Ecotourism in Brazil: geographical perspectives of development in protected areas

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Abstract

Ecotourism is a kind of tourism that is growing worldwide; mainly in countries like Brazil whose territory still presents a significant parcel covered by tropical forests and associated ecosystems. However, its planning and execution are not yet done on a sustained basis concerning environmental preservation and social insertion. This investigation aims to show, in a synthetically manner, how nature tourism, mainly ecotourism, is done in Brazilian protected areas and how geographic science contributes to its success to produce minimum environmental impact.

Keywords: ecotourism, protected areas, geomorphology.

1 Introduction

Technological and organizational progress from the Industrial Revolution contributed to increased productivity, a reduction in costs and workmen hours, and enlarged resources level available to consumption (including time) on society layers. In the 20th century, leisure and tourism appeared as mass activities, bringing many business opportunities and consequently economic interest.

The World Tourism Organization (WTO [10]) deals with tourism as a kind of personal displacement using any means of transportation, involving at least an overnight stay in a destination. There are many reasons for displacements, and consequently almost all kind of trips are considered potentially good for tourism, despite of its intrinsic motive which produces several kinds of tourism. Actually, when people go on a trip to other cities out of their residence, they can do any kind of leisure or recreational activity in the concept of tourism.
“Tourism is a social practice that involves displacement of people through the territory and that has in its geographical space its main consumption object” [2]. The tourism history is recent and only in 1996 did the Federal Government recognized its importance – strictly associated to economic advantages, “(…) it does not involve huge investment and offers profit in return in relatively short terms.(…)” EMBRATUR/IBAMA [4] – creating the National Council of Tourism (CNTur) and the Embratur. Only in 1997 the Embratur published a document containing basic rules to the Tourism National Policy.

After the Second World War, tourism and leisure reached such a growth level that, from the economic point of view, they started to be considered as “industries”, particularly in the main metropolis. The consequent life quality improvement, the income increase and wasting capacity, the labour working hours reduction, the enlargement in remunerated vacation periods and the more democratic means of collective or particular transportation, promoted spectacular development in population spatial mobility envisioning tourism.

Tourism and leisure can be done in nature, mainly in areas legally protected, called Preservation Units (called Conservation Units or UCs in Brazil). It is a kind of nature tourism that can present simultaneously recreation and leisure activities, and it is growing fast all over the world. However to realize tourism activities in Brazilian UCs does not mean that the tourist has a harmonious relation among its components (water, soils, vegetation and fauna). The tourism adequating nature spaces implies in spatial transformations that can promote serious negative impacts if done disorderly and without adequate planning, mainly in fragile ecosystems such as those tropical areas.

Thus, landscape search grows and also the diversity of spaces, increasing value of urban periphery and countryside areas that assume important roles in attracting other ways to recycle tourism with leisure and recreational activities.

This paper tries to give a practical-theoretical contribution to this question, showing through examples how tourism in nature, particularly ecotourism, is developed and managed in Brazil.

2 Tourism in nature and ecotourism: a geographical dealing

All over the world there are several concepts and terminologies associated with nature tourism. Several kinds of tourism are commonly considered ecotourism synonymous: nature tourism, ecological tourism, environmental tourism, sustained tourism, adventure tourism, eco-scientific tourism, etc. They all have a common point; they try to put visitors in contact with the environmental resources through leisure and recreation activities.

The nature tourism practice, one of the ecotourism synonymous, occurs by a plain visitation to natural space, without great compromise between the agent, tourist or visitor and natural resources preservation. One looks only to ambient direct contact and relative care in maintenance of the environment. According to Machado [7], nature tourism “(…) shows an incomplete idea of nature space use for tourism activity, and should be reviewed to guarantee product quality and
### Table 1: Differences between ecotourism and other types of tourism.

