 2007.

mask the images of repression and torture mediated by the news by sending abroad a false image of liberalism and democracy. Little was done to organize tourism from the creation of EMBRATUR in 1966 to the end of the military regime in 1985. (Santos Filho, 2004)

Nature and women in small bikinis on the beach were the images chosen to represent a false image of liberalism and democracy during the military regime. The variety of biomes, ecosystems and wildlife was used to attract national and international tourists to Brazilian destinations. This government tactic somehow shaped the country's worldwide known image of a nature-based tourism destination.

2.4.2 Nature-Based Tourism in Brazil

The Romantic Movement of the late 1700s influenced Brazilian fine arts in the early 1800s and Brazilian authors and artists praised nature in their works, promoting a taste and passion for nature. However, Brazilian Romanticism was not a movement in opposition to industrialization because the latter only occurred in Brazil in the early 1900s. The recreation and leisure time of the Brazilian aristocracy and the Portuguese royal family was somehow influenced by romanticism since they imitated the trends of the European bourgeoisie to feel part of the group, and could be considered as the beginning of nature-based tourism in Brazil.

Nature-based tourism started to develop in Brazil in the early twentieth century, with the establishment of the first national park—Itatiaia National Park—in 1937. The sector was propelled by the growth of the tourism industry itself, the rise of the middle class resulting from the industrialization, and the increased standard of life of the middle class during the economic miracle period (*milagre econômico*) in the 1970s. Only after the end of the military regime did the government start to take actions to regulate nature-based tourism. In 1985, the last year of the military dictatorship, EMBRATUR initiated the Ecological Tourism Project and in 1987 constituted the National Technical Commission jointly with the Brazilian Institute of the Environment and Renewable Natural Resources, IBAMA, to

regulate tourism in natural areas (GEB, 2010). In 1986, SOS Mata Atlantica, the first environmental non-profit organization to protect the remnants of the Atlantic Forest, was created and in 1990 the decree 99.547/90 prohibiting the cutting and exploitation of the Atlantic Forest was published.

Nature-based tourism sites attract many tourists in Brazil due to the country's high biodiversity (Lumsdon and Swift, 2001, p. 109-110). There are several biodiversity paradises in Brazil and the Northeast region is one of them. Since the late 1970s, the Brazilian government has targeted the Northeast and the Amazon regions as tourism growth poles (Siegel and Alwang, 2005, p. 1). In the case of the Northeast region, due to its low level of structural and human development, all kinds of infrastructure would have to be developed, from airports to sewage systems. The Brazilian government did not possess the financial means to build such infrastructure (Lumsdon and Swift, 2001, p. 110), especially in the fragile ecosystems of the Atlantic Forest. As Lumsdon and Swift (2001, p. 110) note, one of the major problems in Brazil is that there is a lack of financial resources to manage the natural areas at a time of increased visitation.

Little was done by the Ministry of Trade, Industry and Tourism until the early 1990s to provide structural and human development to foster tourism in the Northeast region. In 1994, an agreement between the Inter-American Development Bank and the Bank of the Northeast of Brazil was signed to foster tourism in the region and provide a higher quality of life to the residents of the area (Whiting and Faria, 2001, p. 2; MinFaz, 2010). This agreement was named PRODETUR/NE (Tourism Development Program in Northeastern Brazil) and totaled US\$670 million, being US\$400 million from the Inter-American Development Bank and US\$270 million coming from the federal and state governments (Siegel and Alwang, 2005, p. 1). The investment aimed the construction of infrastructure, such as sewage and transportation systems, the implementation of natural resources, historic and cultural heritage conservation projects, professional training, as well as the institutional consolidation of the state and municipal administrations (MinFaz, 2010).

PRODETUR/NE was divided in two phases: PRODETUR/NE-I launched in 1994 and PRODETUR/NE-II launched in 1999. Before 1997, annual tourism growth rate was four per cent and after, it jumped to twelve per cent. Besides promoting the growth of the nature-based tourism industry in the Northeast region of Brazil, the program provided the region with sewage and transportation systems. (MinFaz, 2010)

The Northeast region of Brazil comprises nine states. The state of Bahia is the largest and most visited state in the Northeast region. The results of a survey ordered by the Brazilian Ministry of Tourism and conducted by *Vox Populi* Institute in 2009 (MTur, 2009: 49) shows that the state of Bahia is the preferred destination of national tourists. The Atlantic Forest in coastal Bahia is among the most endangered habitats on Earth because it has been reduced by 95 percent (Silva, 2010). There are many protected areas in the state of Bahia. The Itacare-Serra Grande protected area was established in 1993 due to the ecological value of the remnants of the Atlantic Forest, its wildlife and ecosystems as well as the potential for nature-base tourism (GOVBA, 1993). This area possesses a wide range of climatic, geographical, and geomorphological conditions that help account for its enormous diversity of ecosystems, its tremendous biodiversity (Funch, 2009), and the consequent variety of nature-based tourism experiences that it provides. One of the projects included in the Tourism Development Program in Northeastern Brazil (PRODETUR/NE) was the improvement of the road that connects the city of Ilheus to the village of Itacare.

2.4.3 Nature-Based Tourism in Itacare

With the improvement of the road, the daily number of cars on the road increased from 68 in 1995 to 908 in 1998 (Whiting and Faria, 2001, p. 11). There are no statistics data for the village of Itacare that allow for the identification of the environmental issues resulting from the tourist boom. Thus, I interviewed the Secretary of Tourism, the Secretary of Agriculture and Environment, owners of private nature reserves as well as travel agency managers. I asked them to list the environmental issues of Itacare before and after the tourist boom in 1998. The main environmental issues before the tourism boom were (1) deforestation, (2)

predatory hunting, (3) predatory fishing, and (4) sanitation. After the tourism boom, Itacare's main environmental issues are (1) waste management, (2) sanitation, (3) deforestation, and (4) degradation of natural areas. These data show the environmental issues brought by the development of tourism in the region.

The issues of predatory hunting and fishing were controlled with the zoning resulting from the establishment of the protected area Itacare-Serra Grande in 1993. Deforestation was first an issue because of the plantations of cocoa and manioc and nowadays is an issue due to the urbanization of the region. Deforestation continues to be an issue, but loses place to the issues of waste management and sanitation brought or accentuated by tourist activities. During the interviews, many tourists criticized the amount of garbage in the village as well as in the natural areas where tourist activities and tours occur (Figure 2.3). Tour guides, however, blame the tourists for the growing amount of garbage and pollution in the village. What happens in fact is that the municipal waste collection system is not ready to serve the village.

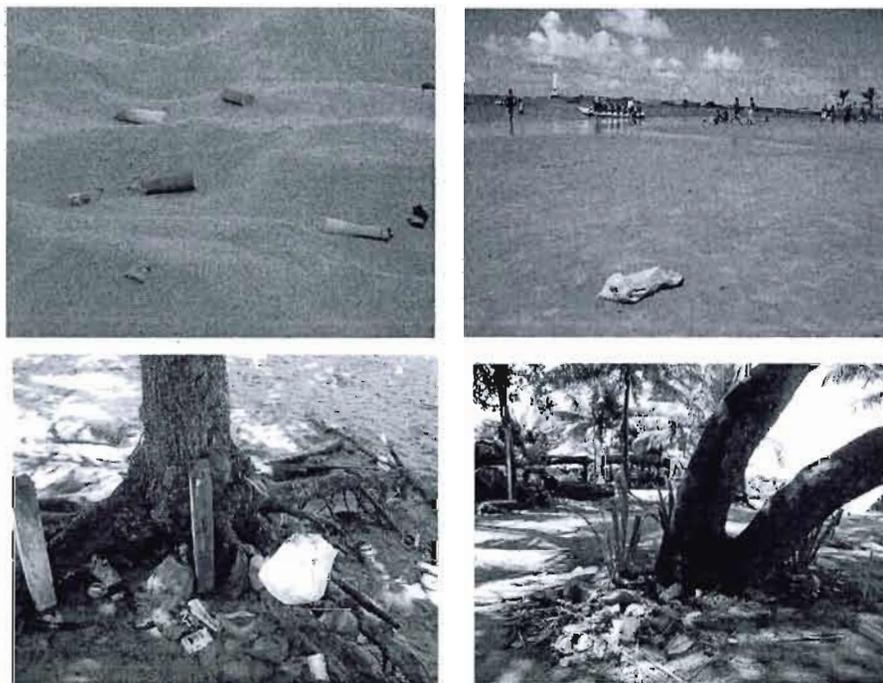


Figure 2.3 Garbage in tourist areas in Itacare. Source: author's collection

The owners of restaurants near tourist attractions criticize the garbage collection system and state that they have to deal with the garbage themselves otherwise the tourists will find the area with the garbage from the day before. They collect the aluminum cans to sell and burn the rest of the garbage. Figure 2.4 shows a burned tree around which garbage is burned daily.

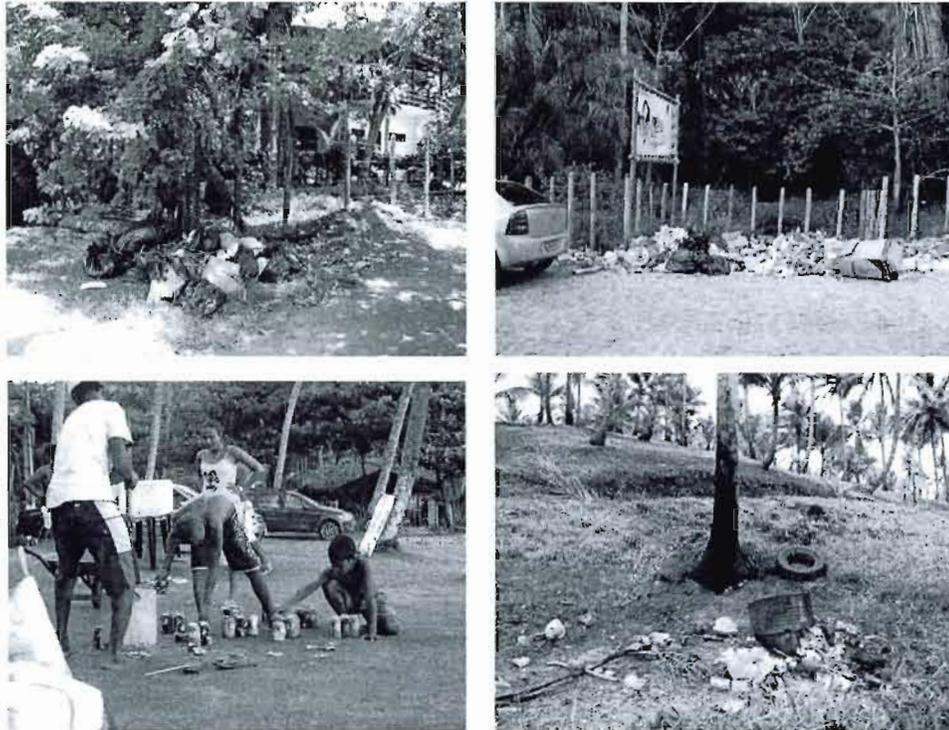


Figure 2.4 Garbage collection system in Itacare. Source: author's collection

Waste management is a major environmental issue in Itacare. The waste management system is unable to deal with the growth of the local population resulting from the growth of the tourism industry. Garbage accumulates in every corner of the village. However, garbage is also observed in tourist areas where the locals usually do not visit (Figure 2.4). As stated by a tour guide, the locals cannot afford to drink bottled water or canned soft drinks every day and the tour guides do not smoke while guiding a group, so the garbage found near the tourist areas is produced by the tourists. It seems that PRODETUR/NE has improved the road that gives access to Itacare but has forgotten to improve the basic infrastructure necessary to support the development intended. To aggravate the situation, at the end of

2009, a bridge was built connecting Itacare to the city of Camamu. This bridge is a new access to Itacare and the increase in the number of visitors is already observed by the tourism sector representatives.

2.4.4 Itacare's Nature-Based Tourism Sector Representatives participating in this Study

The representatives of the nature-based tourism sector involved in this study are travel agency managers, private nature reserve owners, municipal secretaries, tour guides, and tourists engaged in guided activities and tours. There are around thirty travel agencies in the village of Itacare, four of which (A, B, C, and D) participated in this study. Forty-four percent of the tourists who participated in this study bought their tourist activities and tours from these four travel agencies. Three out of the four travel agencies are managed by their owners while one is managed by a hired employee. All four travel agency managers have previously worked as a tour guide for another travel agency. When asked about the aim of the travel agency when it started, one owner answered that the reason why he started his travel agency was to move away from the big city he was living in and enjoy Itacare. In relation to the future development of their travel agencies, three are working to make it grow and one is working to develop better products to be more competitive in the market.

Regarding the management challenges of the products they offer, the representative of agency A mentioned seasonality, lack of specialized workforce, lack of administrative tools, and low flow of tourists due to heavy rains in the emitting states (reflex of climate change), the representative of agency B mentioned transportation since it is expensive to buy 4x4 vehicles, the representative of agency C mentioned lack of specialized workforce, and the representative of agency D mentioned maintaining the level of quality of their products (Table 2.2).

Table 2.2 Management challenges faced by travel agency representatives

Agency A	Agency B	Agency C	Agency D
seasonality, lack of specialized workforce, lack of administrative tools, and low flow of tourists due to heavy rains in the emitting states	transportation (purchase or dependence of outsourced vehicles)	lack of specialized workforce	maintaining the level of quality of their products

There are around six nature reserves near the village of Itacare. Two nature reserve owners participated in this study and both transformed their properties in nature reserves open to the public to preserve the natural beauties of their land. One respondent added that the intention was also “to offer ecotourism experiences to share the beauty of the Atlantic Forest with others.” At the time of the creation of the reserve, both had the challenge to define the scope of their business. They chose to ally financial profit with nature conservation. They have managed to guarantee the conservation of their areas. Nowadays their challenge is to attract to the nature reserve the tourists who go to Itacare seeking beaches so that they can benefit financially from the reserve.

The Tourism Office of Itacare was officially established in January 2009. Before that, there was a secretary of tourism who worked in other municipal offices. The objective of the Tourism Office is to structure the tourism in Itacare as well as its related laws and rules. Nowadays, there is no secretary of tourism because the one resigned eleven months after the beginning of the mandate. I interviewed the former secretary of tourism and she said that the reason for the resignation was the lack of support from the city hall and the other municipal offices in the management and development of tourism in Itacare.

Before 2009, there were the Agriculture Office and the Environment Office. In 2009, the Environment Office was attached to the Agriculture Office and the Agriculture and Environment Office was established. The objective of the Agriculture and Environment Office is to develop sustainable familiar agriculture linked to the conservation of the environment. The secretary of agriculture and environment stated that tourism in Itacare

disrespects the environment since the main objective of the local tourism industry is to benefit financially from the natural resources. He points out that tourism in Itacare can not be disconnected from the conservation of the natural environment because it is the natural resources what the tourism industry sells.

There are two tour guides associations in Itacare: *Guias Nativos* and *ACVI*. Together, both associations total around seventy members. Seven out of eight tour guides interviewed during this study started to work as tour guides because other tour guides encouraged them to pursue this career. One tour guide was encouraged by his father, who had a property near a tourist attraction. In average, they have been working as tour guides for seven years, six of them always in Itacare.

Visitors from all over the country and the world visit Itacare. A hundred and ninety tourists who engaged in guided tourist activities and tours during their stay in Itacare participated in this study. They present the following socio-demographic data: 53% are female, 38% are male, and 9% did not answer this question. Ninety-six percent are Brazilian, coming from nine out of the twenty-six Brazilian states and the federal district, and four percent are foreigners, coming from Argentina, Italy, The Netherlands, and The Czech Republic. Sixty-five percent of all respondents come from six out of the eleven biggest Brazilian capital cities (IBGE, 2007) with population over 1,400,000.00 inhabitants (34% from Sao Paulo/SP, 10% from Belo Horizonte/MG, 8% from Brasilia/DF, 5.3% from Rio de Janeiro/RJ, 3.7% from Salvador/BA, and 3.7% from Porto Alegre/RS). Regarding the last degree completed, 41% hold an undergraduate degree, 40% hold a graduate degree (35% a specialization and 5% a master's degree), 17% hold an elementary or high school degree, 1% hold a post-graduate degree, and 1% hold another kind of degree.

2.4.5 The Definition of Nature-Based Tourism, Ecotourism and Sustainable Tourism in Itacare

The nature-based tourism sector representatives participating in this study were asked about their definition of nature-based tourism, ecotourism, and sustainable tourism. These are nature-related tourism terms often used interchangeably by the tourism industry. These terms are also not clearly defined by the academia, as shown at the beginning of this chapter. The intention of this question is to see if Itacare's tourism sector representatives define these terms as synonyms or if not, to see the distinctions they make. The results of the content analysis of the interviews conducted with representatives of the public and the private sector of the tourism industry are presented in Table 2.3.

Table 2.3 How would you define nature-based tourism, ecotourism and sustainable tourism?

Representatives	Elements of Nature-Based Tourism	Elements of Ecotourism	Elements of Sustainable Tourism
Former Secretary of tourism (N=1)	<ul style="list-style-type: none"> ▪ nature observation ▪ biodiversity 	<ul style="list-style-type: none"> ▪ enjoy the natural resources ▪ radical sports emotion 	<ul style="list-style-type: none"> ▪ tourism ruled by norms that respect the environment
Secretary of agriculture and environment (N=1)	<ul style="list-style-type: none"> ▪ same as ecotourism 	<ul style="list-style-type: none"> ▪ visit nature in protected areas 	<ul style="list-style-type: none"> ▪ explore nature for pleasure while conserving it for the next visitor
Nature reserve owners (N=2)	<ul style="list-style-type: none"> ▪ tourism in natural areas 	<ul style="list-style-type: none"> ▪ community involvement ▪ better quality of life for the residents ▪ interpretation respect to the limits of the natural resources 	<ul style="list-style-type: none"> ▪ does not affect the local community ▪ minimizes negative impacts ▪ respects the local community
Travel agency managers (N=4)	<ul style="list-style-type: none"> ▪ ecotourism ▪ no littering ▪ more restrict than ecotourism ▪ no infrastructure ▪ tourism in natural areas ▪ nature as the background ▪ preservation ▪ nature is the focus ▪ wider than ecotourism 	<ul style="list-style-type: none"> ▪ sustainable tourism ▪ small-scale ▪ infrastructure ▪ tourism in natural areas ▪ benefits to the local community ▪ environmental protection ▪ cultural aspects ▪ a group of principles ▪ adventure ▪ ecology and tourism 	<ul style="list-style-type: none"> ▪ a balance between ecology and economy. It doesn't exist in practice ▪ community participation ▪ nature reserves ▪ benefits for the community
Tour guides (N=8)	<ul style="list-style-type: none"> ▪ learn about nature ▪ nature ▪ no littering ▪ interpretation ▪ respect ▪ adventure ▪ tourism in natural areas 	<ul style="list-style-type: none"> ▪ interpretation ▪ satisfy the tourist ▪ tourism in natural areas ▪ expensive activities and tours ▪ exploitation of tourists ▪ preservation ▪ mass tourism ▪ no littering ▪ link between humans and nature ▪ preservation ▪ little entertainment ▪ adventure tourism ▪ nature tourism 	<ul style="list-style-type: none"> ▪ to balance the income of the residents to decrease the inequality ▪ job generation for the locals ▪ financial support for the family ▪ community engagement ▪ good politics and partnerships ▪ to help the community ▪ growth

In relation to the definition of nature-based tourism, the main elements of their answers are *preservation of nature*, *respect for nature*, and *observation of nature*. Out of the sixteen respondents, two (13%) classified nature-based tourism as a *synonym of ecotourism*; three (19%) indicated that nature-based tourism is tourism that occurs in *natural areas*, therefore

excluding nature-based activities in urban areas; and one (6%) mentioned that in nature-based tourist activities, *nature is simply the background*. Therefore, for the majority of Itacare's public and private sectors representatives, nature-based tourism is tourism that... *promotes the observation of nature while preserving and respecting it*. This definition is in line with the definitions provided by the advocates of ecotourism such as Ceballos-Lascurain and Fennell. These data suggest that, for Itacare's public and private sectors representatives, all nature-based tourist activities are conducive of natural resources conservation. This fact may influence the way they develop and manage their products as well as the way tourists behave while engaging in the activities.

In relation to the definition of ecotourism, the main elements of their answers are preservation of nature, respect of the limits of nature, no littering, interpretation, and harmonious relationship between humans and nature. Out of the sixteen respondents, two (13%) indicated that ecotourism is tourism that occurs in natural areas, therefore excluding nature-based activities occurring in urban areas; one (6%) classified ecotourism as a synonym of nature-based tourism; one (6%) as a synonym of mass tourism; and one (6%) as a synonym of sustainable tourism (by mentioning cultural aspects, benefits and better quality of life for the local community, as well as community involvement). The secretary of tourism, some travel agency owners and some tour guides related the topics *adventure* and *extreme sports* to ecotourism. Some tour guides mentioned the topic *satisfy the tourists* and *expensive activities* when asked to define ecotourism. Therefore, for the majority of Itacare's public and private sectors representatives, ecotourism is tourism that... *promotes harmonious relationship between humans and nature through preservation, interpretation, no littering, and respect of the limits of nature*.

Analysing the definitions of nature-based tourism and ecotourism made by the majority of Itacare's public and private sectors representatives, one may conclude that they are very similar. The main elements of both definitions are *preservation, respect of nature, and occurring in natural areas*. When asked if there was a difference between nature-based tourism and ecotourism (and if they said there was one, what it was), six (38%) out of the 16 respondents answered that in their opinion there is no difference between nature-based

tourism and ecotourism. The ten respondents (62%) who find nature-based tourism and ecotourism different answered that the difference was their principles (25%), the preservation aspects (13%), the scope (13%), the negative impacts caused (13%), the geographical location (6%), the interpretation (6%), and 6% did not know the difference. Thus, even though the majority of Itacare's public and private sectors representatives find that there are differences between nature-based tourism and ecotourism, they cannot tell the difference because their definitions of the two terms are similar.

Tourists to Itacare were surveyed about their idea of where ecotourism occurs (Table 2.4).

