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Ecotourism sustainability policies: An economic vision

Políticas de sostenibilidad del ecoturismo: una visión económica

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Abstract

The analysis of tourism in the economy implies a continuous development of theories on which this social tendency can be explained. Faced with a continuous interrelation between tourist actors, the diagnosis of their behavior in the face of causes and effects generated in a tourist destination, demands a considerable consideration to be explained and allow the establishment of a political framework that promotes a cooperative development among them. The present article analyzes these interrelationships within sustainable ecotourism activity, through the application of Game Theory (Neumann & Morgenstern, 1944), considering the Nash equilibrium criterion (Nash, 1950), where the behavioral analysis between The host and the tourist allows to outline certain parameters for the development of policies to pursue a cooperative work among them, promoting sustainability in order to predict an adequate production of ecotourism, taking as a case study the Galapagos Islands in ecuadorian territory; concluding that the best interrelation involves a balanced work between the host and the tourist's view of using the resources of a destination for the practice of ecotourism in a sustainable way, and based on this criterion, the policies to be designed must follow the standards and regulations to a global benefit whose purpose allows the economic improvement of the resident population and an address to the responsible tourist.

Keywords: Games theory, ecotourism, cooperative, politics, sustainability, economy

Resumen

El análisis del turismo en la economía implica un continuo desarrollo de teorías sobre las cuales esta tendencia social puede ser explicada. Frente a una continua interrelación entre actores turísticos, el diagnosticar su comportamiento frente a causas y efectos generados en un destino turístico, demanda una notable consideración de ser explicado y permitir el establecimiento de un marco político que impulse a un desarrollo cooperativo entre ellos. El presente artículo analiza estas interrelaciones dentro de la actividad ecoturística sostenible, por medio de la aplicación de la Teoría de los Juegos (Neumann & Morgenstern, 1944) considerando el criterio de equilibrio de Nash (Nash, 1950), donde el análisis del comportamiento entre el anfitrión y el turista permite delinear ciertos parámetros para el planteamiento de políticas que persigan un trabajo cooperativista entre ellos, fomentando la sostenibilidad para augurar una adecuada producción del ecoturismo, tomando como caso de estudio las Islas Galápagos en territorio ecuatoriano; concluyendo que la mejor interrelación comprende un trabajo equilibrado entre la visión del anfitrión y el turista en utilizar los recursos de un destino para la práctica del ecoturismo de manera sostenible, y en base a este criterio, las políticas a diseñar deben perseguir el acatar normas y reglamentos entorno a un beneficio global cuyo fin permita el mejoramiento económico de la población residente y un direccionamiento hacia el turista responsable.

Palabras clave: Teoría de los juegos, ecoturismo, cooperativo, políticas, sostenibilidad, economía

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Introduction

Tourism is an activity that continuously involves a series of actors, the same ones that according to Bimonte (2006), Bimonte & Punzo (2006) and Smith (1989) interact between two temporary and non-permanent populations in a conclusive place, with interests and non-convergent expectations (Hardy et al., 2002) highlighting heterogeneity as its fundamental analytical characteristic.

These interactions demand, in turn, the consumption of local resources by visitors, so the resident territory has to multiply its resources and provide temporary homes. These resources have a record of particular historical uses (considered patrimonial), although at present, they are intended to satisfy the interest of visitors driven by leisure.

Likewise, the sustainability of ecotourism is projected as an excellent form of development, where the involvement of residents, government and tourists energize the economy of a territory. This article examines various contexts and forms of interaction regarding the aforementioned actors, seen from the economic field, for which the application of game theory (Neumann & Morgenstern, 1944) allows the understanding of these interactions, pretending to be a tool for approaching tourism as a total social science (Graburn & Jafari, 1991).

Sustainable tourism is considered as a satisfaction of two conditions, the first of sustainable use of local, natural and artificial resources, and the certainty of minimizing the costs of conflicts over their use between the populations involved. For the last condition there are particular restrictions such as the date, location of the destination and characteristics of the resident population, so it is defined locally, in this way the creation of an interactive game between actors can be determined through a complete set of qualitatively different results, where tourism in the case of study, ecotourism, and sustainability share several aspects that go beyond the heterogeneity of the population.

In this way, the structure of this article presents in its first section a conceptual framework related to game theory, as well as ecotourism and interaction of its actors; The second section explains how these interactions develop in the field of ecotourism and what their consequences are in order to discuss logical implications for the design of policies in a destination, and the third section estimates conclusions and future lines of research. .