<table>
<thead>
<tr>
<th></th>
<th>Ecotourism</th>
<th>Nature Tourism</th>
<th>Eco-scientific Tourism</th>
<th>Environmental Tourism</th>
<th>Adventure Tourism</th>
<th>Rural Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keyword</strong></td>
<td>Preservation</td>
<td>Out-of-doors leisure</td>
<td>Research</td>
<td>Environmental education</td>
<td>Controlled risk</td>
<td>Farming activity</td>
</tr>
<tr>
<td><strong>Occurrence</strong></td>
<td>Preserved natural areas</td>
<td>Natural areas</td>
<td>Preserved natural areas</td>
<td>Preserved or degraded natural areas</td>
<td>Natural areas</td>
<td>Rural area</td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td>Relation to environmental maintenance</td>
<td>Unconcern in relation to more direct processes to environmental maintenance</td>
<td>Directly related to scientific activity</td>
<td>Directly related to educational activity</td>
<td>Related to nature sports activities</td>
<td>Related to touristic activities in rural areas with cattle raising activities</td>
</tr>
<tr>
<td><strong>Cares</strong></td>
<td>Extremes</td>
<td>Simple</td>
<td>Extremes</td>
<td>Extremes</td>
<td>Basic</td>
<td>Basic</td>
</tr>
<tr>
<td><strong>Local knowledge</strong></td>
<td>Deep</td>
<td>Superficial</td>
<td>Scientific</td>
<td>Deep</td>
<td>Only to practice of sportive modality</td>
<td>Superficial</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>Extensive knowledge of the natural and cultural environment</td>
<td>Relaxing and leisure in natural environment</td>
<td>Technical knowledge of the environment</td>
<td>Environmental knowledge and its modifications</td>
<td>Physical activities in nature</td>
<td>Leisure in rural area</td>
</tr>
<tr>
<td><strong>Groups</strong></td>
<td>Reduced</td>
<td>Medium and large</td>
<td>Well reduced</td>
<td>Medium and large</td>
<td>Reduced</td>
<td>Reduced to médium</td>
</tr>
<tr>
<td><strong>Local involvement</strong></td>
<td>Always</td>
<td>Not necessarily</td>
<td>Not necessarily</td>
<td>Not necessarily</td>
<td>It occurs when necessary to activities' support</td>
<td>It occurs directly with the owners</td>
</tr>
<tr>
<td><strong>Tourism Agents</strong></td>
<td>Direct involvement with environmental projects</td>
<td>Without involvement with environmental projects</td>
<td>Not always necessary</td>
<td>Involvement with educational education</td>
<td>Capable to the modality</td>
<td>The activity is normally exerted by the owner</td>
</tr>
<tr>
<td><strong>Cultural involvement</strong></td>
<td>Directly identified</td>
<td>Without compulsory cultural projects</td>
<td>Not always necessary</td>
<td>Not necessarily</td>
<td>It generally does not occur</td>
<td>Directly identified</td>
</tr>
<tr>
<td><strong>Public</strong></td>
<td>Concerned with environmental questions</td>
<td>Eager to be in contact with nature</td>
<td>Technicians, teachers, studious</td>
<td>Teacher, studious, students, self-seeking</td>
<td>Avid to physical activities in natural media</td>
<td>Avid to leisure activities in rural media and more personal reception</td>
</tr>
<tr>
<td><strong>Programs</strong></td>
<td>With minimum impact concepts</td>
<td>Possible realization in natural space</td>
<td>When they occur, only relaxing</td>
<td>Relating actions and consequences in the environment</td>
<td>Always linked to controlled rise sport practice</td>
<td>Always linked to wrangler practices</td>
</tr>
</tbody>
</table>

Source: Machado [7]. Adapted by Costa 2007.

Figure 1: Escalavrado peak, Serra dos Órgãos national park (PARNASO – RJ). Source: Flávio Mello (June 2000).
destination reliability, preventing unnecessary frustration and inadequate investments, by creating poor satisfaction and discredit.”

As an example of nature tourism practice we can consider a trip to a mountain in the interior of Rio de Janeiro; for example, Teresópolis. A place frequently visited by people who want contact with nature, so called “Parque National da Serra dos Órgãos” (PARNASO), that is an important Preservation Unit that preserves the remaining part of the Atlantic Forest (Mata Atlântica), fig. 1. Despite the significant number of visitors and tourists, only few of them effectively practice ecotourism.

There are differences between the various nature tourism types, some are very significant, as shown synthetically, as shown in table 1. In specific case of ecotourism, besides association of practices to reduce environmental impact, they must also involve local communities and imply in realization of environmental education actions, as shown in fig. 2.