Table 2.4 The location where ecotourism occurs according to tourists to Itacare

Please check the statement that best reflects your idea of ecotourism	Percentage (N=190)
Ecotourism occurs in nature (outside urban areas)	70%
Ecotourism occurs either in urban areas or in nature (outside urban areas)	28%
Ecotourism occurs in urban areas	1%
Did not answer the question	1%

Seventy per cent of the tourists answered that ecotourism is tourism that occurs in nature, that is outside urban areas. This fact may create a link in tourists' minds between ecotourism and tourism in natural areas instead of ecotourism and tourism that minimizes the negative ecological impacts of the tourist activities performed. The prefix *eco* has been used as a way to attract people to natural areas, not as a way to attract people to engage in ecologically-friendly behaviors. An example was the Itacare Eco Reggae Festival that happened while I was conducting my fieldwork (Appendix D). The festival attracted thousands of people to one of the urban beaches of Itacare. The next day, the negative ecological impacts were visible: vegetation trampling due to cars parking everywhere and thousands of people jumping; cans, plastic bottles, and cigarettes all over the sand and the vegetation around the beach. It was not an ecological festival whatsoever. What is worse, the city hall was one of the promoters of the festival.

In relation to the representations of sustainable tourism, the answers can be regrouped in relation to economic, social, and ecological aspects. The main category in the economic aspect is *income generation for the locals*. The main categories in the social aspect are

respect towards the local community and community participation. The main category in the ecological aspect is *mitigation of negative ecological impacts.* Therefore, for the majority of Itacare's public and private sectors representatives, sustainable tourism is tourism that... *promotes income generation for the locals, respect towards the local community and community participation, as well as the mitigation of negative ecological impacts.* Both the former Secretary of Tourism and the Secretary of Agriculture and Environment only mentioned ecological aspects when asked to define sustainable tourism. The nature reserve owners mentioned ecological and social aspects. The travel agency managers mentioned economic, social, and ecological aspects. The tour guides mentioned economic and social aspects when asked to define sustainable tourism. A former cocoa farm worker who now works as a tour guide said that sustainable tourism is a type of tourism that allows tour guides to "sustain" (Portuguese equivalent to "support financially") their families.

Overall, Itacare's public and private sectors representatives' definition of sustainable tourism is in line with Proser's (1994) definition since it encompasses economic, social, and ecological elements. Proser (1994: 31-32) notes that sustainable tourism aims to "sustain the quantity, quality, and productivity of both human and natural resource systems over time, while respecting and accommodating the dynamics of such systems." However, this concept is not put in practice in Itacare. Tourism has promoted income generation for the locals, but has not been a tool of social inclusion, since most of the restaurants and accommodations are owned by people from other cities. The biggest travel agency in the city (Agency D in this study) is also owned by a non-local. The former secretary of tourism stated that the tourism practiced in Itacare is insensitive to the natural resources. She notes that, on one hand, the improvement of the road connecting Itacare to Ilheus in 1998 and the bridge connecting Itacare to Camamu in 2009 facilitated the locals' efforts to come and go and brought them economic benefits. On the other hand, it brought social problems such as drugs and the rise of slums as well as ecological problems due to the increased pressure on the fragile ecosystem of the Atlantic Forest.

It seems that tourism in Itacare follows the weak sustainability model, in which natural and artificial capitals are substitutable. In this model, the degradation of the natural resources and

the social tissue is compensated by the increase in the local's income (Hunter, 1997, p. 858). Nature-based tourism in Itacare falls into Budowski's (1976, in Jacobson, 1994, p.1416) category of conflicting relationship between tourism and nature, in which the presence of tourism exploits and is detrimental to the natural environment.

2.5 Conclusion

In this chapter, I examined the concept of sustainability under a weak and strong model. The weak sustainability model seeks a balance between economic, social, and environmental spheres of a certain action and classifies natural and artificial capitals as substitutable. The strong sustainability model classifies natural and artificial capitals as complementary, therefore not substitutable. Then, I looked at the roots of nature-based tourism as well as the multitude of nature-related tourism terms. Finally, I investigated the application of the concept of sustainability to nature-based tourism. The topics examined in this chapter contribute to the understanding of the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited areas in three ways. First, anthropogenic perturbations to an ecosystem function can cause alterations in the health of the ecosystem and threaten the sustainability of the Earth. Nature-based tourism activities and tours are susceptible to alter ecosystems structure and functioning because they involve natural elements. Second, the multitude of nature-related tourism terms used by academics and practitioners makes the development of conceptual frameworks difficult. Nature-based tourism managers use distinct terms interchangeably and besides confusing themselves, confuse tourists. The indiscriminate use of terms such as ecotourism as marketing strategies to attract tourists to natural areas might make tourists associate the term ecotourism (in the sense of ecologically-friendly tourism) with tourism within natural elements, regardless of the ecological intention. Thus, tourists may be induced to think that spending their holiday in nature-based tourism destinations is ecologically-friendly. Third, the tourism management model adopted by a nature-based tourism destination can make tourism be a tool for the development of the industry itself, by adopting a growth-oriented approach, or a tool for the sustainable development of the Earth, by adopting an environment-led approach. A growth-oriented approach involves the commodification of nature and the compensation of its loss by economic growth and favors nature-based tourists' satisfaction over nature conservation. The environment-led model is equated with the strong sustainability paradigm. It promotes types of tourism that rely on the maintenance of a high quality natural environment and creates nature-oriented tourist experiences that highlight environmentally-conscious living through reducing negative ecological impacts on the visited areas.

3. CHAPTER III

NATURE-BASED TOURIST BEHAVIOR

While traveling, people are confronted with a new set of norms of behavior that they can either follow or break. This chapter focuses on three issues. First, it examines the types of undesirable actions committed by nature-based tourists during activities and tours. Second, it looks at the motivating factors that drive tourists to spend their holiday in a nature-based tourist site and their expectations in relation to the activities and tours they engage in. Third, it examines the types of nature-based tourists and their level of environmental concern in an attempt to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited areas. After examining these three issues, this chapter presents the case study analysis related to these issues.

3.1 Tourists and the Environment: Leaving more than a Footprint Behind

Sociology is the study of human social life, groups, and societies (Giddens, 2009, p. 4). The origin of the term *sociology* (*socius* meaning a companion and *logos* meaning the study of) reflects a desire to understand the social forces that structure society and influence behavior (Holden, 2005, p. 39). Social behavior depends on an individual's choices, personal desires, motivating passions or haunting anxieties (Ignasse and Genissel, 1999, p. 101). Personal desires, motivations and anxieties trigger tourist's behaviors in nature-based tourism settings.

When spending a holiday abroad, people are confronted with a set of local norms, rules and models that dictate certain social behaviors (restrain from the original culture, and respect of those from the host region). They have the choice of socializing and integrating to the place they are visiting by following the local norms, rules, and models or deviating by breaking them (Ignasse and Genissel, 1999, p. 107-109). A behavior that violates normative rules can be referred to as deviant (Cohen, 1966, p. 12). In the context of nature-based tourism, deviant actions are those that violate the norms and regulations imposed by the management strategies implemented to ensure the conservation of the natural resources of the visited areas. Dawson *et al.* (2009, p. 443) name these actions undesirable. By violating the local norms and regulations during activities and tours, nature-based tourists commit undesirable actions that may cause negative ecological impacts.

Dawson *et al.* (2009, p. 443) classify undesirable actions committed by tourists as illegal, careless or thoughtless, unskilled, uninformed, and unavoidable. Illegal actions are deliberate violations of legislations or regulations, such as the purchase of endangered species. Careless or thoughtless actions are done without full consideration for their effect on the resource or other people, such as littering. Unskilled actions are the result of a lack of skills or knowledge to do what they know they have to do, such as building a low-impact campfire. Uninformed actions occur simply because certain information has not been communicated to tourists, such as feeding the wildlife. Finally, unavoidable actions occur regardless of tourists' skills, knowledge or previous experience, such as vegetation trampling and soil compaction while hiking.

Lack of skills and proper gear can influence tourists' performance and be the cause of damaging and destructive behavior (Pearce, 2005, p. 138). For instance, tourists hiking on uneven or steep trails wearing flip-flops will find it hard to walk inside the trail and might walk outside the trail, where the terrain is more even and less rocky, causing vegetation trampling, soil compaction, and eventually trail widening.

Cole (2000, p. 71) notes that even though tourists have been more discerning, they are mostly ignorant in relation to the negative impacts of their actions on the host population and

natural environment. What Cole (2000) wants to say is that ill-informed and little experienced tourists commit undesirable actions on tourist sites out of ignorance. As stated by the World Travel Organization (WTO, 2003: 71), “[m]ost of the unsustainable behaviors of the tourists arise from either ignorance of the local customs and norms or from what is called the ‘away from home syndrome.’” Marion (2007, p. 6) notes that most negative ecological impacts in nature-based tourism sites result from insensitivity to the consequences of one’s actions or a lack of knowledge regarding appropriate low-impact behaviors. For instance, tourists who have not been informed that endangered species are in their procreating period at the moment of the tour cannot be blamed if they make noise and disturb the procreation. In most cases, tourists are not advised about the negative impacts of their actions. Newsome *et al.* (2002, p. 24) add that certain activities cause negative ecological impacts because both tourists and tourism managers do not have enough knowledge about the ecological characteristics of the sites they visit and therefore are not able to foresee the negative ecological impact of their actions.

Various are the reasons that lead tourists to commit undesirable actions during activities and tours. Ignorance of the local norms and the fragility of the visited ecosystems, as well as skill deficits and lack of proper gear and information may all be contributors to actions conducive of ecological damage (Pearce, 2005, p. 138-143). The negative ecological impacts caused by nature-based tourists undesirable actions during activities and tours are discussed in the next chapter.

3.2 Tourist’s Adaptation to Local Norms

When spending their free time away from home, people face a set of rules and norms that may differ from those from back home. As tourists, these people have to adapt to the local norms. Cole (2000, p. 75) points out that the source of knowledge plays a central part in the adaptation to local norms. His findings show that local guides provide valuable information that enable tourists to act in a less offensive way while driver-guides provide little information and do not accompany tourists during the activities. However, not all tour guides

or driver-guides are aware of the potential negative ecological impacts caused by tourists. McKercher (1998, p. 8) notes that most of the nature-based businesses are run by owner-operators who have few or no full-time staff other than their family. Most of them have excellent knowledge of the region but poor skills at passing on that knowledge to the visitors (McKercher, 1998, p. 8). By identifying the sources of knowledge that lack the information required to ensure that tourists do not exert negative ecological impacts, tourism managers can help improve the level of information transmitted and consequently minimize careless and uninformed actions.

On the other hand, Cole (2000, p. 77) argues that some tourists have the knowledge but not the willingness to make the required effort to adapt to local norms. This argument can be explained by the tourism system model developed by Jafari (1988) in which he shows why tourists are likely to break local rules at the vacation site (the non-ordinary state) or act in ways that they most probably would not act back home (the ordinary state). Jafari's (1988, p. 167-181) tourism system model comprises five interrelated components: corporation (the factors which contribute to emanation), emancipation (the process of setting "free" from the basal forces), animation (the triumph of non-ordinary culture), repatriation (the process of returning to the base), and incorporation (the eventual flow of the non-ordinary into the ordinary stream).

Jafari (1988, p. 31) notes that tourists possess their own culture and uses the word *culture* "as a frame to include the cultural manifestation of the tourists away from home." The author states that tourism fosters the meeting of at least three distinct cultures: the local culture, the tourist culture, and the residual culture (Jafari, 1988, p. 31). The local culture is that of the host community. The residual culture is native to the origin of the tourist. The tourist culture refers to the lifestyle practiced by tourists in a tourist site. These three different cultures come together to create a synthesised culture: the culture mix. (Jafari, 1988, p. 31-34)

The tourist and the residual culture are related to the same individual. In a tourist destination, "the residual culture assumes the backdrop position to the tourist culture in the foreground"

(Jafari, 1988, p. 164). As people approach the non-ordinary tourism world (tourisdom), they detach themselves from the ordinary real world and assume a new identity (Jafari, 1988, p. 163). What Jafari wants to say is that the same individual has to cope with two different cultures, the one brought from home (the residual culture) and the one acquired in the host community (the tourist culture). Jafari (1988, p. 107-108) notes that tourists write the "script" of their trips influenced by the residual culture and by the tourist and local cultures, which allows for "constant writings, rewritings, and revisions: a text with many contexts." The tourist culture nurtures and holds further control of the tourist soul and shapes tourist behavior (Jafari, 1988, p. 114). The notion of liveliness connotes an illusory state of relaxation, detachment, and disengagement (Jafari, 1988, p. 64). Tourism experiences allow the "self" to be released as well as rules and paradigms to be broken (Jafari, 1988, p. 84-88).

Passariello (1983 in Currie, 1997) has observed that middle-class Mexican tourists on holiday seek typical rural experiences in seaside villages, which are generally considered low class in Mexico. This process of inversion of roles acts as an escape valve from the stresses and rigidities of the weekly, workday world (Passariello, 1983, p. 120 in Currie, 1997 p. 892). Passariello (1983, p. 120 in Currie, 1997 p. 892) notes that this inversion of roles leads to behavior patterns during holidays that are determined by the "historical development of the tourist-producing culture." Passariello points out that this relaxation of the rules often involves acting to an extreme or an inversion of the rules. As the author (Passariello, 1983, p. 122 in Currie, 1997 p. 892) puts it, "[...] night is turned into day and vice versa, work and industriousness are replaced by play and slothfulness." When tourists are immersed in the tourist culture, responsibilities, principles, and values are suspended, or rather on vacation, which somewhat explains why they commit undesirable actions.

Visitors are looking for experiences to satisfy their desires, needs, motivations, and wants. The understanding of what motivates tourists to visit a certain destination as well as the wants they aim to satisfy during the trip may help understand what triggers them to commit undesirable actions that may damage the natural resources of the area they are visiting.

3.2 Tourist's Motivations and Expectations

Travel wants and motives are the forces that drive tourist behavior (Pearce, 2005, p. 55). For Pizam and Mansfeld (1999, p. 201), tourist motivation is “a tourist’s situational combination of several interacting motives that make the tourist travel away from home to a certain destination.” Pearce and Butler (1993, p. 114) note that tourist motivation is discretionary, episodic, future oriented, dynamic, socially influenced, and evolving. Accordingly, some studies (Ali-Knight, 2000; Bloy, 2000; Pearce, 2005; Swarbrooke and Horner, 2007) have shown that there is no widely recognized way of categorizing a main motivation factor in tourism on the grounds that every tourist is different and so are their wants and the factors by which they are motivated. Moreover, tourists seek to satisfy not only one but a number of distinct wants simultaneously on the *same* trip (Ali-Knight, 2000, p. 7).

Pearce (2005, p. 17) developed a concept map for the understanding of tourist behavior (Figure 3.1). The map begins with a consideration of the characteristics of both the individual tourist and the destination. Motives for traveling arise from the characteristics of each individual tourist and destination images arise from the perception of the destination. These two factors define tourist’s choices. Then tourists are ready to travel from home to the destination to live social, cultural, and environmental contacts that are responsible for their on-site experiences. Based on tourists’ on-site experiences, different outcomes of the trip occur to the tourists, the hosts, and the settings.

Pizam and Mansfeld (1999, p. 195-196) point out that tourists’ individual characteristics as well as their social and cultural background determine the escape motivations, that is the desire to travel away from something or some place (push factor), while destination’s characteristics, activities, and attributes determine the compensation motives, that is the fact to seek elsewhere what is lacking at home (pull factor).

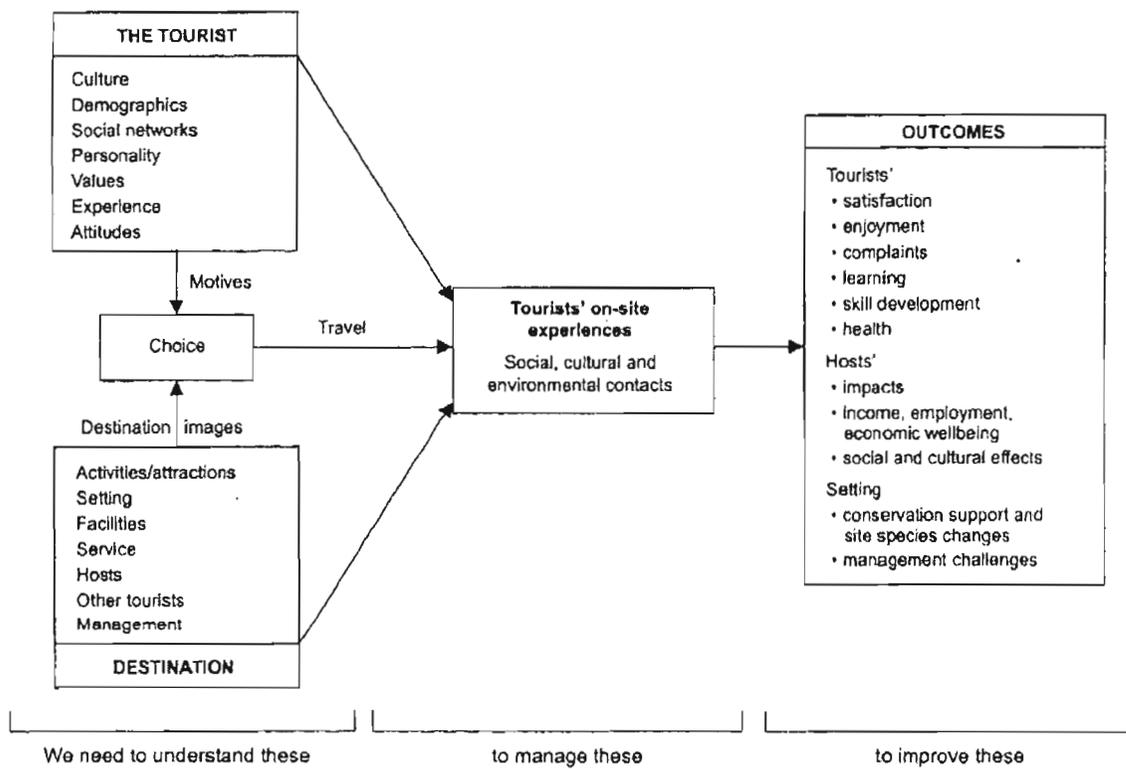


Figure 3.1 Concept map for the understanding of tourist behavior.

Source: Pearce, 2005, p. 17

This map shows that depending on the characteristics of each individual tourist, a distinct set of motives arises and depending on the characteristics of the destination, a set of destination images arise. It indicates that to improve the trip outcomes, such as negative ecological impacts, it is necessary to understand tourists' motives and destination images so that the on-site experiences can be properly managed.

The research on tourism motivation allows the identification of both motivational factors and categories of motivation. Dann (1981), McIntosh and Goeldner (1986, in Ali Knight, p. 6), Pearce (1988), and Pearce and Lee (2005, p. 226) have identified motivational factors and Swarbrooke and Horner (2007, p. 54) have identified categories of tourist motivations (Table 3.1).

Table 3.1 Categories of tourist motivations and tourist motivators

	Dann (1981)	McIntosh and Goeldner (1986)	Pearce (1988)	Pearce and Lee (2005)	Swarbrooke and Horner (2007)
Physical		physical motivators including refreshment of body, mind, and health	relaxation needs	relaxation	relaxation, sun tan, exercise and health, sex
Emotional	motivation as fantasy		safety/security needs	escape	nostalgia, romance, adventure, escapism, fantasy, spiritual fulfilment
Personal	travel as a response to what is lacking yet desired	interpersonal motivators including desire to meet new people, visit friends and relatives, and seek new and different experiences	relationship needs	novelty, relationship enhancement	visiting friends and relatives, making new friends, need to satisfy others, search for economy if on limited income
Personal development	motivation as auto definition and meaning		self-esteem and development needs, self-actualisation / fulfilment needs	self-development	increase one's knowledge, learn a new skill
Status		status and prestige motivators including a desire for personal development with the desire for recognition and attention from others			exclusivity, fashionability, obtaining a good deal, ostentatious spending opportunities
Cultural		cultural motivators including desire to see and know more about other cultures			sightseeing, experiencing new cultures

Categories of Motivations based on Swarbrooke and Horner (2007)

Table 3.1 shows that the reasons why people travel constitute a set of several motives that can occur separately or combined. Tourists may be led by different holiday-taking motivations during their lives. Physical motivators such as relaxation and sun tanning push people to spend their holiday on a quiet beach. These people may go camping in the jungle on a future trip pushed by the personal motivator of learning new skills. Moreover, different motivations may be fulfilled during the same trip.

The concept of a career in leisure or tourism has been used to explain the variation in tourists' motivations for traveling and engaging in tourist activities and tours (Pearce and Lee, 2005, p. 227). The core idea of this concept is that tourist' motivations change with accumulated travel experience. Pearce and Lee (2005, p. 236) point out that some motivational factors vary according to accumulated travel experience. Others, such as novelty, escape, relaxation, relationship enhancement, and self-development show no significant difference in their importance between levels of travel experience and therefore seem to comprise the central backbone of motivation for all travelers. Tourists with the higher travel career levels give greater emphasis to externally-oriented self-development motivators *host-site involvement* and *seeking nature* (Pearce, 2005, p. 78).

Drawing a parallel between Pearce and Lee's (2005) motivational factors and Swarbrooke and Horner's (2007) categories of motivation indicated in Table 3.1, it seems that four categories are common to all tourists, that is physical, emotional, personal, and personal development. The identification of motivations common to any type of tourist contributes to behavioral studies because it would be unrealistic to study tourist behavior individually.

The six categories of motivation indicated by Swarbrooke and Horner (2007, p. 54) can be explained by various theories.

The *physical motivators* are probably the oldest types of motivators in tourism. They might have been first identified through the travels of the eighteenth-century aristocrats to thermal stations in search of therapy and relaxation as well as to warmer countries in the winter in search of sun (Boyer, 1995b, p. 43). Grenier (2004, p. 429) points out that the nature-based

tourists recognise the benefits that the interaction with natural environments offers to their minds and souls and mentions that nature-oriented tourism has provided the same benefits to human health as those provided by wilderness therapy.