Theoretical framework

1. Brief approach to game theory

In order to understand games in context and their theoretical development based on mathematics and their applications, it is necessary to point out their origins and motivations for use. At the beginning of the 1920s, Borel and Von Neumann began a study on the behavior of minimax equilibria (Dimand et al., 1992) in zero-sum games, with the meaning that a player wins what his rival loses. From this first approach, there were several non-transcendental treatments of games, until in 1944 Neumann and Morgenstern developed a general formalization in their work The Theory of games and economic behavior, which included the strategies of extensive games between cooperatives and non-cooperatives. cooperatives as well as a greater range of them, before which Morgenstern (1944) stated that:

Game theory contrasts with the practice of the dominant physical analogies of economic science, due to the different way of conception of things and that in typically economic problems there are situations without parallel neither in physics in general, nor in mathematics in particular, increasing interest in the subject and prompting new research (p.346).

To allude to a tacit representation referring to game theory, resorting to the design of a model allows to represent the economic and social world where the human entity operates, for which the definition of strategy games helps to specify the purpose of social games, which not only depend on a causality but also on the behavior of the player and an occasional component found in the environment (Morgenstern, 1944).

In short, game theory (or so-called interactive decision theory) studies the strategic behavior resulting from the interaction of two individuals, and each individual decision results from what he or she expects from what others do (Monsalve, 2003).

To achieve a clear understanding of the denoted interaction process, game theory is based on two structures, described in the following table (Table 1):

Table 1. Structure of game theory

Structure	Short description	Characteristic
Non-cooperative game theory	Set of players with strategies at their disposal and have their respective payment assignments for each of them	• Form of election • Prior knowledge of what the opponent knows. Prediction. • A selfish competition ends, where a cooperative state cannot be implemented without the presence of external reinforcements (laws) that oblige the parties to comply with their agreements.
Cooperative or Coalitional Game Theory	Predict results of interactions	• Despite selfish competition, a benefit is assumed from cooperation, forming coalitions. • Players have prior knowledge of the value of coalitions

Source: own elaboration from Monsalve, 2003.

According to economic studies, an analysis of current society lies in the study of conflicts, where the theory of non-cooperative games is part of daily life, the same that, when driven by external reinforcement, gives rise to the concept of Nash equilibrium (Nash, 1950) which explains that neither party can break at will without losing, that is, if one party breaks the agreement unilaterally, it tends to gain less than what it would have gained within the agreement, leaving of course, this cannot be the best socially for the players.

If game theory is considered an involvement between two actors, it is recurrent to analyze the role of each one of them in the economic environment of tourism, the resident and the tourist being the same.

2. The role of the resident and the tourist in the tourism economy

Starting from an economic point of view, the challenge of the tourism economy involves dealing with completely heterogeneous populations and cultures and not just a set of differentiated agents; that is, a differentiation of categories and not only of individuals who are part of them. If the field of Biology is used, the reference lies in the selection of two populations, one being the hosts (resident population) and the other the guests (visitors).

According to Butler (1974) and Doxey (1975) since the 1970s, the perception and attitude of residents regarding the impact of tourism development has paid increasing attention, seen not only for its positive benefits, but also for the negative repercussions in areas such as cultural heritage, social values and social cohesion worryingly in the short term (Liu & Var, 1986, Robinson, 2000). Faced with this assertion, the works of Kadt (1979), Mathieson & Wall (1982), Font (1999) and Snaith & Haley (1994) complement this repercussion by demonstrating the potential conflict that may exist on the exchange of local resources between hosts and guests. In the tourism field, the research by Huang & Stewart (1996) related to the consequences that tourism development produces on the quality of relationships between residents and their community stands out; due to this, the perceptions and attitudes of the residents are crucial factors to consider to generate an effective and optimal planning of local development driven by tourism (Bimonte & Pratelli 2007, Punzo 2004, Ap 1990).

Within this context, the presence of the tourist modifies the rules of social coexistence with local resources, since the traditional social structure is altered in order to generate a new nature-society balance. Cooper et al., (1993) state that in the classic life cycle theory of the product / destination, the history of a representative tourist destination has a unidirectional and deterministic path through an ordered chain of phases, characterized by the adaptation of local conditions to tourists (Cohen, 1988). This complex process does not contemplate social and environmental impacts and costs that tourism produces, associated with an increasing margin of difference between private and social costs and benefits (Sinclair, 1991).