![Concept of ecotourism](image)

**Figure 2:** Terminologies of ecotourism and its relationship. Source: elaborated by Costa, 2007.

In accordance with The International Ecotourism Society – TIES, Ecotourism is “the responsible trip to nature areas, envisioning preservation of environment and to promote well-being of local population” [3]. In Brazil, the official concept of Ecotourism elaborated by EMBRATUR/IBAMA [4] is: “(…) the segment of tourism activity that uses in a sustainable manner the natural and cultural patrimony, stimulate preservation and seek for creation of environmental mentality trough environment interpretation, promoting well-being of involved populations”.

Despite the wish of the concept to contemplate the expectance of the scientific and environmental communities as far as preservation of environment and social insertion, in practice, actions effectively done in ecotourism context are far away from this nature. The economic objective predominates over the
others, leaving to second place the possible negative effects (impacts) on the physical or biotic ambient.

To prevent such a consequence it has been fundamental to employ the geosciences, mainly the Geography, as will be shown in the following paragraphs.

2.1 Geosciences helping understanding and exploring ecotouristic landscape

The geosciences, or earth sciences, constitute a set of sciences that studies structure, evolution and internal and external dynamics of our planet. As geosciences one distinguished: Geography, Geology, Oceanography and climatology. Particularly Geography embodies several specialties associated to the external dynamic (geomorphology, pedology, hidrography, and others) and worries in crescent manner with relations between men and nature, or in another way around, with the transformations that man is promoting on components of physical and biotic ambient, including social-cultural modifications.

Environmental and territorial questions analyzed by geography partially deals with several types of tourism, mainly those dealing with space and/or territory ordering. In Brazil Tourism Geography awaking attention of Geographers and Tourism specialists and as synthesis science looks for inter-disciplinary aspects between sciences, mainly when dealing with understanding the space effects as consequence of tourism actions. As emphasized by Cruz [2], Tourism “is the only social practice that elementary consumes the space”.

The arrangement of the physical space is the object of Physic Geography and its specialties can give a detached contribution to Tourism Geography, particularly to nature tourism studies (ecotourism, adventure tourism, etc.). When we talk about the natural environment we mean physical components (mountains, rain, temperature, humidity, wind, etc.) and living organisms (vegetables and animals, including man). The natural patrimony involves those three sets considered tourism resources, having real integration and dynamics between each other. The geosciences greatly help to do such integration together with the biological and social sciences.

When we make a trip to certain cities located at State of São Paulo (like Campos do Jordão) and State of Rio de Janeiro (like Teresópolis, Petrópolis and Nova Friburgo) among others, the nature tourism activities and mainly the ecotourism are favoured by the natural environment. In this case we say that the biologic, climate and geomorphologic characteristics of those areas are the main attraction for those tourism modalities. Sites with mountains, hills, water falls, caves, caverns, for example, are good for activities, as: climb mountains, walking practice, climbing and other sport types associated with tourism (the so called eco-sports, such as rappel, trekking, mountain-bike, among others), with increasing adepts to its practices in natural ambient.

Areas of diverse ecosystems, with relief sculptured in rocks of distinct erosion resistance, produce deep canyons and/or forms of various shapes – for example the sand-soils and quartzite formations of Chapada Diamantina (State of Bahia),
the Vila Velha (PR) sandstone and the hillsides of Chapada dos Guimarães (MT), or the country sides formed by the calcareous relief rocks, as found in Parque Estadual de Ibitipoca (MG) – are used as geologic-geomorphologic formations in nature tourism activities, fig. 3.

Natural landscapes are visual expressions of ecosystems, of ground relief, vegetable formations, of the fauna, of hydrography and singularities and nature disclosure. When a tourism itinerary is done, one should have a “tourism look” to differentiate the local existing natural environment before considering cultural diversity. The tourist experiment the ambient with sensitive and cognitive involvement with its activities. Therefore the landscape and ecotourism are realities well related and natural resource is the big value to development and consolidation of (eco) touristic offer.