The *emotional motivators* arise from the need of nostalgia, safety, romance, escape, adventure, fantasy, and spiritual fulfilment. Nostalgia represents the desire to return to a former time or place and nature-based tourism allows people to spend at least part of their lives in this idealized situation. Some tourists expect their vacation to be safe, romantic, and exotic, however extravagant and illusory their expectations (Dann, 1996, p. 102). The motivators *romance* and *spiritual fulfilment* can be satisfied through experiences in pristine nature and the freedom it provides. Grenier (2004, p. 430) notes that nature tourists seek a nostalgic reacquaintance with a long-gone distant environment to build their identities. He points out that when tourists look back at their origins (nature), nostalgia and a feeling of safety arise. Dann (1996, p. 107) notes that nature-based tourists expect mother nature to fulfill their emotional motivators of safety, protection, and security.

Dann (1996, p. 103) notes that the appeals of the fantastic and romantic are successful to the extent that they place the tourists in a childlike state that takes them away from the tedious adult existence. In the post-industrial era, new physical motivators have emerged, such as the need to escape from the day-to-day life, urbanized centers, and the alienation of modern life. Currie (1997, p. 888) notes that pre-industrial societies did not make any distinction between work and leisure but rather between sacred and profane work. Post-industrial societies, however, make a distinction between work and leisure regardless of being profane or sacred. Urbain (1993, p. 160-164 in Dann 1996, p. 107) points out that under the influence of Romanticism, tourists' attention has focused on the countryside because cities become to be regarded as inhuman and the countryside becomes to represent the roots of ancient hospitality and truth that people dream about and to which they desire to return. Natural areas then represent a calm place and pull people who desire to be pushed far from the dense urban centers.

Gottlieb (1982, p. 167, in Currie, p.889) uses the concept of inversion to explain why the ideal American vacation is the direct antithesis of the *back home*. In this explanation, the individuals view *work* and *home* as opposing environments when they are not on vacation, but they view *work* and *home* as one environment, i.e. *back home*, while on vacation (Gottlieb, 1982, p. 167, in Currie, p.889). In a study on the new environmental paradigm and nature-based tourism motivation, Luo and Deng (2008, p. 392) conclude that tourists who are more supportive of the environmental paradigm factor *limits to growth* and *ecocrisis* have a higher desire to be close to nature, to learn about nature, and to escape from routine and issues associated with cities.

Fantasy is an emotional motivator related to tourists' desire to be deceived by illusions. Boorstin (1971, p. 78) notes that pseudo-events, such as tourist activities and tours, tend to be more interesting and attractive than spontaneous events to tourists because people travel to elude the familiar and discover the exotic. Jafari (1988, p. 118) argues that fantasy fuels and is fuelled by the tourist culture and represents the ink with which a tourist writes "the script" of a trip. Dann (1996, p. 120) notes that tourists make the mental connection between fantasy and travel, assuming that they can only satisfy their extravagant expectations or alleviate the back home pressures elsewhere. The author (Dann, 1996, p. 121) adds that, since the pressures of the home environment are multifaceted, there are various types of fantasy that can alleviate these pressures, such as naming, color, or sound fantasy. In the context of nature-based tourism, the sounds of nature can temporarily replace the monotonous sounds of home.

The *personal motivators* show that people take a holiday seeking novelty and social encounters, such as to visit friends or relatives, meet new people, or satisfy others. In a study on polar tourists, Grenier (2009, p. 15) concluded that the Polar Regions give the impression of novelty since tourists think they are the first humans to step on the ice ground, forgetting that indigenous populations have been living there long before their guided visit. Moreover, when the wilderness covered all North America, it attracted little attention and nowadays people want to experience wilderness because they are aware that it will disappear eventually (Grenier, 2004, p. 422). Regarding social encounters, various nature-based

activities allow for socialization since they involve group activities in shared locations, such as camping.

The *personal development motivators* show that people participate in tourist activities to build their identity and challenge their physical skills. Their roots might reach back to The Grand Tour of the beginning of the eighteenth century, period in which wealthy British traveled through Europe to acquire cultural capital and improve their education (Boyer, 1995b, p. 43). Grenier (2004, p. 428) notes that people engaging in nature-based tourist activities that involve challenges are in fact seeking “an opportunity to discover the missing part of human existence.” The author (2004, p. 428) points out that humans are in search of a new balance between the civilised and the wild but points out that in fact, “what humans are truly after is a simple reconnection with themselves through nature.” Tourists build their identities when realizing that they can be less urban and live exciting and adventurous experiences in nature-based tourism sites (Grenier, 2009, p. 16). Hard-core activities such as rafting, trekking, waterfall climbing and zip-lining are a way to challenge one’s own physical skills and therefore build or reinforce one’s identity.

The *status motivators* indicate that people engage in tourist activities and tours to assert their social status. The motivator ‘exclusivity’ can be explained by the concept of prestige. In a study on prestige-worthy tourist behavior, Riley (1995) concludes that relative exclusivity and personal/empathetic desirability are the two underlying dimensions of prestige-worthy leisure travel. As Riley (1995, p. 646) puts it, “[t]he different perspectives of prestige-worthy leisure travel demonstrated that prestige conference depends on the contextual, situational, and perspectival differences of each individual.” For instance, experienced tourists may find a destination little exclusive while less experienced tourists may find it exclusive. Travel experience influences tourists’ assessment of exclusivity and the level of prestige that a certain tourism experience confers.

The *cultural motivators* can be explained by the search of distinction and authenticity. The motivator *experience new cultures* allow for the acquirement of cultural capital that according to Bourdieu (1984) leads to the attainment of distinction. Bourdieu (1984, p. 258)

explains that “different things differentiate themselves through what they have in common.” What tourists have in common is the fact that they spend their holidays traveling rather than staying at home. Therefore, they differentiate themselves through the destination they visit, the activities and tours they engage in, their travel arrangements (independent, package, or mixed), and the type of accommodation and transportation they favor. Boyer (1995, p. 45) argues that distinction is the driving force of tourism and attributes its origin to The Grand Tour, period in which the adventurous upper-class young British learned enough to be acclaimed cosmopolitan and therefore distinguish themselves from the stay-at-home upper-class young British. Mowforth and Munt (2009, p. 134) note that unlike the new bourgeoisie, who is high in both economic and cultural capital, the *petite bourgeoisie* is low in economic capital. For the *petite bourgeoisie* to establish its social class identity and therefore differentiate itself from the working class below and the new bourgeoisie above, it needs to acquire cultural capital to compensate the lack of economic capital. Nature-based tourism can be a way to acquire cultural capital. Nature-based tourists who travel independently or in small groups seek to distinguish themselves from mass tourists by living exclusive, often secluded, exotic, and distinctive experiences that provide them with the cultural and social capitals necessary to build their identity (Boyer, 1995 ; Grenier, 2004, p. 58, 2009, p. 9 ; MacCannell, 2001, p. 381 ; Urry, 1992).

Moreover, when experiencing new cultures, it is argued that some tourists want to see the authentic culture of the host site. MacCannell (1976, p. 105) stated that the quest for authentic experiences was the driver of all tourist behavior. For him, tourists can be compared to pilgrims who seek authenticity in places away from their daily lives. Wang (2000, p. 89) notes that people seek to spend their holidays in nature or rural areas because these environments look more authentic than the urban environment where they live. As Wang (2000, p. 89) puts it,

Nature or rural scenery thus increasingly becomes the sign of simplicity, idyll, authenticity, and amenities, in contrast to the pollution, complexities, and artificiality exhibited in urban and technological environments. Natural nature acts as the “green” dream-place in contrast to the “grey” urban nightmare.

MacCannell's theory has been criticized (Urry, 1995; Cole, 2000; Pearce, 2005). Urry (1995, p. 49) notes that the post-modern tourist quest for authenticity does not reside in reality but in their interpreted representation of that reality. A destination or experience is considered authentic if the physical and the built environment are consistent with the historical period (Urry, 1995, p. 190). Cole (2000, p. 78) points out that postmodern tourists are less concerned with authenticity as long as the visit is enjoyable. Pearce (2005, p. 142) agrees and notes that authenticity has evolved and sincerity, effort, involvement, and the quality of the encounter have become "the new currency of on-site tourist appraisal." Moreover, the concept of authenticity is relative because if one does not know the reality of the destination, one is unable to assess its authenticity. Based on that, Pearce's (2005, p. 142) statement that "the effortful sincerity of the encounter and the sense of mutual immersion in making the experience the most it can be for all participants" seems to be a more logical driver for tourist behavior than the quest for authenticity. Nature-based tourists are motivated by the assumption that natural areas are more authentic than the built environment of urban areas. A natural area may seem inauthentic to tourists when it seems too modern or planned and lacking the natural components inherent to that area (Urry, 1995, p. 190).

Pearce *et al.* (1998, in Luo and Deng, 2008, p. 393) outline four important trends in describing nature-based tourist's motivations: desire to experience the environment, to rest and relax in pleasant settings, to pursue special interests and skills, and to be healthy and fit. In a study on the nature of nature tourism, Grenier (2004, p. 430) concludes that what nature-based tourists in fact desire is to experience a nostalgic reacquaintance with nature.

Swarbrooke and Horner (2007, p. 55) note that all tourist's motivational factors depend on the personality and lifestyle of the potential tourist, their past experiences, who they are planning to take a vacation with, their demographic characteristics, and how far in advance they book their trip. In fact, the motivators represent one's desires. It does not necessarily mean that such desires will become reality. What really determines the choice of a holiday destination and the tours and activities to be taken are the determinants. They are divided into personal and external (Swarbrooke and Horner, 2007, p. 62-68). The personal

determinants (Table 3.2) are perceived differently by each tourist and do not carry equal weight at all times.

Table 3.2 Personal determinants of tourist behavior

Circumstances	Knowledge of	Experience of	Attitude and perceptions
health	destinations	types of holidays	perceptions of destinations and tourism organizations
disposable income available	the availability of different tourism products	different destinations	political views
leisure time	price differences between competitor organizations	the products offered by different tourism organizations	preferences for particular countries and cultures
work commitments		taking a trip with particular individuals or groups	fear of certain modes of travel
family commitments			how far in advance they like to plan and book a trip
car ownership			ideas of what constitutes value for money
			their attitude to standards of behaviors as a tourist

Source: Swarbrooke and Horner, 2007, p. 63

The external determinants (Table 3.3) are interpreted in different ways by individual tourists and influence them at different levels.

Table 3.3 External determinants of tourist behavior

1 st level	2 nd level	3 rd level	4 th level	5 th level
views of friends and relatives	the marketing activities of the tourism industry	the influence of the media	national, society-wide, political, economic, social, and technological factors	global, political, economic, social, and technological factors

Source: Swarbrooke and Horner, 2007, p. 64

Both personal and external determinants are not static; they can relate to or be combined with each other. For instance, tourists are personally influenced by their perception of a destination and at the same time externally influenced by the views of their friends or relatives about such destination. People might have the idea that tropical forests are dangerous destinations. However, after hearing about a friend's trip to a tropical forest, they might change their perception and decide to spend the next holiday in such a place.

Motivational factors combined with personal and external determinants shape tourist's choice of holiday destinations, activities, and tours. This knowledge contributes to the understanding of tourist's expectations towards the activities and tours they are going to engage in and consequently their on-site behavior. The categorization of tourists by types is another topic that contributes to the understanding of tourist behavior.

3.3 Tourist Types

The categorization of tourists into types can provide some insights on which types of tourists cause more or less negative impacts and helps to identify some of the reasons why such impacts occur. Tourist typologies attempt to group tourists together according to their choices of destination, activities, tours, and travel arrangements, as well as their life style and personality traits. Cohen (1972, 1979), Plog (1974; 2001), Smith (1978), Dalen (1989), and Perreault, Dorden and Dorden (1979, in Swarbrooke and Horner, 2007) have developed conceptual classifications of tourists (Table 3.4).

Table 3.4 Tourist types

Cohen (1972)	Plog (1974)	Smith (1978)	Perreault, Dorden and Dorden (1979) ¹	Cohen (1979)	Dalen (1989)	Plog (2001)
organized mass tourist	psychocentric	charter	budget travelers	recreational	modern materialists	dependable psychocentric
individual mass tourist	near psychocentric	mass	adventurous	diversionary	modern idealists	near dependable
explorer	mid-centric	incipient mass	homebody	experiential	traditional idealists	centric dependable
drifter	near allocentric	unusual	vacationers	experimental	traditional materialists	mid-centric
	allocentric	off-beat	moderates	existential		centric venturer
		elite				near-venturer
		explorer				venturer

¹retrieved from Swarbrooke and Horner, 2007, p. 87-88

Table 3.4 confirms the varied and evolving characteristic of tourists since some authors update their categorizations. Moreover, it shows that people can belong to different groups of tourists according to the trip they are taking. Cole (2000, p. 72) notes that typologies based on life style and personality traits, such as Plog's, Perreault, Dorden and Dorden's, and Dalen's, convey little information about tourist behavior and points out that the only ones to deal with tourist behavior are Cohen's and Smith's.

The typology presented by Smith (1978, 1989, p. 12) links tourists numbers to their adaptation to local norms. The respect of local norms is an important factor in the prevention of negative ecological impacts. Table 3.5 shows the relationship between tourists' numbers and their adaptation to local norms.

Table 3.5 Frequency of types of tourists and their adaptation to local norms

Tourist Types	Number of Tourists	Adaptation to Local Norms
charter	massive arrival	demands western amenities
mass	continuous influx	expects western amenities
incipient mass	steady flow	seeks western amenities
unusual	occasional	adapts somewhat
off-beat	uncommon but seen	adapts well
elite	rarely seen	adapts fully
explorer	very limited	accepts fully

Source: Smith, 1989, p. 12

Regarding tourists' expectations, Smith (1989, p. 11-14) notes that the explorers seek discovery and new knowledge. They do not consider themselves as tourists. The elite tourists expect and use the facilities and infrastructure that could be prearranged by a travel agency. They have traveled a lot and differ from the explorers because they consider themselves as tourists. The off-beat tourists seek to get away from the tourist crowds as well as to heighten the excitement of their vacation by doing something beyond the norm. The unusual tourists travel on organized tours but buy optional day trips. They tend to be interested in the primitive culture but are much happier with their safe packed food and bottled drink instead of tasting local food. The incipient mass tourists seek Western amenities regardless of the location of the tourist site and many would complain if such amenities differ from those back home. They travel as individuals or in small groups. The mass tourists form a heterogeneous group. Their travel budget varies and they accept to get what they are paying for. However, they all expect Western amenities as well as trained and multi-lingual hotel staff and tour guides to satisfy their wants and needs. Charter tourists expect to find abroad the amenities and infrastructure they have back home. They arrive in large groups, wear name tags, are assigned to numbered buses, and counted aboard. For them, the destination may be of little importance. (Smith, 1989, p. 11-14)

Considering that nature-based tourism is the type of tourism in which the natural resources are the background for activities and tours, the general typology of tourists apply to nature-based tourists. Thus, explorer, elite, off-beat, unusual, incipient mass, mass, and charter tourists can be found in nature-based tourist sites.

3.3.1 Tourist's Environmental Commitment

Nature-based tourism is often related to nature conservation; consequently, nature-based tourists are often considered to have ecological values (Wood and House, 1992: 175; Grenier, 2004: 66). Swarbrooke and Horner (2007, p. 201-202) point out that tourists should not be classified simply as environmentally-concerned or not. They argue that tourists form a heterogeneous group and therefore should be classified in terms of shades of green tourist. Poon (1993) states that as from the 1990s tourists have become spontaneous and unpredictable, and not as homogeneous as their predecessors. Figure 3.2 shows the shades of green consumer in tourism.

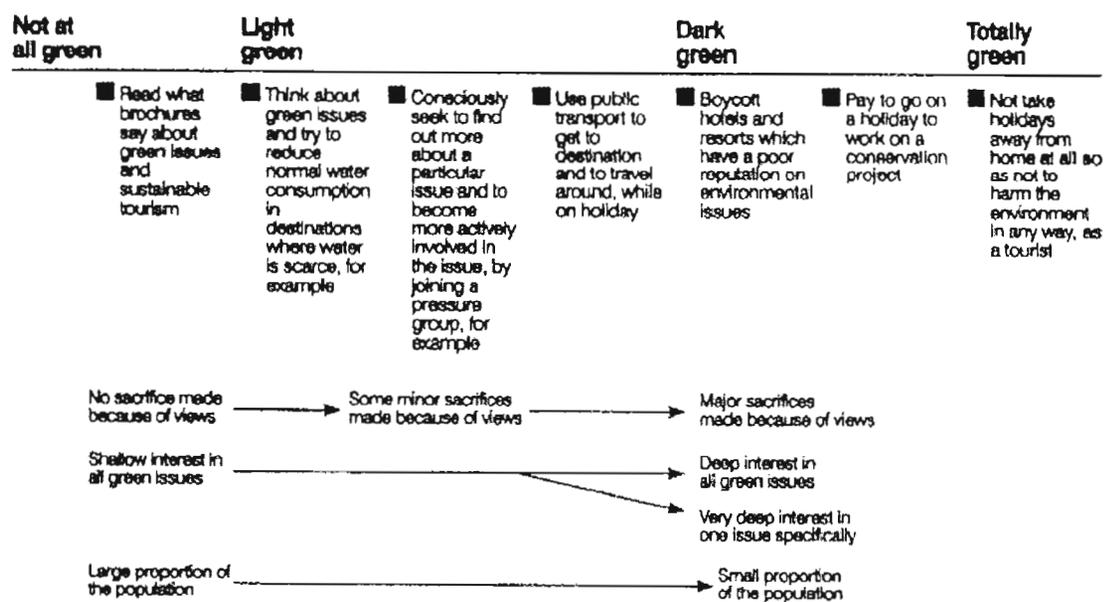


Figure 3.2 Shades of green consumer in tourism.

Source: Swarbrooke and Horner, 2007, p. 202

According to Swarbrooke and Horner's (2007, p. 201-202), the level of tourists' environmental concern ranges from not at all green to totally green. Other categorizations of tourists based on their ecological values are made by Accot *et al.* (1998) and Holden (2008, p. 196-197). Accot *et al.* (1998) classify tourists to natural areas as shallow or deep

ecotourists based on their views of sustainability. According to Accot *et al.*'s (1998, p. 247) classification, a deep ecotourist would not require Western comforts if this puts a strain on the resources of the host population and would wish to eat local dishes wherever this does not place undue strain on local resources. On the other hand, a shallow ecotourist would want to visit pristine nature where humans have had little impact on the environment and might want to watch, experience and help maintain wildlife and landscapes but may indulge in activities that do not strictly concur with those attitudes (Accot *et al.*, 1998, p. 248). In relation their motivations to visit a nature-based tourist site, Accot *et al.* (1998, p. 249) note that both deep and shallow ecotourists show an instrumental valuation of nature and would visit a region for the aesthetic values that the locality may hold and their intention to promote natural resources conservation. What differentiate the two types of tourists are the reasons for wanting to promote conservation. Shallow ecotourists want to preserve small parcels of land, or specific species for the benefit of future humans while deep ecotourists take a holistic view of conservation and recognize the need for all species and all areas to be conserved for their own sake rather than only those parts necessary to human survival (Accot *et al.*, 1998, p. 249).

Holden (2008, p. 238-239) presents a categorization of tourist's ecological commitment in form of a four-level pyramid, each level corresponding to tourist's interests in the environment. The level of demand for each type of tourist is reflected in the width of the base of each segment. According to Holden (2008, p. 238-239), at the base of the pyramid are the loungers, who have a low level of interest in the environment beyond its pleasant surroundings. The focus of the holiday of this type of tourists is mostly based on relaxation and enjoyment. Then upper in the pyramid are the users, who are interested in the environment having special features to provide the type of activities that will satisfy their wants, such as river for rafting or waterfalls for rappelling. At the third level of the pyramid are the eco-aware, who show an increasing interest in the environment not for how they can use it but for its own sake. And at the top of the pyramid are the specialist eco-tourists, who have a high level of commitment to the environment to the point to actively protect it.

Holden (2008, p. 239) relates these four types of tourists to the activities they might engage in during their stay in the destination. Loungers may favor sunbathing, swimming, and nightlife; users may prefer activity-based holidays; eco-aware may engage in activities for pure interest in nature and foreign cultures; and specialist ecotourists may participate in conservation or scientific research holiday activities.

The categorization of tourist's environmental commitment show that environmental concern is not related to the geographical location of the tourist destination (natural areas as opposed to other areas) but to the tourists themselves. Spending free time in natural settings characterizes a person as a nature-based tourist but not as an environmentally-concerned person. Therefore, nature-based tourists are as susceptible to cause negative ecological impacts as any other type of tourist.

Depending on their knowledge, skills, gear, information received, motivations, internal and external factors, profile, and environmental commitment, nature-based tourists show different behaviors during tourist activities and tours. These behaviors may cause different types and levels of negative impacts on the natural resources of the visited areas. To prevent such impacts, visitor management strategies have been designed and implemented in some nature-based tourism sites.

3.4 Case Study Analysis

3.4.1 Tourists and behaviors in Itacare during Activities and Tours

Participant observations of guided tours and activities revealed that tourists to Itacare engage in four of the five categories of undesirable actions presented by Dawson *et al.* (2009, p. 443). Tourists committed careless or thoughtless actions such as leaving leftovers of fruit on the ground (Figure 3.3). Tourists committed unskilled actions such as grabbing corals when snorkeling because they could not swim properly. Tourists committed uninformed actions such as walking outside the designated trail because they have not been warned that since the

terrain is uneven they would need special shoes (Figure 3.3). As expected, tourists committed unavoidable actions during all tours and activities, such as vegetation trampling and soil compaction while hiking. A list of the undesirable actions committed by tourists during activities and tours is presented in the next chapter (Table 4.9).



Figure 3.3 Careless and uninformed actions committed by tourists to Itacare

Figure 3.3 shows a coconut that was left behind by tourists who did not take into consideration the fact that fruit may attract animals and the plastic straw used for drinking the coconut water is not biodegradable. It also shows tourists hiking on steep trails in the middle of the forest wearing flip flops, which may force them to walk outside the trail where the ground is more comfortable.