The impact to be analyzed is not considered significant, however, considering two populations allows a substantial difference to be generated. In tourism, the commons belong to one of the contending populations, at least in the sense that one of them may have a demand for greater participation. The argument about "use and property rights" over local resources can ignite a process of "negotiation" or even open confrontation. The life

cycle story could best be told within the framework of an evolutionary negotiation process with uncertain outcomes.

The research approach is structured within a system of property rules (to the detriment of the responsibility system) (Bimonte, 2006). This system pursues a final balance and sustainable feasibility, the result of human decision.

In the same way, the system is structured within a spatial-temporal scale where the specific material and immaterial characteristics are chosen to be conserved and the forms of intervention on the causes of unwanted changes. This approach generates uncertain results as a result of a series of factors of which only some have a clear influence (for example, diversity between populations, general cultural factors, location), there are even some factors whose well-identified set can generate results different from its mix in different places. This diversity of possibilities can give rise to qualitatively different equilibrium results (Axelrod, 1984), where two effects are derived: a greater vision of the mechanisms and social complexity that tourism implies as well as an optimal framework to adapt the design of tourism policies.

The need for political action in tourism allows for the coordination of all individual choices about shared resources with alternative uses, since tourists exert pressure on local resources and generate a different demand than that produced by residents, since they tend to overuse resources that do not belong and assuming full payment for them, where the quality of sustainability will depend fundamentally on the interaction between hosts and guests, pursuing a social agreement or a total disagreement.

If the first effect occurs, a stable social support would be generated that leads to tourism-related development, minimizing the costs of breaking the potential conflict between the two populations and making it environmentally sustainable. On the contrary, if the second effect occurs, an unstable situation would occur, originating an evolutionary dynamic where the search for a stable equilibrium will be driven by the same pressure that minimizes social conflict with its implicit costs, in this way, the presence of a variety of scenarios allows a better understanding, either in analysis or policy design, being studied under the dynamics of game theory.

3. Tourism social dilemma

The essence of the tourist activity allows the grouping of populations, be they stable, unstable or temporarily resident; with varied preference structures, cultural values or habits; given this, the game theory scenario to be presented is framed in the category of social dilemmas, where the work of individual rationality generates a collectively irrational result (Olson, 1989). One of these dilemmas arises when, for example, due to free driving behavior or imperfect information, rational action on the part of all the actors ends up generating a socially not optimal result (Bimonte, 2008). Social dilemma games present at least an inefficient Nash equilibrium, where no person can unilaterally modify their behavior, which is ineffective, in the same way it is considered inefficient since there is a strategy that can be used, it would allow the players find an improvement in their situation.

Although tourism faces a social dilemma, certain groups of people may find it impossible to avoid a collective disaster due to uncoordinated choices. Several of the peculiarities of tourism as a social phenomenon come from the characteristics of some goods and services that are part of the tourism product. These are tangible, intangible and economically valuable assets, the conservation of which may be threatened by the same activities that contribute to its valorization, tourism being one of them.

Its use can become critical values, however, if it is focused on sustainability issues, it should require the cooperation of two users, the resident and the tourist, who incur the impossibility of establishing reciprocal long-term commitments; In this way, even when they prefer sustainability to overexploitation, it is preferable not to contribute to the conservation of resources, since there may be negative agreements in order to overexploit them, unless it is possible to establish or sign commitments, what which, is a complicated task. The political engineering of how to write, reach and finally enforce an agreement of this type, is the real challenge of designing policies for the sustainability of tourism.

4. Economic approach to the concept of ecotourism

Ecotourism comprises an activity that involves traveling to fragile, pristine and protected areas, with a lower-scale level of impact. It helps educate the traveler, provides resources for conservation, directly benefits the economic development and political empowerment of local communities, and fosters respect for different cultures and human rights (Honey, 1999). In fact, this definition agrees with the transversal axis of sustainability in the

territory in which ecotourism activities are carried out, where the localities preserve their traditional essence without discarding the level of accessibility that they can provide to tourists, allowing there to be a defined segmentation of the market based on criteria of conservation and environmental care, so that ecotourism comprises an activity of low economic density and development (Acott et al., 1988), since the predilection of the tourist focuses on direct contact with nature , tranquility and above all living experiences of real communities. The overcrowding of tourist facilities in a caring environment generates a decrease in the attractiveness to visit (discount factor δ), which is associated with relatively high non-cooperative elements of environmental preservation, which implies a relatively low threshold To.