The dimension is not only aesthetic (visual) and cultural (man actuating as modeller, carrying the ambient with emotional values), but also ecologic (or ecologic-geographical). It is important to consider a landscape as an interrelated set: as visual response to physical, biologic and social-cultural elements. The landscape is, according to Oliveira [9], an image, that is part of our imaginary and is also a resource that mobilizes the (eco) tourism (symbolic contents), resulting in publicity landscape made with appeal of our imaginary and being full of generalizations.
The nature tourism activities, in majority, do not consider the local communities and do not bring real sustainability connected to local aspects, desired by the potential sites. Many of such activities do not consider the human relationship with physical medium, mainly binding to exploration of natural beauty, with economic benefit (profitable activities), being insured to visitors and minimize or prevent impacts to the flora, fauna and hydric resources. In such cases, the Geomorphology, specialty of the Physical Geography, has contributed specially in the studies of the potentialities and limitations of such areas, “as one tries to understand the relief formation process, as well as its external dynamics, that can be more or less affected in virtue of the type of occupation of a part of the territory.” [5]. Figure 4 shows examples of circumstances: potentialities and limitations.

<table>
<thead>
<tr>
<th>Potentialities</th>
<th>Limitations</th>
</tr>
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<tbody>
<tr>
<td>Geologic andGeomorphologic aspects (geologic history and relief formation process) significant as (eco)tourism attributes: cave, falls, lakes, mountains, beaches, etc.</td>
<td>Geomorphologic processes that limits or prevent visualization: erosion (pluvial or fluvial), rivers deluge and silting, “freshet or water spout”, etc.</td>
</tr>
</tbody>
</table>

Figure 4: Realization of a judicious evaluation of true local (eco)tourist potentialities and limitations. Source: elaborated by Costa, 2010.

In planning ecotourism both situations must be considered to complete the issue of the activities, in parallel to the generation of minimum impact.

3 Main environmental and physical transformations in protected areas arising from ecotourism

Developing tourism in nature, especially ecotourism, is a present practice in countries like Brazil, mainly in regions were forest ecosystems are predominant like the Mata Atlântica (Atlantic Forest). The main worry of researchers has been with the positive impacts that such activities can result to practitioner. The satisfaction of the visiting tourist in being momentarily apart of the life stresses produces negligence in relation to negative impacts. In reality, the effects to ambient media and to man may be either positive or negative. However, if activities are implemented in a correct way the tendency is of predominance of the positive impacts.

Impact generation occurs in the planning phase of the (eco) tourism product as in the operational stage (development) of ecotourism. Entrepreneurs, agents and operators tend to evolve and operate its ecotourism products looking to “economic results” and “tourist satisfaction”. Governmental or non-
governmental organizations having “interests” in ambient affairs will tend to give more equilibrium to those actions, minimizing the negative impacts.

It should be emphasized that, most of the time, the medium and big size companies and organizations whose objectives are not oriented to tourism, they do some ecotourism operations because of the “modern appeal”, giving the impression that they are “environmentally correct”, just to respond to social-environmental pressures. At the end they come to be the principal responsible for negative environment impacts.

The impacts of ecotourism are constituted by a range of modifications and a sequence of events produced by the development of tourism practices in the sites. They have diverse nature, intensity, directions and magnitudes, but the results interact and generally are of difficult reversibility when they occur in the natural environment without adequate planning. They have origin in the changing process and are not punctual events, as result of specific causes, for example, tourism equipment that does not work well or some precarious service offered to visitors. In general they occur together, comprising several equipment and/or conducts, varying in accordance to implemented ecotourism practices.

As previously mentioned, the environment impacts can be classified as positives and negatives, and qualified as economics, social-cultural and environmental.

3.1 Economic impact

In general this type of impact is considered as predominantly positive (not exclusively), if the tourism activity as a whole looks to profitability, independent of tourist satisfaction. The principal economic positive impacts are: employment generation; economic diversification; regional development; earnings in foreign currency; increase in tributary profit and improvement in logistic infrastructure to support the activities. A good example of positive economic impact due to ecotourism can be seen in Bonito (at Mato Grosso do Sul State), where one can see the increase of accredited tourism guides due to the increase of tourists in the region. The guides have an important function because of their responsibility in giving correct information about characteristics of environment attractions and about a region’s history. They are also responsible to stimulate tourist preservation attitudes, as well as take care of the group security besides the control of environment injury to inform the adequate authority.