A tour guide notes that most of the undesirable actions happen because tourists have no or little knowledge about the fragility of the area they are visiting; besides, they do not know how to behave in such area. Therefore, they are neither aware that their actions are conducive of negative ecological impacts nor know the negative ecological impacts these actions may cause. The tour guide adds that many tourists arrive to the destination in search of beautiful beaches but do not know that to arrive to what motivated them to visit Itacare, i.e. the beaches, they have to walk for an hour or so in the Atlantic forest. Moreover, most of the tourists do not have appropriate gear or are not fit enough for hiking in the humidity of the forest and therefore may engage in behaviors that cause negative ecological impacts. The tour guide suggests that the way the destination is sold both nationally and internationally by the tour operators be revised as well as the way that local travel agencies present their products at the moment they are selling it to tourists. An analysis of the pamphlets

describing the activities and tours distributed by the four travel agencies participating in this study reveals that only one travel agency informs tourists the level of physical effort and the gear required to minimize the negative ecological impacts during the activities and tours.

As stated by Cole (2000, p. 75), the source of knowledge plays a central part in the level of adaptation to local norms. I did not see any tourist carrying guiding books during the activities and tours that I observed. When I asked the tourists I interviewed if they had read any type of guide on little-impact behaviors in natural areas before arriving in Itacare, all respondents answered “no”. Thus, the sources of knowledge about little-impact actions in Itacare are in fact only the tour guides. The pamphlets distributed by the local travel agencies and the map distributed by the tourism office indicating the attractions, restaurants and accommodation options do not show any natural resources conservation message. The brochure of one of the tour guides associations reads ‘our mission is to combat garbage and take good care of visitors’ (Nativos, 2010). However, it does not instruct tourists on how to avoid littering.

As McKercher (1998, p. 8) reports, most of the nature-based businesses are run by owner-operators whose staff has excellent knowledge of the region but poor skills at passing on that knowledge to visitors. This is supported by my interviews with travel agency managers, government representatives and tour guides as well as by my participant observations. The representatives confirm that there is no formal training for tour guides in Itacare. The tour guides confirmed having difficulties to call tourist’s attentions because some tourists get offended. Moreover, low wages jeopardize the only source of knowledge on little-impact actions during tourist activities and tours in Itacare. As a tour guide puts it, “When we are poorly paid, we do not make much effort.”

Tour guides in Itacare not only have poor skills at passing on their knowledge to visitors but also do not think that their main role is to pass on advice on nature conservation. Government representatives, travel agent managers and tour guides were asked about the roles of tour guides during tourist activities and tours. The answers of the government representatives and the travel agent managers can be grouped in four categories: (1) to

interpret the natural heritage, (2) to lead the group, (3) to ensure tourists' safety, and (4) to provide advice on nature conservation. The answers of the tour guides can be grouped in five categories: (1) to interpret the natural heritage, (2) to ensure tourists' safety, (3) to ensure tourists' satisfaction, (4) to lead the group, and (5) to provide advice on nature conservation. Government representatives, travel agent managers and tour guides agree that the main role of tour guides is to interpret the natural heritage. They all prioritize the role of ensuring tourists' safety and satisfaction than the role of providing advice on nature conservation. The only source of knowledge on low-impact actions during tourist activities and tours available in Itacare does not consider advice on nature conservation as a priority task.

Some tourists and a government representative said that Itacare should follow the tourism management model adopted by the Brazilian nature-based tourism destination Fernando de Noronha, where the residents of the island act as rangers of the natural heritage and call the attention of tourists who commit undesirable actions. A tourist to Itacare who had already visited Fernando de Noronha states that she does not mind following rules while on vacation if she sees that the rules promote the conservation of the natural resources of the destination.

3.4.2 Motivations and Expectations of Tourists to Itacare

Tourists to Itacare were surveyed about their motivations and expectations. The first question of the self-administered questionnaire was open-ended and asked tourists to answer in their own words what motivated them to spend their free time in Itacare. The results are grouped according to the categories of motivators suggested by Swarbrooke and Horner (2007, p. 54) (Table 3.6).

Table 3.6 Motivations of tourist to Itacare

Categories of Motivators according to Swarbrooke and Horner (2007, p. 54)	% (N=189)	Motivators
emotional motivators	49	1. natural beauties (beach, forest, landscapes) 2. stress relief
personal motivators	31	1. recommendation of friends or family members 2. novelty 3. price
physical motivators	11	1. relaxation 2. tranquility 3. weather conditions
cultural motivators	4	1. variety of activities 2. tourism
personal development motivators	3	1. adventure sports 2. surfing
status motivators	2	1. famous destination

Out of the 189 respondents, 49% indicated emotional motivators as their main motivator to visit Itacare (38% natural beauties and 11% stress relief). Twenty-three per cent of these indicated *beach* as the natural beauty that motivated their destination choice. Nineteen per cent of the respondents indicated two motivators (9% indicated *emotional* as the second motivator, 5% indicated *physical* as the second motivator, 2% indicated *personal* as the second motivator, 2% indicated *personal development* as the second motivator, and 1% *cultural* as the second motivator). It seems that visitors are attracted to Itacare to relieve the stress from their daily routines with the help of the local natural beauties. The recommendations of friend as well as novelty were important factors considered by visitors when choosing Itacare as their destination. This data shows that for the visitors the destination itself is not as important as showing their peers that they have visited the same places or that the visitors have visited a new placed and therefore earned a new pin on their world map.

In relation to the expectations towards the activities and tours they participate in, tourists showed similar interests (Table 3.7).

Table 3.7 Expectations of tourists to Itacare

How important is it to ... for your enjoyment during activities and tours?	Not at all important (%)	A little important (%)	More or less important (%)	Somewhat important (%)	Very important (%)	Mean (N=190)	SD
live an unusual experience	2	4	12	47	35	4,09	0,907
get away from civilization	4	15	21	37	23	3,59	1,117
increase my knowledge of nature	1	4	19	43	33	4,04	0,863
touch exotic plants	20	29	29	17	5	2,58	1,132
touch exotic animals	21	28	27	18	6	2,61	1,172
be in harmony with nature	1	3	9	37	50	4,33	0,810
explore untouched parts of the site	4	13	25	41	17	3,56	1,036
meet new people	2	6	15	51	26	3,94	0,900

Note: 1 = not at all; 2 = a little; 3 = more or less; 4 = somewhat; 5 = very important

For the majority of the respondents, it is *somewhat or very important* to live an unusual experience, to get away from civilization, to increase their knowledge of nature, to explore untouched parts of the site, and to meet new people. The data from the questions about the importance of meeting new people were crossed with the data about the importance of getting away from civilization and being in harmony with nature because they seem contrasting (Table 3.8).

Table 3.8 A cross table of the expectations of tourists to Itacare

		How important is it to meet new people for your enjoyment during activities and tours?				
		not at all important (%)	a little important (%)	more or less important (%)	somewhat important (%)	very important (%)
How important is it to get away from civilization for your enjoyment during activities and tours?	not at all important (%)	0	0	1	2	2
	a little important (%)	0	3	1	7	4
	more or less important (%)	0	1	3	14	4
	Somewhat important (%)	1	2	7	18	8
	very important (%)	1	1	3	10	7
How important is it to be in harmony with nature for your enjoyment during the activities?	not at all important (%)	1	0	0	0	0
	a little important (%)	0	0	1	2	1
	more or less important (%)	0	1	3	4	2
	Somewhat important (%)	1	2	6	23	6
	very important (%)	1	4	6	22	18

To get away from civilization can be related to getting away from noise, pollution, crowds, regulations, obligations, routine, and built environments. To be in harmony with nature can be related to integrating with the natural environment. To meet new people can be related to humans socializing with humans. Table 3.8 shows that even though tourists want to be in harmony with nature and away from civilization, they also want to meet new people during activities and tours. The cross table reveals that the tourists surveyed have varied and contrasting expectations towards the nature-based activities and tours they engage in.

3.4.3 Types of Tourists to Itacare

Itacare has seen its visitor's profile change since the tourism boom in 1998. Before the improvement of the road connecting Ilheus to Itacare, visitors were mostly surfers who endured hours driving on unpaved roads then more hours walking through the Atlantic forest in quest of the best waves. The road brought more visitors and visitors demand accommodation, restaurants and travel agencies. With the improvement of the infrastructure, visitor's profile has changed from surfers to people who fly from their home cities to Ilheus to spend their holidays in Itacare. These visitors come from the big Brazilian cities, spend an average of one week in Itacare, and engage in activities and tours offered by local travel agencies.

Since the construction of the bridge connecting Camamu to Itacare, which reduced in one third the distance between Itacare and the state capital city of Salvador, Itacare has seen the rise of a new type of visitor: the inhabitants of the surrounding cities who spend a day or the weekend in the area. These tourists rarely engage in guided activities and tours; they explore the region by themselves. Informal interviews with some small businesspeople (shop, restaurant, bed and breakfast, travel agencies) suggest that this type of tourist does not spend money in the destination since they take food from home to Itacare, do not buy any gifts from the gift shops, and do not engage in any paid activity or tour. All interviewees noted that the only thing that these tourists leave in Itacare is garbage, what nowadays the village has more than enough. The owner of a restaurant by the beach mentioned that weekend

tourists do not eat in their restaurant but use the shower that is available for the clients. The owner of an ecolodge mentioned that Itacare has to be more selective with the type of visitors they attract by charging a daily-use fee as it occurs in Fernando de Noronha. Once again, Fernando de Noronha has been mentioned as an example of a tourist destination that uses tourism as a tool to promote conservation.

This study is interested in tourists who engaged in guided activities and tours. These tourists were surveyed about their travel arrangements, that is if they were traveling individually or on a package trip, alone or accompanied, and in which type of accommodation they were staying (Table 3.9).

Table 3.9 Travel arrangements of tourists to Itacare

Travel Arrangements	Percentage (N=190)
1) Individually	56%
1) Package trip	44%
2) Traveling alone	6%
2) Traveling with friends	29%
2) Traveling with family	50%
2) Traveling with other kind of company	15%
3) Staying in a bed & breakfast	86%
3) Staying in a friend's house	2%
3) Staying in a hotel	6%
3) Staying in another kind of accommodation	6%

There is little difference between tourists traveling individually or on a package trip (56% and 44%, respectively). In relation to the choice of the local travel agency for activities and tours, the 44% travelling on a package trip is divided as follows: 37% bought their day-trips with the Itacare-based travel agency that is the partner of the tour operator where they bought their package trip in their home cities and 7% bought their day-trips with another local travel agency.

Comparing the profile of the tourists surveyed and the typology presented by Smith (1978, 1989, p. 12), four types of tourists are identified: explorers, elite tourists, unusual tourists,

and incipient mass tourists. As stated by Smith (1978, 1989, p. 12), the explorers seek discovery and knowledge. Forty-three per cent of the tourists surveyed find it somewhat important and 33% find it very important to increase their knowledge of nature through the information received during the day-trips. The elite tourists expect and use the facilities and infrastructure that could be prearranged by a travel agency. Most of the tourists to Itacare engage in guided tours organized by travel agencies to visit the natural areas. The unusual tourists travel on package tours but buy optional day trips and represent 44% of the surveyed tourists. The incipient mass tourists seek the amenities they have back home regardless of the location of the tourist site and travel as individuals or in small groups. Sixty-six percent of the tourists surveyed expect to see infrastructure on the visited sites. According to tourist's level of adaptation to local norms, Smith (1978, 1989, p. 12) states that explorers and elite tourists adapt well to local norms while unusual and the incipient mass tourists are more intolerant to local norms since they seek the same amenities and infrastructure they have back home. These findings reveal that on a same day-trip group, tour guides have to deal with tourists holding different levels of adaptation to local norms. This fact renders the management of nature-based tourists' behaviors a challenging task.

3.4.4 Environmental Commitment of Tourists to Itacare

Tourists were surveyed about the environmentally-friendly actions they do on a daily basis back home. The results show that 6% of the respondents are a member of an environmental organization and 94% are not. When asked if they would you be willing to pay a fee for nature conservation projects in Itacaré, such as the reforestation of the Atlantic forest or the protection of sea turtle nests, 64% answered yes and 36% answered no. The tourists willing to pay a conservation fee indicated that they would pay between R\$5 and R\$10 (CDN3 and CDN6) per activity or tour (Table 3.10).

Table 3.10 Level of the environmentally-friendly actions that tourists to Itacare do on a daily basis

How often do you ... in your daily life?	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)	Mean (N=190)	SD
sort recyclable materials	8	21	27	22	22	3,29	1,245
reduce your water consumption	1	9	32	34	24	3,72	0,956
choose public transportation	24	29	19	16	12	2,63	1,322
reduce your energy consumption	3	7	32	36	22	3,68	0,990
purchase locally produced goods	6	18	46	24	6	3,05	0,930
reduce your paper consumption	4	10	34	37	15	3,49	0,985

Note: 1 = never; 2 = rarely; 3 = sometimes; 4 = often; 5 = always

The high standard deviation for all items listed in Table 3.10 indicates that the data is spread out from *never* to *always*. The results about recycling are distributed from *rarely* to *always*. The answers about water, energy, and paper consumption reduction range from *sometimes* to *always*. More than half of the respondents answered that they never or rarely favor public transit. The results about the purchase of locally produced goods are distributed from *rarely* to *often*.

According to Swarbrooke and Horner's (2007, p. 201-202) shade of green tourists (from not at all green to dark green), tourists to Itacare can be classified as light green. Following Accot *et al.*'s (1998) classification of tourists based on their views of sustainability (shallow or deep ecotourist), tourists to Itacare can be classified as shallow ecotourists on the ground that they require the infrastructure and comfort they have back home (66% want infrastructure on the tourist sites) and want to visit pristine nature where humans have had little impact on the environment (58% find somewhat important/very important to explore the untouched parts of the visited site for their enjoyment during activities and tours).

In relation to Holden's (2008, p. 238-239) four-level pyramid of tourist's interests in the environment (loungers, users, eco-aware, and specialist eco-tourist), tourists to Itacare belong to the first two levels of the pyramid. They can be classified as loungers due to their interest in the pleasant surroundings, relaxation, and enjoyment (motivator to spend vacation in Itacare: 49% indicated natural beauties and stress relief, 11% indicated relaxation, 7% indicated activities available). They can also be classified as users due to their interest in the environment having special features to provide the type of activities that satisfy their wants.

3.5 Conclusion

In this chapter, I examined the types of undesirable actions committed by nature-based tourists during activities and tours, nature-based tourists' motivations and expectations in relation to the destination and the activities and tours offered, the typology used to categorize tourists, as well as nature-based tourists' level of environmental commitment. The topics examined in this chapter contribute to the understanding of the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited areas in four ways. First, people choose to engage in nature-based tourism experiences to satisfy their personal wants. To satisfy their personal wants, people may commit undesirable actions that can be conducive of negative impacts on the natural resources of the visited sites. Most of the undesirable actions conducive of negative ecological impacts are careless, unskilled and uninformed. These actions occur for three reasons: first, information about the ecological negative impacts of tourism activities is rare or inexistent; second, nature-based tourists do not have the gear required to cause low impact during activities and tours; and third they are not informed prior to engaging in activities and tours about the behavioral norms, regulations and the negative consequences of their actions on the natural resources of the areas they are visiting. In a lesser extent, deliberate violations of legislations or regulations are committed by nature-based tourism. Moreover, some tourists do not have the willingness to make the required efforts to adapt to local norms. That happens because tourism experiences allow the "self" to be released as well as rules and paradigms to be broken. Second, nature-based tourists seek to satisfy not only one but a number of distinct wants simultaneously on the same trip. That generates various expectations in relation to the activities and tours they engage in. For instance, tourists choose to spend their holidays in a nature-based tourism destination to get away from civilization; however, they also expect to meet new people and see the same type of infrastructure they have back home. Third, the categorization of tourists by types provides some insights on which types of tourists are more likely to commit undesirable actions. An important factor underlying tourists' respect and adaptation to local norms is their sources of knowledge about the destination (other tourists, guide books, internet, travel agency staff, tour guides, and driver-guides). Well informed tourists would arguably be more likely to adapt to the host culture, norms, restrictions, and laws. Fourth, nature-based tourists form a heterogeneous group since they show different levels of environmental values, interests and commitments. The heterogeneity of nature-based tourist's environmental values, interests and commitments show that environmental concern is not related to the geographical location of the tourist destination (natural areas as opposed to urban areas) but to the tourists themselves. Spending free time in natural settings characterizes a person as a nature-based tourist but not necessarily as an environmentally-concerned person. In summary, nature-based tourists are as susceptible to cause negative ecological impacts as any other type of tourist.

4. CHAPTER IV

ECOLOGICAL IMPACTS CAUSED BY NATURE-BASED TOURISTS AND NATURAL RESOURCES CONSERVATION STRATEGIES

Nature-based tourism is on the increase in many parts of the world. The increasing number of visitors to nature-based tourism sites causes increased pressures on the visited ecosystems and various types and levels of negative ecological impacts. This chapter focuses on two issues. First, it examines the negative ecological impacts caused by nature-based tourists during activities and tours. Second, it looks at the natural resources conservation strategies brought by the tourism industry to manage these impacts. After examining these two issues, this chapter presents the case study analysis related to these issues.

4.1 Ecological Impacts of Undesirable Actions Committed by Nature-Based Tourists

A public servant from Salvador, the capital of the State of Bahia, was enjoying his bowl of açai berry cream in an off-road vehicle during a tour. As soon as he finished eating, he threw the plastic bowl through the vehicle window into the Atlantic Forest. Three girls who were travelling together appeared not to believe that and screamed to the driver to stop the car. The driver braked and one of the girls shouted to the man, "Please, get out of the car and pick up the plastic bowl you threw on the road." He answered, "Don't worry, it's only one bowl. It won't make any difference in such a huge forest. Moreover, soon this land will be deforested anyway. So why do you bother?" The girls and the other passengers seemed outraged and the man did not seem ashamed of his action at all. (Source: participant observation)

Since the end of World War II, environmentalists and scientists have been warning about the negative impacts of anthropogenic activities on the natural resources. Tourism is one of these activities, especially nature-based tourism since it involves natural elements. Grenier (2004, p. 422) notes that nature-based tourism often provides recreation at the expense of the environment. That occurs because fragile ecosystems attract nature-based tourists. For instance, the global worries around the depletion of the ozone layer and the recent attention given to climate change have contributed to an increase in the number of visitors to polar regions (Grenier, 2009, p. 9). Leung *et al.* (2001, p. 23) note that tourist activities in fragile, primitive zones, “rather than facility development, often become the main stressor to ecological communities.” On the other hand, some ecosystems attract nature-based tourists because of their magnificence. That is the case of the Amazon or the Atlantic forest, home of extraordinary species diversity.

The conservation of the diversity of species is a subject in the spotlight, so ecosystems such as tropical forests attract nature-based tourists interested in experiencing such imposing ecosystem and seeing live the diversity of species that live in it. However, the continuous growth of nature-based tourism has contributed to an increasing pressure on the fragile habitats and the environmental deterioration of the visited sites in various levels. As Newsome *et al.* (2002, p. 79) put it, “[w]ith increasing numbers of people visiting a spatially diminishing and continually degraded natural world there is much scope for negative impact.”

Nature-based activities and tours can be classified according to their level of physical rigors as soft-core, medium-core, and hard-core (Laarman and Durst, 1987: 5-6; Fennell, 2002, p. 16-17; Fennell, 2003, p. 33-38) (Table 4.1). Soft-core tourist activities and tours performed in natural settings require a minimum of physical efforts from the tourists who engage in them. Medium-core activities and tours require a certain level of physical efforts. Hard-core activities and tours, on the other hand, require high level of physical engagement from tourists.

Table 4.1 Nature-based tourism activities according to the level of physical rigor demanded

Soft-core	Medium-core	Hard-core
wildlife viewing	canoeing / kayaking	mountain biking
sun tanning	trekking	trekking
hiking	caving	waterfall climbing
boat and ship cruising	rafting	diving
safari	snorkeling	backcountry skiing
camping	snowshoeing	windsurfing
animal sledding	swimming	kite-surfing
fishing	hunting	rock climbing
sightseeing	sailing	bungee jumping
photography	bicycling	zip-lining
spa sessions	yoga-themed tours	paragliding
visiting zoos	horseback riding	parachuting
visiting botanical gardens		
visiting insectariums		
panoramic flight		

Source: author's compilation

According to Laarman and Durst (1987, p. 5-6) and Fennell (2002: 16-17; Fennell, 2003: 33-38), tourists participating in each of these three categories show different motivations, expectations, interests, commitment, and attitudes towards the natural environment. Moreover, the infrastructure required to operate medium-core and hard-core activities usually cause more ecological degradation than soft-core activities. Thus, different levels of negative ecological impacts can be observed during nature-based activities and tours.

Liddle (1997) notes that visitors to natural areas exert negative impacts on biomass, vegetation, water, soils, wildlife, and aquatic life. These impacts caused by tourists include vegetation trampling, tree damage, wildlife disturbance, soil compaction, picking up of rare plants, purchasing of exotic animals, and pollution through waste disposal. Such impacts are classified as biophysical since they damage both the physical environment and the biological forms within it (Newsome *et al.*, 2002, p. 80). Marion and Reid (2007, p. 5) note that "all visitors inevitably leave an imprint." The authors (Marion and Reid, 2007, p. 6) divide negative impacts into avoidable (theft of plants, littering, wildlife disturbance) and unavoidable (vegetation trampling, soil compaction) and note that the biggest challenge of tourism managers is to eliminate the avoidable impacts and reduce to a minimum the unavoidable ones.

The loss of biotic components causes the alteration of ecosystem structure and functioning. This phenomenon is called disturbance. Disturbances can be natural or anthropogenic (Newsome *et al.*, 2002, p. 40). Natural disturbances are caused by natural causes such as fires, heavy rains or drought periods whereas anthropogenic disturbances are caused by human activities such as removing vegetation, waste disposal, animal feeding, disturbance to reproduction, and accelerated erosion. The difference between natural and anthropogenic disturbances to ecosystems is that in the case of natural disturbances the ecosystems recover through a phenomenon called succession whereas in the case of anthropogenic disturbances the recovery process is unnatural and may take longer, if it ever happens (Newsome *et al.*, 2002, p. 40).