Hence, only the tourist (eco-tourist) who is directly interested in environmental conservation is the one who is willing to cooperate for its care, demonstrating that, through ecotourism, the prisoner's dilemma can be evidenced, since there are people directly involved in this activity with certain types of interests involved. This social optimum appears as a Nash equilibrium, allowing this economic activity to be sustainable.

Methodology

The ecotourism structure in the dynamics of the games

The representation of a social encounter between different actors with probably conflicting interests has several advantages when represented within theoretical settings, where the game matrix immediately presents the structure and characteristics of the situations of a social dilemma. In turn, within economics it is feasible to resort to non-cooperative game theory to analyze the necessary conditions that allow cooperative equilibria between two populations. With a defined cooperative behavior objective, that is, cooperation in the sustainable exploitation of local resources, a result can be generated that supports the development of sustainable tourism.

It is worth mentioning that, until now, it has been considered that a resource, (whether natural or artificial, material or immaterial), relevant to ecotourism has a potential conflict of use between residents and tourists, this identification being preliminary for any discussion. Given that a resource can be used by one or both (guests and hosts), it gives rise to problems concerning the relevance, quantity and time of use, taking as a premise that the resource belongs to a single sector (resident) until the arrival of tourist invaders (tourists), while space is a common denominator for hosts, the market and other relationships and institutions extend it to guests for a limited time and under certain conditions.

A game of two populations, tourists and residents, is considered below, who have the option of cooperating and not cooperating with the preservation of the local ecotourism - environmental environment, on the one hand it is assumed that tourists yearn to carry out ecotourism activities, and on the other the residents expect to receive an economic benefit; in turn, mutual enjoyment is measured in monetary terms for both. Similarly, it is assumed that the encounter of a resident with a cooperating tourist pursues the same level of benefits of a monetary units, which is greater than two non-cooperators found, one from each population, represented by d monetary units; Furthermore, the meeting between a cooperative tourist and a non-cooperative resident is assumed, where the first obtains b monetary units and the second c, and analogously if a non-cooperative tourist meets a cooperative resident, the first receives c and the second d, representing S as the ecotourism sustainability matrix, we have:

$$S = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

Represented in the game theory payment matrix, within the non-cooperative structure, the potential conflict can only result in the use of the ecotourism space, where its use and expansion will be defined as sustainable or unsustainable in the face of the exploitation of resources, equally admitting two possibilities; the non-cooperative action of the tourist who only seeks to maximize his benefits, or, the proposal of a cooperation for the preservation and valuation of the resources.

HOST

TOURIST		C	NC
	C	a,a	b,c
	NC	c,b	d,d

C = cooperates NC = not cooperates

In this logic, the application of the non-cooperative game under the characteristic of the prisoner's dilemma makes it possible to reliably predict the possible strategies that individuals (tourist and resident) have at their disposal, without losing the transversal criterion to be considered corresponding to the sustainability of the resources.

Based on this approach, the equilibrium levels (NC, NC) and (C, C) are exposed in the first instance, of which the first corresponds to an excessive exploitation of the resources at risk, while the second is associated with a desired sustainability, where social conflicts are minimal and there is a rational exploitation of resources, for which the ecotourism activity is destined.

Exemplifying Game Theory in Ecotourism

Based on the strategies of the tourist and resident (C, C) or (NC, NC), the so-called players share similar norms and social preferences, even in conflicting uses of the resource, allowing the appearance of a balance where interpopulation conflict is minimized . Considering (C, C) the resident becomes permissive, providing a space for the guest, the same as a tourist who perceives an intrinsic value with potential benefits in the conservation of the natural environment and the local culture, generating a cooperative balance of Pareto-optimal character. Under this condition, sustainable tourism emerges, which the case study is exemplified in ecotourism, since the resources are exploited in a measure and generates a long-term social welfare, maximized by minimum costs of conflict. The sustainable ecotourism management generated in the Galapagos Islands, Ecuador is taken into consideration. Here, the resident and the tourist have full knowledge of the benefits they can obtain from mutual cooperation under conservation terms. By promoting a culture of environmental care, within an ecosystem called fragile (given its natural characteristics, presence of species such as sea lions, boobies, frigates, considered in danger of extinction, as well as coral reefs and ancient flora), for its inhabitants , the economic incentive generated comes from the income that the tourist (who is mostly foreigners and has information about the natural value of the islands) pays for the enjoyment of conservation, who likes to share with local people as well as being an entity active in contributing to the sustainability of this environment, denoting an ideal cooperative relationship whose aim converges in the permanence of this natural attraction over time, motivating a balanced enjoyment.