In consequence, Bonito Mayor signed a law (Law nº 8.623/93) to the obligatoriness in having accredited guides (the tourism guide profession is regulated by the Decree nº 946/93) with consequent creation of a tourism guide association. The profit of the tourism guides corresponds to 16% of the tickets selling to the Balneary Town, estimated in 14% to 16% of voucher values. Part of this money is financing professional formation and training courses of guides, and also monitors to adventure type of tourism [1].

In its turn, there are few negative economic impacts. Among them we can mention the transformation in professional occupations and the economic benefits transfer coming from other activities, as for example farmers or fishers that are converted in tourism guides. In such a case the transformation can
modify the region economy, despite the profit generated, as a consequence of development of another more rental activity.

Another situation that can be characterized as negative economic impact is the stagnation of the regional economy produced by inadequate tourist activity. Many Brazilian counties can not have the economic benefits of tourism due to the effort concentration in industrial activities. In many cases those activities proportionate environment negative impacts, as is the case of fabrics industry in Teresópolis and Friburgo cities, in Rio de Janeiro State.

3.2 Social and cultural impacts

This type of impact affects directly men culture, in its actions, emotions and satisfactions. In general those transformations are positive, even so the effects can be negatives, mainly occurring in potential places with internal or periphery residences, when residents are not included in the ecotourism activity process.

The main positive socioeconomic impacts are: generation of new jobs, improvement of the involved population income, conservation of the landscape-architectonic patrimony, reaffirmation of local cultural identity and cultural interchange. The main negative social-cultural impacts are: excessive commercialization of products; loss of authenticity in cultural manifestation; loss of cultural identity due to traditional life influences; modifications in consumption standards due to the influence of the tourist in the purchasing habits of local population, awaking economic needs not known to them; increase of resident and seasonal population, with consequent loss of life quality of the inhabitants and increase of social problems as the use of drugs, crimes and prostitution.

3.3 Environmental impacts

The environment impacts produced by tourism types are major worries of Brazilian environmentalists, once the negative impacts can, in some cases, be greater than the benefits offered to tourists due to nature contact. This can occur when the activities are not in accordance with the orientation of the environment license to the proposed enterprise.

The main positive environment impacts are: conservation of important natural areas; conservation of archaeological sites, as well as the local architectonic patrimony; awareness increase concerning environment conservation/preservation. The main negative environment impacts are: pollution of water, air, noise and visual alteration; problems in basic sanitation and losses of fauna and flora specimens.

4 Actions to prevent or mitigate negative impacts as consequence of ecotourism in Brazilian protected areas

The first question to be observed in prevention and/or mitigation of the impacts promoted by tourism in nature, including ecotourism, is included in two basic
actions: right planning of the activities and monitoring of foreseen and realized activities, in the context of the basic ecotourism premises, as to know: physical-biotic diagnosis of the area to be explored, education to environmental conservation and social insertion.

In practice, we know that this does not effectively occur. The majority of entrepreneur thinks in positive impacts realization and at the end, after activities suffers with environmental injuries they think about mitigation negative impacts.

One could raise the question: is there any quality control mechanism concerning services offered to visitors, such that the negative impacts produced by ecotourism can be effectively be mitigated? We believe so.

Ecotourism is a relatively new activity, and its normalization is also relatively recent in Brazil and in other countries. In Brazilian case the impacts somewhat occurs as reflex of lack of public policies concerning to tourism as a role and lack of personnel qualification to the sector. The main purpose of Brazilian government, in different levels of responsibility, has being focused to promote ecotourism development in sustainable basis.

Many environmentalists consider ecotourism as a low impact activity but, if done without considering the basic principles, many environment injuries can be performed as earlier emphasized. To be successful is mandatory the improvement of the economy of the regions with high ecotourism potential keeping, in parallel, the preservation of the environment together with the insertion of local communities. Those are the basic premises of the ecotourism shown in item 2 (Tourism in nature and ecotourism: a geographic approach).

The most important document published by the Brazilian Government oriented to ecotourism development is named “Directive to an ecotourism National Policy”, organized by EMBRATUR/IBAMA [4]. This publication results from the combined action between the Brazilian organization that worries with environment, the ones that actuate to promote tourism development as a whole, the Non Government Organizations (NGOs) and private companies. The document contains ten main strategic actions: ecotourism regulation; inter-institutional strengthening and interaction; human resource formation and capability; quality control of ecotourism product; information management; incentive to ecotourism development; infrastructure implementation and suitability; tourist information and awareness; community participation; and quality control of ecotourism operations.