4.1.1 Different Ecosystems, Different Impacts

Considering that each physical environment has its own level of resistance to disturbances and resilience, impact significance depends on the type and source of impact, environmental sensitivity of the ecosystem, other cumulative pressures, and the effectiveness of any management that is in place (Newsome *et al.*, 2002, p. 79). A study carried by Liddle (1997, p. 42) on the number of passages necessary to reduce the vegetation of a tourist site by 50% shows that in the eucalyptus woodland 12 passages are enough to reduce vegetation by 50% while in the subtropical grassland it takes 1,475 passages. That is why it is fundamental that tourism planners and managers understand the structure, functioning, and level of fragility of the involved ecosystems (potential disturbances and the ecosystem's resistance, tolerance, and resilience levels) to be able to identify the potential sources of impact (whether natural or anthropogenic) capable of altering their structure and functioning.

It is also important to take into consideration the concepts of intensity of usage and concentration of visitors when assessing the negative impacts of an ecosystem (Newsome *et al.*, 2002, p. 47). In the case of nature-based tourism, intensity of usage and concentration of visitors are usually connected to organized mass tourism as opposed to independent small-scale tourism. For long time mass tourism has been criticized for being detrimental to the

destination on the grounds that its intensity of land usage and concentration of visitors into one area cause severe damages to the visited site. An example of that is the destruction of some destinations in the Mediterranean since the democratization of tourism through the rise of the mass tourism in the 1960s (Boyer, 1995b, p. 44). However, Hammitt and Cole (1998, p. 37) point out that significant impacts are observed at recreational sites after only short periods of time and low levels of use. They note that vegetation impacts occur rapidly in the initial period of use and that most impacts reach their maximum levels even on relatively lightly used sites (Hammitt and Cole, 1998, p. 65). These studies show that it is not only the intensity of use that causes severe impacts but rather the reaction of the ecosystem to the activities performed as well as the way they are managed. In this sense, the advantage of mass tourism is that the trip is organized in such a way that it keeps the visitors in specific areas with infrastructure to serve them. As Newsome *et al.* (2002, p. 83) note, concentration of use mean that, even though severe impacts might occur, only small parts of large areas (national park) are impacted. In the case of small areas (nature reserve), however, a higher proportion of the total area is at risk of being damaged by tourists.

As for independent tourism, visitors are free to define their itinerary and thus have access to pristine natural sites that have low infrastructures are not structured to host them. The ideal nature-based tourism management should mix elements of mass tourism with those of alternative tourism. For instance, guided tours should take few participants to reduce noise pollution and soil compaction, but take them to places where there is infrastructure to serve them so that pristine areas remain untouched. Otherwise, visitors will improvise and alter the functioning of the visited ecosystem. In a tourist area without services, washrooms for example, tourists might leave the trail and go into the woods to do their basic needs. The consequence of such action is that human waste can transmit diseases to the wildlife. In a steep trail unequipped with handrail, tourists may use the vegetation for support. Depending on the intensity of use, time, and the level of fragility of the vegetation, some of the visitors' actions may lead to vegetation redraw, erosion, and path widening. In areas without trash bins, garbage may find its way into the environment. Solid waste (plastic, carton, metal, glass) can cause harm to wildlife.

4.1.2 Hidden Ecological Impacts of Casual Actions

Actions done by nature-based tourists during tourist activities and tours might seem harmless to them. What they may not know is that a casual action, such as the discarding of plastic in the woods, can cause indirect impacts that are severe or negligible, depending on the ecological characteristics of the ecosystem that receives the plastic. Moreover, with nature-based tourism in the increase, there is a potential for more solid waste being discarded by humans in natural areas. The wildlife faces various degrees of injuries when in contact with discarded human waste. Thus, the combination of the frequency that an action occurs with the ecological characteristics of the area makes casual actions a possible threat to biodiversity.

Newsome *et al.* (2002, p. 63) note that tropical rainforests are a diminishing but important tourism resource. More and more people are interested in visiting this diverse biome. Even though established walkways are in place, visitors still walk outside the established paths in order to maximize their photograph opportunities. Besides path erosion and littering, walking outside the trails causes vegetation trampling, which favors the invasion of herbs, weeds, and rats. That alters the local ecosystem structure and in turn causes a reduction in the number of small endemic mammals (Newsome *et al.*, 2002, p. 63).

Trampling is a common problem in natural areas. Zabinski and Gannon (1997, p. 233) studied the effects of trampling on soil microbial communities and conclude that the loss of vegetation on campsites leads to a decreased availability of root exudates and organic matter as sources of energy for microbiota. The reduction of the microbiota generates soil erosion, which is detrimental for the establishment of trees, and impacts on nutrient cycling at the local scale. Vegetation trampling impacts negatively not only on soil properties but also on trees and nutrient cycling (Zabinski and Gannon, 1997, p. 237). A decrease in the number of plants and trees causes habitat loss and consequently a reduction in the wildlife on the tourist site.

Newsome *et al.* (2002, p. 48-49), conducted a study on the spread of an exotic soil-borne fungus to the roots of susceptible plants on the walking trails whose results show that it occurred because soil has been moved from one place to another and in water due to the movement of soil on footwear and the wheels of vehicles. The ecological impacts of the fungus infection are reduced species richness, altered structure and reduced biomass, causing degradation of plant community (Newsome *et al.*, 2002, p. 48). That causes indirect impacts such as reduced habitat for fauna, reduced sources of seed, nectar and pollen for insects, birds and mammals as well as a decrease in invertebrate preys for insectivorous species (Newsome *et al.*, 2002, p. 49). The overall impacts of the fungus spread on walking trails due to the movement of soil on footwear and the wheels of vehicles are the decline in faunal populations, loss of nature conservation and tourism value.

A study conducted by Griffiths and Van Schaik (1993, p. 626) on the impact of human traffic on the activity and abundance of wildlife in a tropical forest shows that some animals avoided heavily traveled areas and others changed their activity period from diurnal to nocturnal activity. Some animals became habituated to human presence and would restrain their location to one place, which could alter the pattern of seed predation and dispersal impacting on the local dispersal of tree species as many plant species rely on mammals for their seeds to be transported (Griffiths and Schaik, 1993, p. 626). Moreover, the study indicates that intensive tourist activities in natural areas have the potential to generate ecological change by producing population increases of the habituated animals, which can alter the food chain.

These studies are examples of the interrelation between the biotic and abiotic components within an ecosystem. That is why a holistic view of the situation and a systematic approach to the management of tourism is vital if the tourist activity aims to promote sustainability. Moreover, knowledge of ecological sensitivity is fundamental for the understanding of environmental impacts. This study does not aim to pursue a deep analysis of the ecological sensitivity of ecosystems or environmental impacts but rather it presents a snapshot of potential ecological consequences of undesirable actions committed by nature-based tourists.

Table 4.2 shows five common inappropriate nature-based tourist behaviors during tourist activities or tours and their potential negative impacts on two types of abiotic natural resources (soil and water) and table 4.3 shows the same data for two types of biotic natural resources (flora and fauna).

Table 4.2 Five common inappropriate nature-based tourist behaviors and their potential negative impacts on soil and water

action performed by nature-based tourists-	abiotic (non-living) natural resources			
	negative impact on soil		negative impact on water	
	Direct	indirect	direct	indirect
off-road vehicle usage	dispersion compaction	loss of organic matter erosion reduced soil aeration and water infiltration barrier to plant root development loss of habitat for wildlife	pollution introduction of pathogenic bacteria	alteration of aquatic ecosystems due to soil erosion into the water risk to marine life survival
inappropriate waste disposal	Pollution compaction	reduced soil aeration and water infiltration barrier to plant root development loss of habitat for wildlife	pollution poor water quality	reduced production of oxygen by algae change in water temperature alteration of aquatic ecosystems risk to marine life survival
vegetation trampling	Dispersion compaction	loss of organic matter erosion reduced soil aeration and water infiltration barrier to plant root development loss of habitat for wildlife	alteration of aquatic ecosystems due to soil erosion into the water	risk to marine life survival
food provisioning to wildlife				
wildlife approach	compaction	loss of organic matter erosion reduced soil aeration and water infiltration barrier to plant root development loss of habitat for wildlife		

Source: Hammitt and Cole, 1998; Newsome *et al.*, 2002

Table 4.3 Five common inappropriate nature-based tourist behaviors and their potential negative impacts on flora and fauna

action performed by nature-based tourists	biotic (living) natural resources			
	negative impact on flora		negative impact on fauna	
	Direct	Indirect	direct	indirect
off-road vehicle usage	Trampling introduction of exogenous seeds	water and air stress on plants due to reduced soil aeration and water infiltration loss of tree regeneration capacity decline in plant survival decrease in the population of dependent fauna	noise stress death by collision	disrupted reproduction activity migration shift in species composition of area
inappropriate waste disposal	Trampling	decline in plant survival loss of habitat decrease in the population of dependent fauna	waste ingestion	contamination or death
vegetation trampling	change in soil biota reduced vegetation cover root exposure	loss of biomass loss of tree generation changed composition of microflora	reduced source of food for herbivores loss of habitat	migration increase in prey population changed composition of microfauna
food provisioning to wildlife			reduced capacity to find food in the wild obesity tooth decay aggression among species increase in species population	decrease in prey population
wildlife approach	Trampling	decline in plant survival loss of habitat decrease in the population of dependent fauna	stress disrupted feeding activity disrupted reproduction activity	migration of predators reduced density and diversity of species

Source: Hammitt and Cole, 1998; Newsome *et al.*, 2002

The objective of Tables 4.2 and 4.3 is to show the interrelation among the natural resources. An action, such as inappropriate waste disposal on trails, that may not be regarded as to cause any major negative impacts, in fact exerts impacts not only on the soil but also on the flora and fauna. This supposedly innocent action threatens the survival of the aquatic life that might die from eating a plastic bag that was dragged from the ground to the river by the rain or the wind. As stated by Pigram and Jenkins (2006, p. 115), outdoor recreation may affect the type and diversity of vegetation species, soil properties, wildlife populations, habitat, air and water quality, and even the geology of the visited area. Different actions may cause similar negative impacts, as in the case of off-road vehicle use and vegetation trampling.

In summary, what direct and indirect impacts have in common is that both of them cause the loss of biodiversity. The loss of biodiversity alters the structure and functioning of the visited ecosystems. The alteration of ecosystems reduces the quality of the ecosystem services provided and therefore is a threat to the sustainability of the Earth.

4.2 Natural Resources Conservation Strategies within the Tourism Industry

Tourists to natural environments inevitably cause negative impacts on the natural resources of the visited areas (Newsome *et al.*, 2002, p. 301; Marion and Reid, 2007, p. 5). The only way to put an end to such impacts would be to prevent tourists from visiting natural areas. Considering that concerns over the ecological impacts of tourism are unlikely to stop the majority of people taking some kind of holiday (Holden, 2000, p. 190) and that humans are part of the biosphere and thus have the right to interact with nature, tourism developers, planners, managers, and policy-makers have developed frameworks and strategies to make human-nature interaction more harmonious.

A framework is a set of ideas that is used as the basis for making decisions (Hornby, 2000, p. 535) while a strategy is a general approach to management usually guided by an objective (Newsome *et al.*, 2002, p. 20). Probstl *et al.* (2010, p. 178) note that the North American tourism planning culture is based on the development of frameworks while the European

planning is characterized by tailor made solutions adapted to specific local problems. The European planning culture seems more appropriate on the grounds that each ecosystem possesses its own characteristics, as discussed earlier in this chapter, so pre-determined frameworks might be effective tools in one area but less effective or even ineffective in others.

There are various ways in which tourism in natural environments can be managed; some focus on managing the tourism industry while others focus on site or visitor management techniques (Newsome *et al.*, 2002, p. 20). Site management involves the management of land use and site conditions, i.e. the amount and distribution of visitor use as well as the manipulation of where visitors go (Hammit and Cole, 1998, p. 255). Visitor management involves “regulation, information, and education designed to influence the amount, type, and timing of use, visitor behavior, and the extent to which use is dispersed or concentrated” (Hammit and Cole, 1998, p. 255).

The most common frameworks aiming to resolve visitor management problems are the Tourism Opportunity Spectrum, Limits of acceptable change, Visitor Impact Management, Tourism Optimization Management Model, Visitor Experience Resource Protection, Ultimate Environmental Threshold, and Visitor Activity Management Process, created by Parks Canada in the 1980s (Newsome *et al.*, 2002, p. 156-182; Pigram and Jenkins, 2006, p. 154-168). Newsome *et al.* (2002, p. 180) summarize these tourism planning frameworks and conclude that they all

focus on and manage human-induced change; rely on the natural and social sciences; depend on clearly articulated management objectives; recognize and use opportunity settings which are a combination of experiential, social and managerial conditions; base planning on a spectrum of recreation opportunities; and require monitoring and evaluation. (Newsome *et al.*, 2002, p. 180)

The most common conservation strategies applied to nature-based tourism include the creation of protected areas; the estimation of the site’s carrying capacity; the development of environmentally friendly modes of tourism management, such as ecotourism; the design of codes of conduct to both the industry and the visitors; the management of roads and trails;

the restoration of sites; the charging of visitor fees; the implementation of accreditations and labeling; the establishment of zones; the implementation of rotation of land use; the regulation of visitors; the limitation of access; the adoption of visitor environmental education programs; the requirement of tourists possessing certain skills and/or using the appropriate equipment during the activities; and tour guide training. Table 4.4 shows which of the natural resources conservation strategies mentioned above are used by which management approach.

Table 4.4 Natural resources conservation strategies and management approaches

	Natural Resources Conservation Strategy	Industry Management	Site Management	Visitor Management
Infra-structure	rotation of land use		X	
	road management		X	X
	trail management		X	X
Ethical Issues	codes of conduct instituted by travel agencies or the tourism office	X		X
	accreditation	X		
	labeling	X		
Education	posters at visitor centers, travel agencies or accommodation	X		X
	interpretation at visitor centers or during tours			X
	trailheads			X
	brochures distributed at visitor centers, travel agencies or accommodation			X
	videos at visitor centers, travel agencies or accommodation			X
	tour guide training	X		
Skills	skill/equipment requirement			X
Regulations	access limitation		X	X
	visitor fee			X
	protected area	X	X	
	zoning	X	X	X
	site restoration		X	
	carrying capacity		X	
Philosophical Issues	ecotourism	X		X

Source: author's compilation

Bramwell (2005, p. 406) calls these strategies policy instruments since they are generally used to put government policies into practice. The government of the tourist destination should be responsible for implementing industry, site, and visitor management strategies, especially those that require infrastructure. While some strategies imply infrastructure,

others imply ethical issues, educational issues, a certain level of skills, or regulations. There are strategies that in fact are philosophical approaches, such as ecotourism. The way each tour operator or guide understands and interprets ecotourism influences the effectiveness of such strategy.

Orams (1995, p. 83) notes that tourism managers most commonly tackle the negative impacts caused by visitors through management strategies that influence and restrict tourist behavior such as physical controls (barriers, paths, boardwalks, and the location of facilities) and direct controls (rules, regulations, permits, and charges). These management strategies have been replaced by indirect mechanisms which seek to reduce inappropriate behaviour on a voluntary basis through education while increase visitor enjoyment and understanding (Orams, 1995, p. 83-84). Marion and Reid (2007, p. 6) argue that direct controls limit visitor freedom and have a negative connotation to visitors due to their emphasis on what may not be done. According to Marion and Reid (2007, p. 6), “[r]egulations antagonise visitors rather than win their support.” Besides, regulations enforcement and site management actions are costly. In a study on the profile of the nature-based tourism sector, McKercher (1998, p. 2) concludes that most of the nature-based tourism ventures can be classified as micro-businesses. The businesses are under-capitalized and run by owner-operators and their family members, most of whom having no formal business, marketing, or tourism training (McKercher, 1998, p. 2). Therefore, if regulations enforcement and site management are not implemented by the public sector (tourism office), it is unlikely to be implemented by the private sector (tour operators and travel agencies).

Visitor management actions are less costly and therefore more likely to be implemented by the private nature-based tourism sector. Marion and Reid (2007, p. 6) argue that environmental education programs are effective visitor management strategies since “they encourage visitors to consider the environmental and social consequences of their actions, promoting enhanced ethics and a self-directed modification of their personal behaviour.” The limitation of environmental education during activities and tours is the heterogeneity of tourist, who differ in age, educational interests, needs and wants to be satisfied (Orams, 1996, p. 44). Guided activities and tours are great opportunities to put in practice

environmental education programs and make tourists aware of how they can contribute to the conservation of the natural resources of the areas they are visiting. It is however fundamental that the designers of environmental education programs take into consideration that participants possess varied motivations, expectations and profiles.

A multitude of management strategies are available in the market for nature-based tourism planners, developers, and managers to minimize or even eliminate the negative impacts caused by nature-based tourists on the natural resources of the visited areas. Natural resources conservation strategies have been implemented in tourist sites and have successfully reduced negative ecological impacts. An example of that is Costa Rica, a country for which nature-based tourism is an important source of revenue. Since the 1980s, Costa Rica has been one of the acknowledged leaders in efforts to promote natural resources conservation through national policies, environmental education and ecotourism (Blum, 2008). Also in the 1980s, the Tamar Project in Brazil started to implement a program for the conservation of sea turtles. In 1999 the project had a total of eighteen conservation stations along the coast and had successfully ceased the harvest of gravid females and of eggs in all major nesting areas (Marcovaldi and Dei Marcovaldi, 1999, p. 35).

Despite the multitude of natural resources conservation strategies available, nature-based tourists continue to exert impacts. Three distinct scenarios can help explain this. In the first scenario, the selection of the strategies to be implemented is inappropriately made. Bramwell (2005, p. 406) notes that for the strategies to promote sustainable tourism, "it is important to consider the complete range of instruments and to select a mixture of them that in the particular circumstances is likely to meet the overall policy objectives." For instance, the implementation of fines for littering should be accompanied by the implementation of environmental education programs to explain to tourists the consequences of littering in natural areas. Pickering and Hill (2007) show that despite all the regulations of a protected area in Australia (zoning, visitor and access limitation), tourism activities still result in negative impacts such as vegetation being crushed, sheared off, and uprooted. Besides these direct impacts, tourism activities cause indirect impacts such as changes to the vegetation including loss of height, biomass, reproductive structures (flowers, fruit, etc.), reduction in

cover, increased litter, damage to seedlings, and change in species composition (Pickering and Hill, 2007, p. 794).

In the second scenario, the right natural resources conservation strategies have been selected and implemented, but since they were not monitored or enforced, their results were not achieved. Bramwell (2005, p. 407) adds that policy-makers often fail to recognize potential problems in strategy implementation such as the inability or unwillingness to adopt or enforce policy measures. Leung *et al.* (2001, p. 24) agree and note that one constraint in effectively managing protected areas in developing countries is that managers often have limited funding and expertise to perform ecological planning or implement timely management and maintenance programs. In the third scenario, natural resources conservation strategies have not been implemented whatsoever. In this case, the management of the tourist area lies in the hands of the practitioners (tour guides, driver-guides, travel agents) and the tourists themselves.

The important fact in relation to management strategies is that each strategy is designed to prevent a certain type of undesirable action committed by tourists. As Marion and Reid (2007, p. 6) note, the nature of a tourist's action is a primary determinant of the potential effectiveness of a management strategy.

4.3 Case Study Analysis

4.3.1 Tourist Activities and Tours Offered in Itacare

Considering that this study's aim is to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites, it is necessary to identify the nature-based activities and tours offered in Itacare. Itacare has five beaches located at less than a 20-minute walk from downtown. They are called urban beaches for this reason. To visit these beaches, tourists do not need to take any guided tour. Outside the urban area, Itacare offers activities and tours involving various ecosystems such

as ocean, reef, river, forest and mangrove. To visit these ecosystems, tourists can choose between taking a guided-tour and visiting by themselves. Independent visitors need a car and knowledge of the trails in the forest. Thus, most of the visitors who arrive in Itacare by plane engage in guided activities and tours.

There are nine main products offered by the local travel agencies. The four travel agents participating in this study were asked to identify three characteristics of each product they offer: (1) the type of tourism, (2) the factors used to classify the type of tourism, and (3) the level of physical effort required (Table 4.5).