On the contrary, if it prevails (NC, NC) both players pursue overuse, interpreted as an instance of speculative behavior. Although conflicts are minimized, resources are used in an unsustainable way with mutual consent, so tourism cannot be sustainable, generating minimal social welfare. In the case of Galapagos, it is evident in the incursion and lack of control of the cruise ships that arrive on the islands. The mutual approval lies in the payment of high amounts of money (which comes from the tourist) for a service that directly impacts internal marine life (spillage of waste from the boat or fuel leaks), for the enjoyment of short stays between islands , which directly involve ecotourism activities under the protection of the service provider (whether resident or non-resident tour operator) who has knowledge of the environmental impacts that the vessels generate, but their vision of economic returns will prevail in the decision of a real conservation of the ecosystem. Here the non-cooperative game has a balance, although the social and environmental repercussions, in sustainable terms, do not compensate for the momentary benefits generated.

Disregarding the main diagonal of the matrix, the results must seek to improve the position of at least one of its players, through the implementation of a different strategy and the state of the game will shift towards one of the two results of balance.

As previously mentioned, cooperation involves a necessary condition for the sustainable use of resources, therefore, for each player, the best strategy comprises defecting against it, that is, playing NC against C, considering that its result implies a maximum level of conflict, so that the sustainable exploitation of resources will be impaired, concluding that the NC strategy is dominant, regardless of the opponent's choice, which would trigger a non-cooperative lower equilibrium (NC, NC) ; furthermore, in order to reduce the costs of the interaction in which it is involved, an agent may decide to alter its own behavior and even change its policies (Graefe and Vaske, 1987).

These alterations, in a certain way, have repercussions in actions where the resident and the tourist find the excessive use of resources optimal: on the one hand, the former spreads ecotourism operations at the expense of other activities, be they traditional or productive and, on the other hand, the second requires an integral space (traditionally communal) to satisfy their needs; generating the so-called Nash equilibrium, since there are no intrinsic motivations of the agents themselves to move away. If individual rationality is considered, the empathic game of strategies (C, C) would denote an acceptance of restricting or controlling the pressure of the actors on the available spatial resource, demarcating a state of improvement between the resident and the tourist, where, in addition to capturing that encounter, the resident must project himself to see beyond his interests, while the

tourist will have the ability to energize himself and move to a new destination, in this way, the political role converges on the idea of inducing the tourist towards a cooperative behavior for sustainability.

The type of game indicated lacks a system of selective incentives, so it can culminate in the worst possible social outcome; faced with this problem, the design of an adequate system of incentives that alter the structure of the game towards a favorable outcome has to be analyzed and implemented from a political point of view.

The repetition of meetings: key axis of ecotourism sustainability

The greater the number of repeated encounters, the greater the probability of equilibrium. This hypothesis is confirmed by the Popular Theorem (Gibbons 1992, Taylor, 1987), which encourages moderate cooperation, explained in the following way: when selecting the interaction strategies in the ecotourism environment, the tourist and the resident would expect that their actions are remembered, creating expectations about the results that will come from them; in this case, if the resident acts in a way that generates a greater conflict with the tourist (increased costs and decreased quality), the latter can take measures against a "hostile" resident avoiding the flow of visits, or in case on the contrary, the resident can filter the type of tourists they want to have (Bimonte and Punzo, 2006). In the case of Galapagos, according to the Galapagos Tourism Observatory, the number of visitors who arrived to the islands between 2007 and 2015 presents an annual growth rate of 3.72%, from which national and foreign tourism They grow at a similar rate to the destination, with 3.56% and 3.79% respectively, denoting that the repetition of the encounters generate symptoms of stability and sustainability, motivated by the satisfaction of the expectations created for the destination by the tourist, and the economic revenues received by the resident.

This concept is enacted based on continuous interactions, where trust plays a fundamental role in generating expectations and adequate experiences for both actors, so that additional incentives can be found to generate fair play, that is, cooperative, with long-term strategies, applying the Popular Theorem in a natural way, where tourists and residents will observe the strategic currents generated to choose the best one.