Those are also the foreseen strategies in the document “Directory to an ecotourism State Policy”, of the State of São Paulo, created in 1997, the main Brazilian state in ecotourism implementation. Other states are trying to establish their own policies to promote ecotourism as is the case of Paraná State (in south region of Brazil), through fiscal mechanisms and fomentation of activities in protected areas as means of environmental protection.

Actually, Brazil is introducing the tourism certification. According to Salvati [11]: “The introduction of tourism certification can be important once the tourism private sector should be more responsible and competitive”. The mentioned author defines certification as a social control process done by the private enterprise, concerning tourism services and destinations, as a qualitative
evaluation of its realizations. The main purpose is the business improvement starting from the pre-established quality standard, constituting in market incentive through emission of a “stamp” given to those enterprise that achieves certain efficiency and performance standards. “[…] tourists with environmental consciousness give preference to tourism products and destinations with certification in detriment to those without certification” [11].

However, the crucial question concerns to who must promote the certification (who will be the certifier?). The certification should be done by a team of well prepared auditors to adequate evaluation. In the case of ecotourism, being a recent tourism modality, there are no qualified persons to perform such functions. Environmentalists and eco-tourists yet have not the full knowledge about the procedures to effectively develop tourism in nature causing minimum impact. The geographers have fundamental role in this process, due to its holistic and integrator vision concerning natural and social processes allows the generation of information and procedures basic to certification of ecotourism practices and instruments. Accomplishing (or requiring from the entrepreneur) a good diagnosis about the potential areas is an example of its action and one of the most important stages of certification. Strictly the practices are done in a chaotic way, motivated by the means of communication promotion, sometimes mistaken about the preservation objectives. Certification capability is, today, a worry to those whose desires are the promotion of correct ecotourism development. The Conselho Brasileiro de Turismo Sustentável – CBTS (Brazilian Sustainable Tourism Council) is an entity created to establish quality standards to tourism modalities in the wholly country. Since 1999 the CBTS is realizing the project of the certification system to ecotourism products, together with government, private sector, universities, communities, NGOs and specialists.

Another important action to standardize not only the ecotourism but also the remaining nature tourism modalities is the realization of specific forums that allows the integration of technicians, environmentalists, students and all the civil society to discuss and trace directives to develop this modality that is one of the most important type of tourism in Brazil. Such a type of meeting took place in Brazil in 2005 and 2007, in the State of Rio de Janeiro, with the realization of the I and II Encontro Interdisciplinar de Ecoturismo em Unidades de Conservação (ECOUC) and in the State of Espírito Santo, the III ECOUC, occurred in 2009.

Recently, was created the Ecotourism Brazilian Society (SBEcotur), being the first pioneer organization in Brazil coordinated by Geographers from the Environment Studies Group (Grupo de Estudos Ambientais – GEA) located in the Physic Geography Department of the State of Rio de Janeiro University (Universidade do Estado do Rio de Janeiro – UERJ), associated with the Physics Institute (http://www.physis.org.br) and anthers’ scientists.

5 Final considerations

Ecotourism is the main kind of tourism being developed in Brazilian protected areas, however its performance is compromised in the majority of those areas in
virtue of luck of activity planning and absence of effective public policies to implement appropriate actions in regions of greater potential.

To mitigate the consequent negative impacts due to inadequate practices and envisioning the implementation of the basic pre-supposed that guides the correct way of doing ecotourism – the social inclusion and the education toward environment preservation – geographic science is giving considerable contribution to the developed works. As a real example we can mention the research being done in GEA/UERJ in three preservation units in Rio de Janeiro: Tijuca National Park, Pedra Branca State Park and Gericinó-Mendanha Municipal Park. Those are urban preservation units whose destination is the public use and conservation of the last remaining parts of the “Mata Atlântica” (Atlantic Forest) in diverse succession regeneration stages. In those parks, visiting and ecotourism are in planning phase even though they have some activities in development.

References