Table 4.5 A description of the main activities and tours offered in Itacare

Activities and Tours	Type of tourism, factors used to classify the type of tourism, and level of physical effort required			
	Travel Agency A	Travel Agency B	Travel Agency C	Travel Agency D
Marau	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, unknown ▪ medium-core 	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, emotion ▪ soft-core 	<ul style="list-style-type: none"> ▪ adventure ▪ overcome your fears, adrenaline ▪ soft-core 	does not offer this tour
Islands	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, unknown ▪ hard-core 	does not offer this tour	does not offer this tour	<ul style="list-style-type: none"> ▪ sun, sand, and sea ▪ relaxation ▪ soft-core
4 beaches	<ul style="list-style-type: none"> ▪ nature-based ▪ natural resources ▪ medium-core 	<ul style="list-style-type: none"> ▪ nature-based ▪ natural resources ▪ hard-core 	<ul style="list-style-type: none"> ▪ sun, sand, and sea ▪ sun, beach, relaxation, spend time, enjoyment ▪ medium-core 	<ul style="list-style-type: none"> ▪ both ecotourism and nature-based ▪ learn about the site, preservation of nature ▪ medium-core
Jeribucaçu	<ul style="list-style-type: none"> ▪ nature-based ▪ natural resources ▪ hard-core 	<ul style="list-style-type: none"> ▪ ecotourism ▪ many ecosystems ▪ hard-core 	<ul style="list-style-type: none"> ▪ ecotourism ▪ contemplation of nature, infrastructure, large-scale ▪ hard-core 	<ul style="list-style-type: none"> ▪ both ecotourism and nature-based ▪ learn about the site, preservation of nature ▪ medium-core
Prainha	<ul style="list-style-type: none"> ▪ nature-based ▪ natural resources ▪ hard-core 	<ul style="list-style-type: none"> ▪ ecotourism ▪ many ecosystems ▪ hard-core 	<ul style="list-style-type: none"> ▪ sun, sand, and sea ▪ sun, beach, relaxation, spend time, enjoyment ▪ medium-core 	<ul style="list-style-type: none"> ▪ both ecotourism and nature-based ▪ learn about the site, preservation of nature ▪ soft-core
Tree climbing	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, unknown ▪ hard-core 	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, emotion ▪ medium-core 	<ul style="list-style-type: none"> ▪ adventure ▪ overcome your fears, adrenaline ▪ medium-core 	<ul style="list-style-type: none"> ▪ adventure ▪ adrenaline, risk, exploration, self-knowledge ▪ medium-core
Rafting, Rappelling, Zip-lining	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, unknown ▪ hard-core 	<ul style="list-style-type: none"> ▪ adventure ▪ risk, adrenaline, emotion ▪ medium-core 	<ul style="list-style-type: none"> ▪ adventure ▪ overcome your fears, adrenaline ▪ hard-core 	<ul style="list-style-type: none"> ▪ adventure ▪ adrenaline, risk, exploration, self-knowledge ▪ medium-core
Canoeing	<ul style="list-style-type: none"> ▪ ecotourism ▪ principles, contact between the tourist and the canoe man ▪ soft-core 	<ul style="list-style-type: none"> ▪ nature-based ▪ natural resources ▪ soft-core 	<ul style="list-style-type: none"> ▪ nature-based ▪ contact with the flora and fauna, natural elements ▪ soft-core 	<ul style="list-style-type: none"> ▪ both ecotourism and nature-based ▪ learn about the site, preservation of nature ▪ soft-core
Itacarezinho	<ul style="list-style-type: none"> ▪ sun, sand, and sea ▪ comfort ▪ soft-core 	<ul style="list-style-type: none"> ▪ nature-based ▪ natural resources ▪ soft-core 	<ul style="list-style-type: none"> ▪ sun, sand, and sea ▪ sun, beach, relaxation, spend time, enjoyment ▪ soft-core 	<ul style="list-style-type: none"> ▪ sun, sand, and sea ▪ relaxation ▪ soft-core

Except for *Prainha* and *Jeribucaçu*, all activities and tours follow the same pattern by the travel agencies that offer them. To go to *Prainha*, tour guides from agencies A, B, and C go pick up the tourists at their accommodation walking and head to the beginning of the trail walking. At the end of the day, they come back walking as well. There is no automobile involved in this activity for agencies A, B, and C. Agency D, however, takes tourists by minibus directly to the beach, skipping the trail. To go to *Jeribucaçu*, tour guides from agencies A, B, and C go pick up the tourists at their accommodation with a 4X4 vehicle and head to the beginning of the trail. They go trekking for around one hour, stop by a waterfall, cross a mangrove, arrive at the beach, spend a few hours there, then walk a steep hill for twenty minutes to meet the 4X4 vehicle and head back to the village. Agency D, however, takes the tourists by minibus directly to the beginning of a short trail that leads to the beach. They do not stop at the waterfall or cross the mangrove. The travel agency manager explained that when they used to follow the same circuit as agencies A, B, and C do, tourists used to complain about the one-hour trekking and crossing the mangrove, so agency D decided to cut these parts to satisfy the tourists.

In relation to the level of physical effort required, 3 out of the 9 activities and tours evaluated are classified by the travel agency managers as soft-core and the other 6 are a mixture of medium-core and hard-core. Medium-core and hard-core activities are usually more aggressive to the natural environment and give the impression of conquest over nature. Tourists are concentrated in overcoming the physical challenge and do not contemplate nature. Soft-core activities allow tourists to contemplate the surrounding natural elements. Medium-core and hard-core activities are more in line with nature-based tourism whereas soft-core activities are more in line with nature-oriented tourism and ecotourism (in its actual sense). Table 4.5 shows that most of the activities and tours offered in Itacare are nature-based, that is they use nature as the background therefore they do not necessarily promote the communion between humans and nature. Tourists to Itacare do not have much option of practicing nature-oriented tourism while taking guided activities and tours.

Tourists were surveyed on which of the nine activities and tours they participated or intended to participate during their stay in Itacare (Table 4.6).

Table 4.6 Participation of tourists in the activities and tours offered in Itacare and their level of physical rigor

Nature-Based Activities and Tours	% of tourists (N=190)	Travel Agency A	Travel Agency B	Travel Agency C	Travel Agency D
Jeribucaçu	76%	hard-core	hard-core	hard-core	medium-core
Itacarezinho	74%	soft-core	soft-core	soft-core	soft-core
4 beaches	73%	medium-core	hard-core	medium-core	medium-core
Marau	61%	medium-core	soft-core	soft-core	does not offer this tour
Prainha	56%	hard-core	hard-core	medium-core	soft-core
Rafting, Rappelling, Zip-lining	49%	hard-core	medium-core	hard-core	medium-core
Canoeing	32%	soft-core	soft-core	soft-core	soft-core
Islands	24%	hard-core	does not offer this tour	does not offer this tour	soft-core
Tree climbing	16%	hard-core	medium-core	medium-core	medium-core

The activities *4 beaches* and *Itacarezinho* occur during the same tour, that is, all tourists who engaged in the activity 4 beaches spend a few hours in the beach called Itacarezinho at the end of the tour.

Tourists to Itacare do not have many options of nature-oriented/soft-core/ecotourism products and they seem to know that. When asked if they would classify the activities and tours they participated in or intended to participate in as nature-based tourism, ecotourism, both, or “I do not know”, 43% answered both, 36% answered nature-based tourism, 16% answered ecotourism, 3% answered “I do not know” (1% did not answer the question). This data shows that the products offered as well as the image that a destination sells of itself may mould tourist behavior.

4.3.2 Ecological Impacts of Undesirable Actions Committed by Tourists to Itacare during Activities and Tours

Tourists to Itacare commit different types of undesirable actions during guided activities and tours. These actions may cause negative ecological impacts on the natural resources of the visited areas. As mentioned in chapter III, most of the undesirable actions committed by tourists to Itacare are careless or thoughtless, unskilled, and uninformed. As Dawson *et al.*

(2009, p. 443) note, these types of actions are committed by nature-based tourists as a result of their lack of full consideration for the effect on the resource or other people and lack of information regarding the negative impacts of the actions. The Atlantic forest is a biodiversity hotspot (CI, 2007) since 95% of its original cover has been deforested due to anthropogenic activities (mainly agriculture and urbanization). Itacare is located in one of the few remnant areas of the Atlantic forest. Tourists engaging in guided activities and tours were asked about their knowledge on the fragility of nature in Itacare in view of the presence of humans (Table 4.7).

Table 4.7 Level of tourist's knowledge about the fragility of nature in Itacare

Indicate how fragile you consider the nature in Itacaré in the presence of humans	% (N=190)
not fragile at all	2
a little fragile	8
more or less fragile	25
somewhat fragile	33
extremely fragile	26
I do not know	6

The answers of 58% of respondents range from more or less fragile to somewhat fragile. These data show that tourists to Itacare are not aware of the actual level of fragility of the area they are visiting, the biodiversity hotspot Atlantic Forest. Tourists were also surveyed about the level of ecological damage that some actions committed by nature-based tourists during activities and tours can cause to the natural resources of the visited areas (Table 4.8).

Table 4.8 Tourists to Itacare's perceptions of the level of ecological damage caused by undesirable actions committed by nature-based tourists during activities and tours

How much damage to nature can ... cause?	no damage (%)	little damage (%)	some damage (%)	a lot of damage (%)	extreme damage (%)	Mean (N=190)	SD
walking inside the path	17	44	28	7	4	2,37	0,966
pulling up plants	1	2	8	31	58	4,46	0,753
getting close to the wildlife	7	32	34	15	12	2,95	1,119
disposing of waste outside wastebaskets	1	1	1	10	88	4,85	0,475
making noise pollution	3	13	36	23	25	3,54	1,101
walking outside the path	2	9	19	32	38	3,98	0,997
feeding the wildlife	0	6	15	30	49	4,21	0,913
fishing outside the allowed areas	0	0	8	15	77	4,69	0,612

Note: 1 = no; 2 = little; 3 = some; 4 = a lot; 5 = extreme damage

Most of the actions were classified by tourists as causing from a lot of damage to extreme damage. Making noise pollution, getting close to the wildlife, and walking outside the path were classified as causing from no damage to some damage. Most of the respondents indicated that walking inside the path causes from no damage to little damage while walking outside the path causes from a lot of damage to extreme damage. However, as Dawson *et al.* (2009, p. 443) note, both walking inside and outside the path damage the visited areas, the difference being that walking inside the path is an unavoidable action. To infer the data gathered through a questionnaire, Gray *et al.* (2007: 63) suggest that observations be conducted on the grounds that people sometimes say one thing and do another. Thus, to see if tourists' on-site actions were in line with the answers they indicated in the questionnaire, I accompanied ten guided activities and tours to observe tourist's undesirable actions (Table 4.9 and Figures 4.1, 4.2 and 4.3).

Table 4.9 Undesirable actions committed by tourists to Itacare and their potential direct negative ecological impacts

	Undesirable Actions	Potential Direct Negative Ecological Impacts based on Hammitt and Cole, 1998; Newsome <i>et al.</i> , 2002
off-road vehicle usage	tourists parking their car less than 60 meters from the seashore; 4X4 vehicles used by travel agencies to cross unpaved areas.	Soil: dispersion, compaction. Water: pollution, introduction of pathogenic bacteria. Flora: trampling, introduction of exogenous seeds Fauna: noise, stress, death by collision.
inappropriate waste disposal	discard of metal materials (soft drink and beer can) outside wastebaskets; discard of plastic materials (packages, bottles) outside wastebaskets; discard of cigarette butts outside ashtrays; discard of organic garbage outside wastebaskets; discard of chewing gum outside wastebaskets; washing hair using shampoo in the waterfall.	Soil: pollution. Water: pollution. Flora: vegetation trampling. Fauna: waste ingestion.
vegetation trampling	walking outside the trail path; breakage and bruising of stems; pulling out plants while hiking.	Soil: dispersion, compaction. Water: alteration of aquatic ecosystems due to soil erosion into the water. Flora: change in soil biota, reduced vegetation cover, root exposure. Fauna: reduced source of food for herbivores, loss of habitat.
wildlife approach, disturbance, and feeding	throwing coconut on a snake while it was eating a frog; throwing stones on birds; entering natural pools wearing sunscreen; Throwing bread pieces in a natural pool to attract fish; feeding little monkeys; poking crabs and putting food in their holes.	Soil: compaction. Flora: trampling. Fauna: reduced capacity to find food in the wild, obesity, tooth decay, aggression among species. increase in species population, stress, disrupted feeding activity, disrupted reproduction activity
Others	walking on coral reefs; picking up stones, shells, and plant roots to take home; trading local plants.	death of corals, alteration of the local ecosystem



Figure 4.1 Tourists touching the fauna for a picture



Figure 4.2 Tourists walking on coral reefs



Figure 4.3 Tourists parking on native vegetation

Figure 4.1 shows a tourist feeding and touching the wildlife. Tourists want to take pictures interacting with the wildlife and may not know the consequences of their actions. For instance, feeding the wildlife makes them lose their hunting instinct and touching them causes stress and transmits diseases. Grabbing and touching the fauna may stress them and disturb reproduction phase. Figure 4.2 shows tourists bathing in natural pools. In most cases, tourists are wearing sunscreen. The negative consequence of this action is that the sunscreen stays in the water and contaminates the marine life of the natural pools. Moreover, coral reefs are extremely fragile ecosystems. Therefore, hundreds of tourists a day walking on coral reefs may alter its structure. Figure 4.3 shows cars parked on native vegetation. The brown shade on the right of the picture shows that in some places the vegetation has not grown back. To keep the ecological integrity of the visited area, visitors should park their cars on the streets downtown (or leave it parked at the hotel) and go walking to visit the urban beaches of Itacare.

Most of the undesirable actions committed by tourists during the observation sessions were similar to those they classified in the questionnaire as causing from a lot of damage to extreme damage. Even though 88% of respondents classified the action *disposing of waste outside wastebaskets* as causing extreme ecological damage, I observed garbage on all trails in the forest as well as on all beaches visited. I also witnessed tourists throwing metal, plastic, and organic garbage on the ground (trail soil, beach sand) and in the forest. The same can be said for noise pollution, walking outside the path, and feeding the wildlife. Tourists classified these actions as causing from *a lot of damage* to *extreme damage*; however, I observed groups talking out loud during the trekking, leaving the trail path in search of the best picture, and feeding little monkeys and crabs. As for the extreme sports activities such as rafting, tree climbing and zip lining, I observed that tourists do not have much room for causing ecological impacts since they have to follow strict security rules that prevent them from acting freely. During the rafting, for instance, tourists leave all their belongings in the travel agency's vehicle and do not have much contact with the wildlife since they remain on the boat.

What happens is that, as stated by Cole (2000, p. 77) and Jafari (1988, p. 163), even though tourists are aware of the fragility of the visited area, some are not willing to make the required efforts to adapt to local norms. A cross table between the perception of tourists to Itacare's perceptions of the fragility of the visited area and their expectations in relation to activities and tours performed in these areas confirm this assertion (Table 4.10).

Table 4.10 Tourists to Itacare's perception of the fragility of the visited area versus their expectations in relation to activities and tours performed in these areas

		How fragile do you consider the nature in Itacaré in view of the presence of humans? (N= 178)				
		not fragile at all (%)	a little fragile (%)	more or less fragile (%)	somewhat fragile (%)	extremely fragile (%)
How important is it to explore untouched parts of the site for your enjoyment during activities and tours?	not at all important (%)	1	0	1	1	1
	a little important (%)	0	1	5	5	2
	more or less important (%)	1	2	5	8	7
	somewhat important (%)	1	4	10	14	9
	very important (%)	1	1	3	5	6

Most of the tourists who consider nature in Itacare somewhat fragile to extremely fragile indicated that it is somewhat important to explore the untouched parts of the site they are visiting for their enjoyment during activities and tours.

When I asked the owners of two private nature reserves which undesirable actions committed by visitors conducive of negative ecological impacts they have observed in the past years, one owner answered nothing and the other mentioned the theft of plants. They attribute the low level of undesirable actions to two facts: first, tourists are briefed by the owners who are also the guides during the tour in the forest; and second, tourists seem to feel obliged to follow the instructions briefed by the owner since they are in a private property accompanied by the owner.

The undesirable actions witnessed during the observations may exert direct and indirect impacts on the soil, water, fauna, and flora of Itacare. These impacts alter the structure and

functioning of the visited ecosystems and therefore contribute to the degradation of the already biodiversity hotspot which is the Atlantic forest. Both public and private sectors in Itacare have developed management strategies to minimize the negative ecological impacts caused on the visited areas.

4.3.3 Natural Resources Conservation Strategies in Effect in Itacare

As Newsome *et al.* (2002, p. 20) note, tourism in natural areas can be managed through strategies that address the industry, the site or the visitors. All these three types of management strategies have been implemented in Itacare (Table 4.11).

Table 4.11 Natural resources conservation strategies in effect in Itacare

Natural Resources Conservation Strategy	Industry Management	Site Management	Visitor Management
road management		X	X
trail management		X	X
interpretation during tours			X
brochures distributed at travel agencies and the tourism office			X
videos at travel agencies			X
tour guide training	X		
skill/equipment requirement			X
protected area	X	X	
zoning	X	X	X

The management strategies in effect in Itacare to address the ecological impacts of the tourism industry include tour guide training, protected area, and zoning. The Brazilian Ministry of Tourism imposes a compulsory training for people to become accredited tour guides. To receive this accreditation, one needs to have completed high school and follow a course in the city of Salvador. In Itacare, none of the people working as tour guides has this accreditation, either because they have not completed high school or cannot afford to follow the course in Salvador. For this reason, they cannot call themselves tour guides but rather visitor's conductor (in this study I called them tour guides to facilitate the comprehension of

the reader). Thus, the training of Itacare-based tour guides lies in the hands of the municipal tourism office and the travel agencies for which they work.

The creation of the protected area Itacare-Serra Grande in 1993 aimed to protect the remnants of the Atlantic Forest, its wildlife and ecosystems as well as its economic value for nature-based tourism. In 1996, the state government zoned the Itacare-Serra Grande Protected Area. Most of the regulations indicated in the zoning report are related to site management. There are only two zoning regulations related to visitor management. First, car traffic is prohibited in less than sixty meters from the seashore and the violators are subject to a fine and the confiscation of the vehicle (GOVBA, 1996, p. 5). Second, the public sector is responsible for installing signs informing about the ecological importance of the site and the related laws that tourists must follow (GOVBA, 1996, p. 12). These signs have been installed but have been depredated in the past years and just a few can be seen nowadays. During tourist activities and tours, the tour operators and the tour guides are the ones who dictate behavioral norms to tourists.

The management strategies implemented to manage the tourist site include road management, trail management, protected area, and zoning. Since the tourists boom of the late 1990's, roads have been built by the government so that the 4X4 vehicles used by the travel agencies or individuals stop making new paths. Trail management has been done by the private sector so that guided groups or individuals follow a pre-established path in the forest. The owner of a resort mentioned that a few years ago, he financed the management of a certain trail, including waste baskets, and asked the public sector to be responsible for the maintenance of the trail. The waste baskets were destroyed and the trail was never maintained. Many tour guides mentioned that twice a year all tour guides get together to remove garbage from the trails because the public sector does not do that. These findings show that the public sector does not take responsibility for monitoring the implemented site management strategies.

The management strategies implemented to minimize the ecological impacts caused by visitors in Itacare include road management, trail management, interpretation, brochures,

videos, proper equipment, and zoning. The interpretation performed by the tour guides should raise tourist's awareness about natural resources conservations. However, my observations and interviews with tourists reveal that in most cases, the guides have poor skills to act as environmental educators. The brochures distributed by the travel agencies and videos playing on a TV at the door of some travel agencies are market-oriented; their objective is to sell the product. None of the brochures or videos shows pro nature conservation messages. The adventure/extreme activities such as rafting, tree climbing and zip-lining follow strict safety instructions and provide the equipment required to perform the activity. The infra-structure involved to establish these activities, however, may cause ecological impacts. Trekking in the forest requires proper equipment (e.g. closed shoes instead of flip-flops, a backpack instead of a purse) that is not required nor offered by most of Itacare-based travel agencies.

4.4 Conclusion

In this chapter, I examined the ecological impacts caused by nature-based tourists during activities and tours. Then, I looked at the natural resources conservation strategies brought by the tourism industry to manage these impacts. The topics examined in this chapter contribute to the understanding of the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited areas in two ways.

First, nature-based tourism stakeholders' knowledge on the fragility of the areas where nature-based activities and tours take place is fundamental to the conservation of the natural resources of these areas. Tourism managers, tour guides and tourists could use their knowledge to minimize negative ecological impacts. Tourism managers could identify the potential direct and indirect impacts and manage the site accordingly. Well-trained tour guides could act as environmental educators while tourists could judge if the satisfaction of their wants is more important than the conservation of nature.

Second, there is a multitude of natural resources conservation strategies available on the market. The important fact in relation to management strategies is that each strategy is designed to prevent a certain type of undesirable action committed by tourists. The nature of a tourist's action is the primary determinant of the effectiveness of a management strategy. Thus, to promote nature conservation, visitor management strategies must be in line with nature-based tourist's motivations, expectations, ecological knowledge, and environmental commitment.

5. CHAPTER V

DISCUSSION

In this chapter, I discuss the results of the case study and associate them to the theoretical framework study to understand the relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites. The results of this study reveal two key topics: the relationship that nature-based tourists establish with the natural resources of the areas they visit and the relationship that the nature-based tourism sector representatives establish with the natural resources of the areas where they operate. I discuss each of these two topics separately then I make recommendations to the nature-based tourism sector on how to use nature-based tourism as a tool for sustainability.

5.1 Nature-Based Tourists and the Natural Resources of the Areas they Visit

To promote natural resources conservation on tourism settings, it is necessary to understand tourists' individual characteristics and their images of the destination (Pearce, 2005, p. 17). Tourists' individual characteristics (motivations, expectations, and values) determine their desire to travel away from something or somewhere, while destination images (characteristics, activities, and attributes) determine the compensation motives, that is, the fact to seek elsewhere what is lacking at home (Pizam and Mansfeld, 1999, p. 195-196). The images of nature-based tourism settings have attracted an increasing number of tourists in the past thirty years (Ceballos-Lascuráin, 1996, p. 53; Pickering and Waver, 2003, p. 7). People spend their free time in nature-based tourism areas to satisfy their wants through social, cultural, and environmental encounters. Nature-based tourists show physical,

emotional, personal, personal development, status, and cultural motivations (Swarbrooke and Horner, 2007, p. 54). Nature-based tourists seek to satisfy not only one but a number of distinct wants simultaneously on the *same* trip (Ali-Knight, 2000, p. 7).

The wants and motives of nature-based tourists can be translated by a quest to a nostalgic reacquaintance with nature (Grenier, 2004, p. 430). Tourists surveyed in this study show physical, emotional, personal, personal development, status, and cultural traveling motivators. The main motivators are the emotional motivators *natural beauties* and *stress relief*, followed by the personal motivators *recommendation of friends or family members*, *novelty*, and *price*, then the physical motivators *relaxation*, *tranquility*, and *weather conditions*. A minority of the tourists surveyed show the cultural motivators *variety of activities* and *tourism*, the personal development motivators *adventure sports* and *surfing* and the status motivators *famous destination*.

Natural beauty conveys the idea of nostalgia, safety, romance, escape, adventure, fantasy, and spiritual fulfilment. The wants and desires of the nature-based tourists can be satisfied through experiences with natural elements or pristine nature and the freedom they provide. Natural elements provide the opportunity for urban dwellers to escape from the routine and release the stress accumulated through their daily life in dense urban centers. Twenty-three per cent of the tourists who indicated natural beauty as the factor that motivated them to spend their free time in the Atlantic forest specified the *beach* as their main motivator. Considering that the majority of the tourists surveyed come from Brazilian cities with population over 1,400,000.00 inhabitants, it seems that the romantic view of natural beauty combined with the fantasy created by the association of beaches with the forest represent a pleasant way to release stress.