Unfortunately, with the exception of some specific typologies of tourism (for example, residential tourism), repeated encounters do not always or often occur, so one way to promote sustainability is to encourage repeated encounters between agents, along with the prescriptions of the ownership rules approach, which involves selecting the party to which the right to the corresponding resource is assigned. When considering the type of interaction and the nature of the resources attracted by tourist flows, it is considered that the right is de facto attributed to the host community, at least in mature destinations that derive from an already productive structure. Therefore, the entire responsibility for generating a first movement rests with the local community. The only way the resident can induce the tourist to cooperate is to invest in reputation and make the visit costly for the non-cooperative tourist.

The Galapagos tourism associations have seen the need to involve their inhabitants (especially from the San Cristóbal Islands (where Puerto Baquerizo Moreno, the capital is located) and Santa Cruz, (the most populated)) to be part of the development of the ecotourism activity of the islands, through technical training programs in relation to tourist guidance, management of quality standards, environmental care as well as strategies for the delimitation of land use for ecotourism; allowing in this way the empowerment of the inhabitants on their territory to establish the necessary conditions where the tourist can develop their activity and motivate a repetitive visit effect.

Results and discussion

Considerations for the design of ecotourism sustainability policies

A misconception of the sustainable use of resources consists in applying traditional economic instruments to solve market failures, directing the economy of resources to the creation of policies to promote an efficient use of the environment.

Within the tourism economy, sustainability has been approached with technicalities related to an approach of responsibility and demand management, creating strategies based on sanctions, economic incentives (taxes or subsidies), technological innovations and legal prohibitions, which limit the tourism development when the need arose to safeguard local culture (Bramwell, 2003). This design of tools incurs several limitations, for example, the relevance of qualitative dimensions in various aspects, motivating the delineation of management strategies to segment suitable tourists and influence their behavior, analyzing the impacts based on this trend, taking into

consideration that the source of information (tourist) is neither defined nor homogeneous. The selection and separation of sources according to their behavior patterns or their modification or perception of problems could be a long and costly process that involves altering the reference values, a large amount of information (hidden) or a generalized and applicable territorial control. Traditional technical instruments are not only inadequate, but also pose problems of equity (exclusion based on the census) and / or efficient allocation of resources (numerical quota systems).

For this reason, the definition of shared rules and the adjustment of supply are the effective instruments for the development of ecotourism, completely driven by the behavior of supply and demand. The restructuring and adaptation of the supply side to the set of shared norms, in fact, would trigger processes of self-selection of tourists and activities. To achieve such results, a structured choice in fundamental policies is required, along with cultural and organizational significance. Technical tools can help at the beginning, but their final objective is to achieve a modification in the reference values through the definition of a correct scheme of sustainability policies.

This scheme allows an ideal assignment of rights to the local community, motivating participation in the planning and development of ecotourism; however, it must have a focus on processes of identification, participation in the allocation of productive wealth (equitable development) and common access to information, under a broader connotation than that stipulated in local Agenda 21 programs.

Shared policies allow the improvement of poverty conditions and a better distribution of monetary benefits and rights obtained, which provide the necessary conditions for an ideal process of sustainability in ecotourism (Bimonte, 2006), where the matrix of the theory of games allows you to visualize the strategic areas for a more effective policy design.

Conclusions

The recognition of each other by the players within the context of the development of sustainable ecotourism in a destination allows to evoke a key potential for cooperation, although it may be subject to conflicts generated by structural reasons, depending exclusively on the convenience of each player , either the tourist or the resident; Therefore, the stipulation of sustainability policies should tend to generate changes under this precept, above all by altering the intertemporal preferences on both sides, forcing the players to internalize the future effects of their current interaction.

The design of policies for sustainable ecotourism should promote direct or indirect tourist loyalty, as well as community cohesion based on free driving tools; in turn, the inclusion of intra-community criteria allows broadening a panorama to determine the desired cooperative balance seen from the resident, explaining the level of environmental conservation that generally characterizes traditional communities (Henrich et al., 2001), as is the case from the Galapagos Islands.

These traditional communities undergo a considerable change when generating interactions with tourists (often anonymous), which, as they are not usually homogeneous, diminish their ability to achieve cohesion around a common project, so the difficulty of managing common resources is becomes habitual in their daily lives (Alesina & La Ferrara, 2000).

The future lines of research that are intended to be generated lie in the establishment of state policies that motivate a sustainable cooperativism where ecotourism activity is protected under regulations, norms and ordinances that structure a solid legal body, on which, the actors direct and indirect activities can identify and recognize their rights and obligations lasting over time.

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