These data are in line with the four important trends in describing nature-based tourist's motivations outlined by Pearce *et al.* (1998, in Luo and Deng, 2008, p. 393), that is the desire to experience the environment, to rest and relax in pleasant settings, to pursue special interests and skills, and to be healthy and fit. It is also in line with Grenier's (2004, p. 430) statement that what nature-based tourists in fact desire is to experience a nostalgic

reacquaintance with nature. The new element that this study brings to the study of nature-based tourist's motivations is the fact that 22% of the respondents indicated *recommendation of friends or family members* as what motivated them to spend their free time on a nature-based tourism site. This result indicates that these tourists would spend their vacation in any other destination chosen or recommended by their friends or family members.

Some of the tourists surveyed chose to spend their free time at a nature-based tourism site because their friends or family members recommended it or organized the trip and they just joined it. That makes me conclude that some tourists do not get informed about their holiday destination. A tourist mentioned that she planned the trip by herself and that two friends joined her at the last minute. She added that her friends packed to spend a week relaxing at the beach and when they arrived at the destination they found out that most of the activities and tours involved walking in the forest or on stones as well as crossing a mangrove or a river. She noted that her friends complained in most of the activities and tours and found it difficult to participate in the activities and tours wearing flip-flops and a beach bag while the tourist who organized the trip was wearing appropriate shoes and carried a small backpack. A tour guide mentioned that most of the tourists he guides do not know that they are in the Atlantic Forest.

The Atlantic forest is one of the world's biodiversity hotspots (CI, 2007). Most of the tourists surveyed classified local nature from somewhat fragile to extremely fragile. They indicated that disposing of waste outside wastebaskets causes extreme damage to nature and walking outside the path as well as feeding the wildlife causes from a lot of damage to extreme damage. However, as Gray *et al.* (2007: 63) states, people sometimes say one thing and do another. During the activities and tours that I accompanied, some tourists disposed of soft drink and beer cans, food packages, water bottles, cigarette butts, and food on the ground of the trail or threw them in the forest. They also walked outside the path, broke or bruised stems, pulled out plants, fed little monkeys, poked crabs and put food inside the burrows. These findings lead me to two conclusions: first, nature-based tourists are not aware of the negative ecological consequences of the actions they commit to satisfy their personal wants; and second, even though they are aware of the consequences, some are not

willing to make the required efforts to adapt to local norms (Jafari, 1988, p. 163; Cole, 2000, p. 77).

Tourists explore a destination to satisfy their wants through social, cultural, and environmental encounters. Guided activities and tours in natural elements allow tourists to encounter the local environment. Tourists possess expectations towards these activities and tours and the tourists surveyed in this study show homogeneous expectations. The majority of the respondents find it somewhat to very important to live an unusual experience, to get away from civilization, to increase their knowledge of nature, to be in harmony with nature, to explore the untouched parts of the site, and to meet new people for their enjoyment during nature-based activities and tours but find it not at all to a little important to touch exotic plants or animals. In relation to infrastructure in the visited sites, the majority indicated that they would like to see washrooms, resting areas, or restaurants. The nature-based tourists surveyed want to get away from civilization and be in harmony with nature, but at the same time, they want to meet new people and see infrastructure to ensure the same level of comfort they have back home.

To satisfy their expectations, nature-based tourists may commit undesirable actions that can cause negative ecological impacts. As Ignasse and Genissel (1999, p. 101) note, the way people behave is related to their personal desires, motivations and anxieties. The literature on tourist typology shows that different types of tourists behave differently while on vacation and therefore cause different types of negative ecological impacts. Based on tourist's expectations and travel arrangements, tourists surveyed in this study fit in four of the tourist categories identified by Smith (1978, 1989, p. 12): explorers, elite tourists, unusual tourists, and incipient mass tourists. In relation to the adaptation to local norms, explorers and elite tourists adapt well to local norms while unusual and incipient mass tourists are more intolerant to local norms since they seek the same amenities and infrastructure they have back home. Unusual and incipient mass tourists are more likely to break the norms and regulations in effect during activities and tours to minimize negative ecological impacts while explorers and elite tourists are more susceptible to follow them.

Nature-based tourist's perceptions of ecological tourism as well as their level of environmental commitment can also influence the relationship that they establish with the natural resources of the areas they are visiting. The majority of the tourists surveyed indicated that ecotourism occurs in nature, that is, outside urban areas. This fact may create a connection in tourists' minds between ecotourism and tourism in natural areas instead of ecotourism and tourism that minimizes the negative ecological impacts of tourist activities.

Tourist's level of environmental commitment can somehow prevent them from committing undesirable actions since they are more aware of the environmental crisis, its causes and consequences. Luo and Deng (2008, p. 392) note that nature-based tourists who are more supportive of the environmental paradigm factor *limits to growth* and *ecocrisis* have a higher desire to be close to nature, to learn about nature, and to escape from routine and issues associated with cities. These findings confirm the fact that the rise of the environmental consciousness brought up by the environmental crisis has contributed to the growth of nature-based tourism (Urry, 1995, p. 180; Swarbrooke and Horner, 1999, p. 197; Goeldner and Ritchie, 2009, p. 470). However, not all nature-based tourists are ecologically concerned (Swarbrooke and Horner, 1999, p. 201-202). This study shows that nature-based tourists do not form a homogeneous group when it comes to the environmentally-friendly actions they do on a daily basis back home. Tourists surveyed *often* reduce their water, energy, and paper consumption but *never* or *rarely* favor public transit. When asked why, tourists answered that the public transit system where they live is not effective or expensive if compared to the benefits of car ownership. Another reason is that it is unsafe to take the bus in the evening and at night in their home cities. This data shows that the tourists surveyed do not really have the option to favor the public transit. Data about recycling are proportionally distributed from *rarely* to *always* while data about the purchase of locally produced goods are distributed from *rarely* to *often*. The majority is not a member of any environmental organization but would be willing to pay a contribution for nature conservation projects per activity and tour they engaged in. These findings reveal that actions promoting financial benefits to tourists are favored, such as the reduction of water, energy, and paper consumption, while actions requiring a decrease in the level of comfort are neglected, such as the use of public transit.

I attempted to typify the tourists surveyed according to their motivations, expectations, and environmental commitment. Out of Swarbrooke and Horner's (1999, p. 201-202) scale ranging from not at all green to dark green, they are light green, i.e. they make some minor personal sacrifices because of their ecological views. Following Accot *et al.*'s (1998) classification of tourists based on their views on sustainability (shallow or deep ecotourist), they are shallow ecotourists, i.e. they want to visit pristine nature where humans have had little impact on the environment and might want to watch, experience and help maintain wildlife and landscapes but may indulge in activities that do not strictly concur with those attitudes. In relation to Holden's (2008, p. 238-239) four-level pyramid of tourist's interests in the environment (loungers, users, eco-aware, and specialist eco-tourist), they are loungers, i.e. they are interested in the pleasant surroundings, relaxation, and enjoyment, and users, i.e. they are interested in the environment having special features to provide the type of activities that satisfy their wants.

5.2 Nature-Based Tourism Sector Representatives and the Natural Resources of the Areas where they Operate

The theoretical framework presented in chapter II shows that academia has not yet reached a consensus on the definition or nature-related tourism terms. Terms such as nature-tourism, nature-based tourism, nature-oriented tourism, ecotourism and sustainable tourism have been used interchangeably. Similarly, tourism managers use nature-related tourism terms interchangeably to name their products because they do not have the theoretical support necessary to guide them.

The case study analysis presented in chapter II confirms this fact. The majority of the representatives of the nature-based tourism sector surveyed (travel agency managers, government representatives, private nature reserve owners, and tour guides) state that nature-based tourism and ecotourism are distinct concepts; however, when I asked them to define such terms, their definitions were very similar. For them, nature-based tourism is tourism that *promotes the observation of nature while preserving and respecting it* and ecotourism is

tourism that *promotes harmonious relationship between humans and nature through preservation, interpretation, no littering, and respect of the limits of nature*. Both definitions mention preservation of and respect for nature. These definitions show that both nature-based tourism and ecotourism are associated with nature conservation, which is not true. As Grenier (2004, p. 66) notes, nature-based tourism is “a form of travel which uses nature as a basis for the activity. Nature is not the main focus but rather the background where the activity is conducted.” On the other hand, ecotourism is a management mode that promotes the ecological conservation of the visited areas, either urban or nature areas.

Nature-based tourism developers who think that tourism in natural elements is related to nature conservation may think that any activities and tours that they offer in natural areas are ecologically friendly. Perhaps that is why a great deal of nature-based tourism products has been marketed lately as ecotourism products. What product developers have to take into consideration if they want that the activities and tours they offer be low ecological impact is the difference between nature-based and nature-oriented tourism products. Nature-based tourism products (from soft-core, such as wildlife watching, to hard-core activities, such as rafting and rappelling) use the natural elements as a mere background for tourists to satisfy their wants, for instance, by conquering nature and challenging their personal skills in natural elements. Nature-oriented tourism products (soft-core activities, such as hiking and landscape photography) aim to promote the establishment of a communion with the natural site (Grenier, 2004, p. 66), for instance, by learning about, being in harmony with, or contemplating nature.

To promote the conservation of the natural resources of the visited areas, nature-based tourism sector representatives, from product developers to government representatives and tour guides, should favor soft-core nature-oriented activities and tours. According to Laarman and Durst (1987, p. 5-6) and Fennell (2002: 16-17; Fennell, 2003: 33-38), tourists participating in soft-, medium-, or hard-core tourism activities show different motivations, expectations, interests, commitment, and attitudes towards the natural environment. As a nature-based tourism sector representative noted, a tourist destination should define the profile of the tourists they want to attract and manage the destination accordingly. As Hunter

(1997, p. 861-862) notes, an environment-led approach promotes types of tourism that rely on the maintenance of a high quality natural environment and create tourism experiences that highlight environmentally-conscious living through reducing impacts on the environment. An effective nature conservation-oriented management plan starts with the choice of the products offered and the type of relationship that the nature-based tourism sector representatives establish with the natural resources of the visited areas.

Tour guides should play a major role in the promotion of natural resources conservation during activities and tours. As stated by Cole (2000, p. 75), the source of knowledge on natural resources conservation plays a central part in tourist's adaptation to local norms. They are the link between the tourists and the visited areas. The interpretation of the natural heritage combined with the environmental education messages they should pass during the trip would not only prevents tourists from committing undesirable actions but also would educate tourists for their next trip (Cole, 2000, p. 75). However, the messages passed through tour guides depend on their relationship with the natural elements of the visited areas. Interviews with tour guides revealed that they believe that their main roles as tour guides are (1) to interpret the natural heritage, (2) to ensure tourists' safety, (3) to ensure tourists' satisfaction, (4) to lead the group, and (5) to provide advice on nature conservation. Similarly, interviews with government representatives and travel agent managers reveal that they believe that the main roles of tour guides are (1) to interpret the natural heritage, (2) to lead the group, (3) to ensure tourists' safety, and (4) to provide advice on nature conservation. They all prioritize the role of ensuring tourists' safety and satisfaction over the role of providing advice on nature conservation. These findings have significant implications in the understanding of the relationship between nature-based tourist behavior and natural resources conservation for two reasons: first, the tour guides surveyed do not see themselves as guardians of their natural heritage but as guardians of the people who pay them; second, to ensure tourist's satisfaction often means to allow them to commit undesirable actions so that they can satisfy their wants.

From a holistic point of view, it is important to highlight that in some nature-based tourism destinations in emerging countries, tourism is the main if not the only economic activity. As

stated by the travel agency managers interviewed in this study, the main objective of their business is to provide their monthly income. Thus, the challenge of nature-based tourism managers is to ensure the health of the visited ecosystems while guaranteeing the income of the locals. Nature-based tourism managers could promote natural resources conservation by drawing attention to the fact that a healthy ecosystem is fundamental to the promotion of nature-conservation-oriented destinations and consequently the survival of nature-based tourism. Nature-based tourism sector representatives' ability to distinguish between tourism in natural elements and tourism in natural elements that promotes the conservation of such elements is crucial if the management of a destination is to be conducive of natural resources conservation. Only nature-conservation-oriented destinations can provide quality experiences while limiting ecological impacts and therefore be a tool for sustainability.

5.3 The Relationship between nature-based tourist behavior and the conservation of the natural resources of the visited sites.

Nature-based tourists show a variety of motivations to spend their free time surrounded by natural elements. An important fact to understand tourist behavior is that nature-based tourists seek to satisfy not only one but a number of distinct wants simultaneously on the *same* trip. For instance, experiences on natural elements and the freedom they provide allow urban dwellers to escape from the routine and release the stress accumulated through their daily life in crowded and dense urban centers. In the case of this study, tourists were motivated by the romantic view of natural beauty combined with the fantasy created by the association of beaches with the forest to release stress. To satisfy their expectations, nature-based tourists may commit undesirable actions that can cause negative ecological impacts. That occurs because of two reasons: first, nature-based tourists are not aware of the negative ecological consequences of the actions they commit to satisfy their personal wants; and second, even though they are aware of the consequences, some are not willing to make the required efforts to adapt to local norms (Jafari, 1988, p. 88; Cole, 2000, p. 77). This situation aggravates in destinations where the tourism sector does not promote the conservation of the local natural resources. In informal interviews with tourists who filled out this study's

questionnaire, most of the interviewees mentioned that they feel unmotivated to watch their behaviors towards nature when they notice that the destination itself does not give examples of low-impact behavior. A tourist mentioned that 'we feel less guilty about breaking the rules when we see that the local tourism sector is careless about natural resources conservation.' Another tourist said that 'people dance according to the song that is being played.' As Jafari (1988, p. 107) notes, tourists write the "script" of their trips influenced by the residual culture as well as by the tourist and local cultures. Jafari (1988, p. 114) adds that the tourist culture nurtures and holds further control of the tourist soul and shapes tourist behavior. Thus, tourists to a degraded area are more likely to break the rules and show disengagement during their stay.

In relation to the environmentally-friendly actions that the surveyed tourists do on a daily basis back home, this study shows they do not form a homogeneous group. This fact demystifies any assumption that might relate nature-based tourists to ecologically-concerned tourists. Based on their motivations, expectations, and environmental commitment, tourists surveyed make some minor personal sacrifices because of their ecological views, want to visit pristine nature where humans have had little impact on the environment and might want to watch, experience and help maintain wildlife and landscapes but may indulge in activities that do not strictly concur with those attitudes. They are also interested in the pleasant surroundings, relaxation, and enjoyment as well as in the environment having special features to provide the type of activities that satisfy their wants. In relation to pre-arrival preparation, this study shows that some tourists chose to spend their free time in a nature-based tourism destination because their friends or family members recommended it or organized the trip and they just joined it. It indicates that these tourists would spend their vacation in any other destination chosen or recommended by their friends or family members. These findings make me conclude that some tourists do not get informed about their holiday destination. This fact explains the careless or thoughtless, unskilled, and uninformed undesirable actions committed by nature-based tourists during activities and tours.

The type of relationship established between the nature-based tourism sector representatives and the natural resources of the areas where they operate is another factor that can influence tourist behavior. Depending on the relationship established, nature-based tourism sector representatives will promote a nature-based or a nature-oriented tourism management model at the destination. A nature-based tourism model favors hard-core nature-based activities and tours that commodify the natural resources while a nature-oriented tourism model favors soft-core nature-oriented activities and tours that promote a communion between tourists and the natural resources of the visited sites and therefore promote sustainability. As Hunter (1997, p. 859) notes, sustainable tourism is not only about policymaking but also about how tourists and tourism operators actually behave and function in relation to the utilization of natural resources.

5.4 Recommendations to the Nature-Based Tourism Sector on How to Use Nature-Based Tourism as a Tool for Sustainability

The discussion about the relationship between nature-based tourist behavior and the conservation of the natural resources highlights some points that form the basis for the recommendations that this study wants to make to nature-based tourism managers. This study shows that people use nature-based tourism activities and tours to satisfy their personal wants. Nature-based tourists possess various wants and expect to satisfy many of them on the same trip. To satisfy these wants, nature-based tourists may commit undesirable actions that can cause negative ecological impacts on the natural resources of the visited areas. Most of the undesirable actions committed by nature-based tourists surveyed in this study are careless or thoughtless, unskilled and uninformed. As Marion and Reid (2007, p. 6) note, the nature of a tourist's action is a primary determinant of the potential effectiveness of a management strategy. Thus, the nature-based tourism sector should be aware of tourist behavior to then be able to prevent these undesirable actions. As observed by this study, most of the local tourism ventures are under-capitalized micro-businesses (McKercher, 1998, p. 2) and the administrative budget of the village is limited, neither the public nor the private sector in Itacare possesses the financial means necessary to implement site

management strategies. This study then concludes that the training of tour guides on the conservation of natural resources as well as environmental education programs (interpretation, brochures, videos, and signs) are the most appropriate management strategies to influence and restrict undesirable tourist behavior. This study does not develop the theory on environmental education in the tourism industry but highlights that the topic deserves attention.

5.4.1 Pre-Arrival Sustainable Actions

There are various management strategies to restrict tourist's on-site behavior but there are few visitor management strategies to provide tourists with information on low-impact actions prior to their arrival to a nature-based tourism destination. To minimize uninformed undesirable actions, information about the fragility of the ecosystems to be visited should be briefed to tourists at their home city. Briefing sessions could be organized by the travel agency that sold the package trip or the flight ticket. This initiative would reach people who have not searched for any information about the nature-based tourism destination because their choice was influenced by friends or family members. Travel agencies could also mail their clients a code of conduct and a short text about the ecological issues of the visited area.

From a holistic point of view, travel agencies and tour operators that sell packaged trips in tourist's home city benefit from and depend on the health of the ecosystems of the destinations they sell. They should contribute to the conservation of the natural resources of the nature-based tourism destinations they offer by providing on their websites or brochures information on low-impact actions, the fragility of the visited area, required gear, desirable norms of behavior, and the consequences of undesirable actions. In most cases, tourists are not aware of the wants they want to satisfy through nature-based tourism activities and tours and the undesirable actions they are likely to commit to satisfy these wants, not to mention the negative ecological consequences of their actions. Simple initiatives from the nature-based tourism sector can raise tourist's awareness about their undesirable behaviors as tourists that they might have never thought about.

However, tourists who do not buy a packaged trip but rather buy their flight tickets online (or drive to the destination) and book their accommodation and day trips by themselves cannot be reached by environmental education initiatives promoted by travel agencies and tour operators from their home cities. Channels of communication to reach tourists traveling individually prior to their arrival to a nature-based tourism destination are restricted to the destination website and the local travel agencies' websites. If tourists traveling individually do not consult these websites, the only way to inform about low-impact practices to these tourists is at the destination.

To promote the conservation of the natural resources of the visited areas, the nature-based tourism sector should favor an environment-led approach and develop soft-core nature-oriented products. As Laarman and Durst (1987, p. 5-6) and Fennell (2002: 16-17; Fennell, 2003: 33-38) note, tourists participating in soft-, medium-, or hard-core tourism activities show different motivations, expectations, interests, commitment, and attitudes towards the natural environment. The nature-based tourism sector should focus on attracting tourists interested in soft-core activities, because these tourists are more ecologically aware and therefore more unlikely to commit undesirable actions during activities and tours. As a nature-based tourism sector representative noted, a tourist destination should define the profile of the visitors they want to attract and plan their products accordingly.

Travel agency managers and tour guides should be valuable sources of knowledge for tourists. In many small travel agencies, it is the travel agency manager who sells day trips to tourists. Both managers and staff members should have an important role in passing information on low-impact practices. This study shows that in most cases tour guides to nature-based tourism sites have a great knowledge of the functioning of the local ecosystems but lack some knowledge on tourist behavior and low-impact practices. I suggest that the nature-based tourism sector (government or NGO representatives) develop training sessions for both travel agency staff and tour guides. These trainings should include three subjects: (1) sense of belonging to and stewardship towards the local area; (2) tourist behavior (tourist's motivations, expectations, and typology); and (3) undesirable actions committed by tourists (types of actions and their negative ecological consequences).

5.4.2 On-site Sustainable Actions

Once tourists have arrived at a nature-based tourism destination, their behavior can be molded by the people they have contact with. These people include other tourists, the staff of the place where they are staying in (if not at friend's or family's house), the staff of the travel agency where they buy their day trips, the staff of the restaurants they go, and ultimately, the tour guides of the activities and tours they engage in. Travel agency staff should be responsible for informing the physical challenges that tourists will face during activities and tours. It should also be their task to inform about the gear required to cause lower impact. For instance, during a trekking in the forest, the travel agency should oblige tourists to wear proper shoes and forbid the participation of tourists wearing flip-flops. This measure could cause a decrease in the number of participants. To solve this problem, travel agencies could rent the gear required. It is a win-win situation in which travel agencies increase their revenues, tourists perform activities with more comfort, and natural resources live longer.

Tourist's behavior can also be molded by the management model adopted by the nature-based tourism destination. Visitors to preserved destinations, where both the locals and the visitors respect and take care of the environment, are more likely to 'dance according to the song that is being played' and contribute to nature conservation.

Knowing that, in most cases, visitors have little knowledge about the fragility of the visited areas and the consequences of their actions, travel agency managers should orient the activities and tours they offer along more soft-core nature-oriented lines. This type of activities and tours are less aggressive to the natural environment. Besides, it requires less physical efforts from tourists and therefore gives them the opportunity to contemplate the surrounding natural elements.

6. CONCLUSION

L'objectif général de cette étude était de comprendre la relation entre les comportements des touristes de nature et la conservation des ressources naturelles des sites visités. Pour atteindre cet objectif, nous avons défini quatre objectifs spécifiques, soit examiner (a) les perceptions des représentants du secteur du tourisme en milieu naturel par rapport aux termes conceptuels reliés à ce domaine, tels que le tourisme en milieux naturels, l'écotourisme et le tourisme durable ; (b) les actions indésirables, les motivations et attentes par rapport au voyage et les préoccupations écologiques de touristes de nature ; (c) les impacts écologiques causés par les actions indésirables commises par les touristes de nature ; et (d) les stratégies de gestion visant la conservation des ressources naturelles développées par l'industrie du tourisme pour gérer ces impacts.

Le cadre théorique et les résultats de l'étude de cas reliés au concept de durabilité ainsi qu'aux perceptions des représentants du secteur du tourisme en milieu naturel par rapport aux termes conceptuels reliés à ce domaine nous ont montré que les activités touristiques et excursions en milieu naturel peuvent causer des perturbations aux écosystèmes visités, altérer leur structure et fonctionnement et, par conséquent, menacer leur durabilité. Il arrive souvent que les gestionnaires touristiques utilisent des termes conceptuels reliés au tourisme en milieu naturel, tels que tourisme en milieu naturel, écotourisme et tourisme durable, de façon interchangeable. L'usage du terme écotourisme, par exemple, en tant que stratégie de marketing, peut induire les touristes à associer l'écotourisme au tourisme en milieu naturel tout simplement, sans considérer s'il est vraiment écologique. Cela peut faire croire aux visiteurs que passer leurs vacances dans les milieux naturels est une action respectueuse de l'environnement. Cette étude nous a également montré que le modèle de gestion adopté par la destination touristique peut transformer le tourisme en milieu naturel soit en outil pour le développement de l'industrie touristique, en adoptant une approche orientée vers la croissance (*growth-oriented approach*), soit en outil pour le développement durable de la planète, en adoptant une approche menée par l'environnement (*environment-led approach*). L'approche menée par l'environnement est la plus appropriée pour garantir la conservation

des ressources naturelles des sites touristiques étant donné que cette approche vise à promouvoir des types de tourisme qui dépendent du maintien du haut niveau de qualité des ressources naturelles.

Le cadre théorique et les résultats de l'étude de cas reliés aux types d'actions indésirables commises par les touristes de nature lors d'activités touristiques et excursions guidées ainsi qu'aux motivations et aux attentes de ces touristes par rapport à la destination choisie et aux activités et excursions auxquels ils ont participé nous ont montré que les gens choisissent de vivre des expériences touristiques en milieu naturel pour satisfaire leurs désirs personnels. Pour ce faire, les gens peuvent commettre des actions indésirables qui peuvent être nocives pour les ressources naturelles des sites visités. La majorité de ces actions indésirables sont produites par manque de prudence ou attention, manque d'habiletés ou manque d'information de la part des touristes. Cela arrive pour trois raisons : premièrement, les touristes de nature ne possèdent pas assez de connaissances par rapport à la fragilité des aires visitées ni des conséquences de ces actions ; deuxièmement, ils ne possèdent pas les équipements nécessaires pour réduire leurs impacts négatifs ; et troisièmement, ils ne sont pas informés avant partir en excursion au sujet des normes de comportement, des règlements et des conséquences de ces actions sur les ressources naturelles des sites visités. De plus, il y a des touristes qui même ayant les connaissances nécessaires n'ont pas la volonté de faire des efforts pour s'adapter aux normes de comportement locales. Cela arrive parce que l'expérience touristique permet le « soi » de se libérer ainsi que les règles et les paradigmes d'être rompus. Par rapport aux motivations et attentes, les gens cherchent à satisfaire plusieurs désirs et attentes simultanément dans le même voyage. Cette étude nous a montré que les touristes de nature s'attendaient à s'éloigner de la civilisation, cependant, ils s'attendaient également à rencontrer des gens et à être entourés par les infrastructures qu'ils ont chez eux. De plus, l'étude des types des touristes nous donne des pistes sur le type de touristes qui sont plus susceptibles de commettre des actions indésirables lors des activités touristiques et excursions. Un point important par rapport au respect et à l'adaptation des touristes aux normes locales est la source qui transmet la connaissance sur la destination qu'ils visitent, soit les autres touristes, les guides de voyage, l'Internet, le personnel des agences de tourisme et les guides de tourisme. Les touristes mieux informés seraient plus

susceptibles à s'adapter à la culture, aux normes et aux lois des sites qu'ils visitent. Cette étude nous a également appris que les touristes de nature forment un groupe hétérogène étant donné qu'ils possèdent de différents niveaux de valeurs, intérêts et engagement environnementaux. L'hétérogénéité des valeurs, intérêts et engagement environnementaux des touristes de nature nous montre que la préoccupation écologique n'est pas reliée à la localisation géographique de la destination touristique (régions naturelles versus régions urbaines) mais au touriste en soi. Le fait de passer les vacances en milieu naturel caractérise une personne comme touriste de nature, mais ne le caractérise pas nécessairement comme une personne respectueuse de l'environnement. En bref, les touristes de nature sont susceptibles de causer autant d'impacts écologiques négatifs que tout autre type de touriste.

Le cadre théorique et les résultats de l'étude de cas reliés aux impacts causés par les actions indésirables commises par les touristes de nature lors d'activités et excursions et aux stratégies de gestion visant la conservation des ressources naturelles développées par l'industrie du tourisme pour gérer ces impacts nous ont montré que la connaissance des parties prenantes du tourisme en milieux naturels sur la fragilité des sites où les activités et excursions ont lieu est fondamentale pour la conservation des ressources naturelles de ces sites. Tant les gestionnaires que les guides de tourisme et les touristes peuvent utiliser leurs connaissances pour réduire les impacts écologiques négatifs causés par les touristes de nature. Les gestionnaires peuvent identifier les impacts potentiels et gérer le site en conséquence, les guides de tourisme peuvent agir comme éducateurs environnementaux et les touristes peuvent juger si la satisfaction de leurs volontés personnelles vaut plus que la conservation des ressources naturelles. Cette étude nous a également montré qu'il existe une multitude de stratégies de gestion visant la conservation des ressources naturelles de sites touristiques. L'important c'est de comprendre que chaque stratégie est conçue pour prévenir certains types d'action indésirable commises par les touristes parce qu'elles sont causées par de différentes raisons. La nature de l'action commise est donc le déterminant principal de l'efficacité d'une stratégie de gestion. Ainsi, afin de promouvoir la conservation des ressources naturelles, les stratégies de gestion adoptées par le secteur du tourisme en milieu naturel doivent être en ligne avec les motivations, attentes, connaissances et valeurs environnementales des touristes de nature.

Le regroupement des points ressortis du cadre théorique et de l'analyse de l'étude de cas en deux grandes lignes, soit la relation que les touristes de nature établissent avec les ressources naturelles des sites visités et la relation que les représentants du secteur du tourisme en milieux naturels établissent avec les ressources naturelles des sites où ils opèrent, nous a servis de base pour faire des recommandations pour améliorer l'encadrement du tourisme de nature. Les recommandations touchent les gestionnaires publics, les voyageurs et les touristes.

Recommandations aux gestionnaires publics :

- vendre la destination comme étant du tourisme « orienté vers la nature » (*nature-oriented tourism*) ;
- attirer des touristes « orientés vers la nature » (*nature-oriented tourist*) ;
- promouvoir le développement de produits touristiques « orientés vers la nature » (*nature-oriented tourism products*) ;
- créer de règlements et codes de conduite pour la destination ;
- mettre en application les lois et les règlements existants pour protéger les ressources naturelles locales (aire de stationnement, des déchets laissés en pleine nature, utilisation de l'équipement nécessaire, nombre de visiteurs, période des visites) ;
- offrir des formations aux voyageurs et aux guides touristiques quant aux pratiques à faible impact écologique ;
- promouvoir le sentiment d'appartenance au milieu des locaux pour les inciter à protéger leurs ressources naturelles et ainsi servir d'exemple aux visiteurs ;
- installer des pancartes affichants les règlements et les codes de conduite de chaque endroit touristique ;
- obliger les guides touristiques à lire les pancartes avec les touristes avant d'entrer l'endroit à visiter ;
- contrôler le travail des voyageurs et des guides pour s'assurer que les règlements, les lois et les codes de conduites soient respectés.

Recommandations aux voyageurs :

- être au courant des différents niveaux d'adaptation des touristes aux normes locales ;
- développer des produits touristiques « orientés vers la nature » (*nature-oriented tourism products*) ;
- organiser, avant le début de l'activité et du tour, une session informelle d'information sur les enjeux environnementaux des endroits visités ainsi que sur les code de conduites et les règlements à respecter lors des activités et des tours ;
- suivre les lois, les règlements et le code de conduite locaux ;
- rapprocher les touristes commettant des actions indésirables en leur expliquant les impacts négatifs que ses actions peuvent causer sur l'environnement ;
- assurer la sécurité pas seulement des touristes, mais aussi de la faune et de la flore ;
- arrêter à chaque pancarte et la lire avec les touristes avant d'entrer l'endroit à visiter ;
- informer les touristes au sujet des efforts physiques de chaque activité
- informer les touristes quant aux équipements nécessaires pour réaliser une activité en confort et en sécurité.

Recommandations aux touristes :

- se renseigner sur les activités touristiques offertes à la destination pour se préparer en conséquence ;
- se renseigner sur les enjeux environnementaux de l'endroit à visiter ;
- participer aux sessions d'information offertes par les voyageurs ;
- respecter les lois, les règlements et le code de conduite locaux ;

APPENDIX A - TIME LINE OF NATURE CONSERVATION AND HISTORICAL
EVENTS

eighteenth century		nineteenth century				twentieth century				
1712		1855	1872	1875	1892	1914 - 1918	1936	1939-1945		
First Industrial Revolution (invention of the Newcomen engine)	Romantic Movement	First tourist excursion offered by Tomas Cook	Establishment of the world's first national park (Yellowstone Park, USA)	Second Industrial Revolution	Foundation of the environmental organization Sierra Club by John Muir	WWI	Paid holidays in France	WWII		
The Grand Tour (Britain)		Romantic Movement								
		1808	1822	1850	1888	1907	1930	1937		
Colonial Brazil		Transfer of the Portuguese Royal family and its court	Independence from Portugal	Inauguration of the first hotels in Sao Paulo	Abolition of slavery	First Thomas Cook steamship bringing international tourists	Brazil's Industrial Revolution	Establishment of Brazil's first national park (Itatiaia National Park - Parque Nacional do Itatiaia)		
twentieth century									Twenty-first century	
1962	1972/1973	1983	1987						2002	
Publishing of the book <i>The Silent Spring</i>	Birth of the concept of eco-development Publishing of the books <i>The Limits to Growth</i> and <i>Small is Beautiful</i>	Coining of the term ecotourism by Ceballos-Lascurain	Publishing of the Brunland's Commission report <i>Our Common Future</i> (popularization of the term sustainability)						Quebec Declaration on Ecotourism	
Oil crisis										
--- Phase of tourism democratization --- (emergence of mass tourism)										
1964	1966	1970	1985	1986	1990	1992	1994	1998	1999	2003
Beginning of the Brazilian Military Dictatorship	Creation of EMBRATUR - Brazilian Tourism Board (Empresa Brasileira de Turismo)	Economic Miracle	Ending of the Brazilian Military Dictatorship	Creation of the NGO SOS Atlantic Forest (Fundação SOS Mata Atlantica)	Publishing of the decree 99.547/90 prohibiting the cutting and exploitation of the Atlantic Forest	Creation of the Ministry of Trade, Industry and Tourism (Ministério da Indústria, Comércio e Turismo)	PRODETUR I Publishing of <i>Guidelines for a National Ecotourism Policy</i> (Diretrizes para uma Política Nacional de Ecoturismo)	Creation of the Ministry of Sports and Tourism (Ministério do Esporte e Turismo)	PRODETUR II	Creation of the Ministry of Tourism (Ministério do Turismo)
Legend	---Beginning of the growth of tourism in Brazil ---									
 nature-conservation-related historical events										
 nature-tourism-related historical events										
 historical events										
	1996 - establishment Política Nacional de Turismo									
	Source: author's compilation									

APPENDIX B – Questionnaire and Interview Guides for Data Collection

UQAM

The University of Quebec in Montreal (UQAM) is carrying out a study on tourism in Brazil. This study is intended for people who have participated in tourism activities organized by travel agencies in Itacaré. The objective of this study is to understand the context of nature tourism in Itacaré, which might contribute to the management of local tourism activities. Your participation is voluntary and unremunerated.

I confirm, by placing my initials, that I have read and understood the above information and voluntarily agree to take part in this research study, and I allow the researcher to use the data collected through this questionnaire in any of her studies and publications. Initials: _____ Date: _____

Have you participated in a tourism activity organized by a travel agency in Itacaré? yes no

1. What motivated you to spend your holiday in Itacaré? _____

2. Please check the box that indicates which tourism activity(ies) you have participated or intend to participate in Itacaré:

	Maraú	Islands	4 beaches	Jeribucaçu	Praia	Tree Climbing	Rafting, Rapel or Zip-line	Canoeing in the mangrove	Itacarezinho
have participated									
intend to participate									

3. With which travel agency(ies) did you take these activities? _____

4. Please check the box that indicates how you would classify these activities:

nature tourism ecotourism both I don't know

5. Please check the box that indicates how much of your entire holiday you are going to spend in nature (outside urban areas):

less than half of it half of it more than half of it all of it

6. Would you be willing to pay a fee for nature conservation projects in Itacaré, such as the cleaning of beaches and trails? no yes

7. If yes, how much would you be willing to pay for this fee per activity practiced? R\$ _____

8. Please check the box that indicates how important each item is for your enjoyment during the activities:

	not at all important	a little important	more or less important	somewhat important	very important
to live an unusual experience					
to get away from civilization					
to increase my knowledge of nature					
to touch exotic plants					
to touch exotic animals					
to harmonize with nature					
to explore untouched parts of the site					
to meet new people					

9. Please check the box that indicates how fragile do you consider the nature in Itacaré in the presence of human beings:

not fragile at all a little fragile more or less fragile somewhat fragile extremely fragile I don't know

10. Please check the box that indicates the level of damage that each actions practiced by visitors may cause to nature:

	no damage	little damage	some damage	a lot of damage	extreme damage
walking inside the path					
pulling up plants					
getting close to the wildlife					
disposing of waste outside the wastebasket					
making noise pollution					
walking outside the path					
feeding the wildlife					
fishing outside the allowed areas					

11. Would you like to see infrastructure in the sites you have visited or pretend to visit? no yes

12. If yes, which infrastructure would you like to see? washrooms resting areas restaurants
 parking view points showers lodging other: _____

13. Please check the statement that best reflects your idea of ecotourism:

- Ecotourism is a tourism activity set in urban areas.
 Ecotourism is a tourism activity set in nature (outside urban areas).
 Ecotourism is a tourism activity set either in urban areas or in nature (outside urban areas).

14. Please check the box that indicates how often you take each action in your daily life:

	never	rarely	sometimes	often	always
sorting of recyclable materials					
reducing my water consumption					
choosing public transportation					
reducing my energy consumption					
purchasing locally produced goods					
reducing my paper consumption					

15. Are you travelling individually or on a package tour? individually package tour

16. With whom are you traveling? alone friend(s) family other: _____

17. Where are you staying in Itacaré? I am on a day trip bed & breakfast friend's house
 family member's house hotel other: _____

18. Are you a member of an environmentalist organization? no yes

19. Age: 18-30 31-40 41-50 51-60 61 or older

20. Sex: female male

21. City / State / Country of origin: _____

22. What is your last degree completed? elementary and high school college/university
 graduate school post-graduate school other: _____

Thank you for your participation!

Interview Guide with Tour Guides

Name: _____

1. How did you start working as a tour guide?
2. Have you worked as a tour guide in another city?
3. How long have you been working as a tour guide? How long in Itacaré?
4. Are you a member of any association in Itacaré?
5. Which one?
6. For how long?
7. How would you define nature tourism?
8. How would you define ecotourism?
9. What's the difference between nature tourism and ecotourism?
10. Do you think that the tourism practiced in Itacaré is nature tourism or ecotourism?
11. What's the role of the tour guides during a tour?
12. How did you learn the information that you pass to tourists during a tour?
13. Do guides in Itacaré go through any training before they start working?
14. Is training important in your profession?
15. Why?
16. Which kind of environmental damage do tourists cause during a tour?
17. Indicate the level of damage that each actions practiced by visitors may cause to nature:

	no damage	little damage	some damage	a lot of damage	extreme damage
walking inside the path					
pulling up plants					
getting close to the wildlife					
disposing of waste outside the wastebasket					
making noise pollution					
walking outside the path					
feeding the wildlife					
fishing outside the allowed areas					

18. How could the environmental damage caused by tourists during a tour be minimized?
19. Who is responsible for minimizing the damage caused by tourists during a tour?
20. What actors have an important role in the tourism industry?
21. How would you define sustainable tourism?

Interview Guide with Tourism Operators and Associations

Travel agency/Association: _____

Position: _____ # of years in this position: _____

COMPANY'S AIM

- 1) How did your company begin?
- 2) What was its aim at the time?
- 3) What is your company's aim today?
- 4) If there were any changes in its aim, why did these changes occur?

TOURISM MANAGEMENT: REGULATIONS AND POLICIES

- 5) Are there any tourism regulations or policies regarding the conservation of natural resources in Itacaré?
- 6) If so, do you apply them to the activities you offer? no yes
- 7) If so, which policies do you apply?

REGULATIONS AND POLICIES	ESTABLISHED BY / DATE

- 8) Do you encounter any difficulties in applying them to your business? no yes
- 9) If so, which ones?
- 10) Do you inform them to your clients? no yes
- 11) If so, How? When? Who does it?
- 12) How would you define nature tourism?
- 13) How would you define ecotourism?
- 14) What's the difference between nature tourism and ecotourism?
- 15) Do you think that the tourism practiced in Itacaré is nature tourism or ecotourism?
- 16) What's the role of the tour guides during a tour?
- 17) What are your criteria in hiring the tour guides who work for you?
- 18) Do guides in Itacaré go through any training before they start working?
- 19) How important is training for tour guides?
- 20) For travel agents: What can you tell me about the tour guides associations in Itacaré?

ENVIRONMENTAL VALUES

- 21) What is the relationship between the natural resources and the nature-based tourism industry?
- 22) Are there any current environmental issues in Itacaré? no yes
- 23) If so, which ones?
- 24) Were there any in the past? no yes
- 25) If so, which ones?
- 26) What are your company's strategies, policies, and practices to reduce the local environmental issues?
- 27) Does your company meet any difficulties with the environment or interest groups?
- 28) If so, which ones?
- 29) What are the management challenges of the products you offer?
- 30) Which management tools would help (or are already helping) you tackle this problem?
- 31) How do you see the future developments of your company?
- 32) How do you see the future developments of the tourism industry?
- 33) Do you foresee any issues/difficulties in the near future? Ex.: climate changes, population growth, economic crisis.
- 34) How would you define sustainable tourism?

Interview guide with the public sector

Institution and the position of the respondent: _____

Number of years in this position: _____

- 1) When was this institution founded?
- 2) What is its role?

TOURISM MANAGEMENT: REGULATIONS AND POLICIES

- 3) How is tourism regulated in Itacaré?
- 4) Are there any tourism regulations or policies regarding the conservation of natural resources in Itacaré?
- 5) If so, which ones are currently in use?

REGULATIONS AND POLICIES	ESTABLISHED BY / DATE	APPLIED BY

- 6) What is the aim of these regulations and policies?
- 7) How does your institution inform the tourism private sector of these regulations and policies?
- 8) Is the private sector obliged to apply them? no yes
- 9) If so, how does your institution control their application by the private sector?
- 10) Do you encounter any difficulties in making the public sector apply these regulations and policies?
- 11) If so, which ones?
- 12) How could this situation be improved?
- 13) What are the most effective tourism management tools to promote the conservation of natural resources?
- 14) Which other tools could be established to minimize the negative environmental impacts of nature-based tourism on the visited areas, thereby enhancing the conservation of natural resources?
- 15) What's the role of the tour guides in the tourism in Itacaré?
- 16) How are the tour guides trained to interpret the natural heritage?

ENVIRONMENTAL VALUES

- 17) What is the relationship between the natural resources and the nature tourism industry?
- 18) How would you define nature tourism?
- 19) How would you define ecotourism?
- 20) What's the difference between nature tourism and ecotourism?
- 21) Do you think that the tourism practiced in Itacaré is ecotourism?
- 22) Are there any current environmental issues in Itacaré? no yes
- 23) If so, which ones?
- 24) Were there any in the past? no yes
- 25) If so, which ones?
- 26) What are your institution's strategies and practices to reduce the local environmental issues?
- 27) Which management tools would help (or are already helping) you tackle this problem?
- 28) Does your institution meet any difficulties with the environment or interest groups? no yes
- 29) If so, which ones?
- 30) How do you see the future developments of your institution?
- 31) How do you see the future developments of the tourism industry?
- 32) Do you foresee any issues/difficulties in the near future? Ex.: climate changes, population growth, economic crisis.

APPENDIX C – Ethics Form

Conformité à l'éthique en matière de recherche impliquant la participation de sujets humains

Le Comité d'éthique de la recherche avec des êtres humains de la Faculté des sciences de l'UQAM a examiné le projet de recherche suivant :

Titre du projet : Le tourisme en milieu naturel: le cas de l'écosystème de la forêt atlantique

Responsable du projet : Larissa De Marino Fernandes

Maîtrise en sciences de l'environnement, Institut des sciences de l'environnement

Superviseur : Alain Grenier

Ce projet de recherche est jugé conforme aux pratiques habituelles et répond aux normes établies par le «*Cadre normatif pour l'éthique de la recherche avec des êtres humains de l'UQAM*».

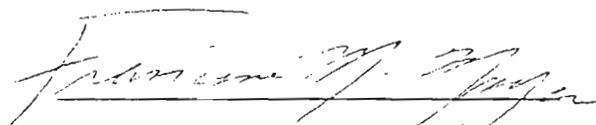
Le projet est jugé recevable au plan de l'éthique de la recherche sur des êtres humains.

Membres du Comité

NOM	TITRE	DÉPARTEMENT
Achim, André	Professeur	Psychologie
Arvais, Louise	Secrétaire du Comité institutionnel d'éthique de la recherche avec des êtres humains	Service recherche et création
Desrosiers, Richard	Professeur	Chimie
Proulx, Jérôme	Professeur	Mathématiques
Mayer, Francine M.	Professeure	Sciences biologiques

2 décembre 2009

Date



Francine M. Mayer
Présidente du Comité

APPENDIX D – Pamphlet

Venda de Ingressos: Café Brasil / Tabacaria Pé de Fumo e credenciados

thewailersitacare@gmail.com Tel.: (73) 9999-5640 / 8124-2662

Itacaré Eco Reggae Festival

14 de Janeiro de 2010

Praia do Resende

 itacare.com

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THE ORIGINAL WAILERS



A partir das 21:00 h

Bandas:

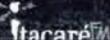
**Ethiopia
Federation**

Apoio:















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