



Survey

Ecotourism and the development of indigenous communities: The good, the bad, and the ugly

Jessica Coria ^{a,b,*}, Enrique Calfucura ^{b,c}

^a Department of Economics, School of Business, Economics and Law, University of Gothenburg, P O Box 640, SE 405 30, Sweden

^b Facultad de Economía y Empresa, Universidad Diego Portales, Santiago, Chile

^c Department of Economics, McGill University, Montreal, Canada

ARTICLE INFO

Article history:

Received 15 August 2011

Received in revised form 21 October 2011

Accepted 26 October 2011

Available online 22 November 2011

Keywords:

Ecotourism

Biodiversity

ICDP

Indigenous communities

ABSTRACT

A large part of the literature analyzing the links between biodiversity conservation and community development assumes that nature-based tourism managed by indigenous communities will result not only in conservation of natural resources but also in increased development. In practice, ecotourism has often failed to deliver the expected benefits to indigenous communities due to a combination of factors, including shortages in the endowments of human, financial and social capital within the community, lack of mechanisms for a fair distribution of the economic benefits of ecotourism, and land insecurity. Based on a review of experiences, we analyze the complex interaction among the factors shaping the success and failure of ecotourism experiences in indigenous communities, and we stress the need for a better approach to enhance the indigenous communities' livelihood possibilities coming from ecotourism, as well as to promote land tenure and communities' empowerment.

© 2011 Elsevier B.V. All rights reserved.

1. Introduction

The term ecotourism emerged in the late 1980s as a direct result of the world's acknowledgment of sustainable and global ecological practices (Diamantis, 1999). Ceballos-Lascurain (1996) articulated one of the most influential definitions of ecotourism: "traveling to relatively undisturbed or uncontaminated natural areas with the specific objectives of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas." As ecotourism has grown in popularity, its definitions have been expanded to incorporate ideas about ecotourism responsibility, environmentally friendly destination management, and sustainable development of local human populations (Goodwin, 1996; Torquebiau and Taylor, 2009). Indeed, the last few decades have witnessed a continuous expansion of ecotourism. Ecotourism has been growing at rates of 10%–12% per year, i.e., 3 times faster than the tourism industry as a whole (IES, 2008). And more importantly, ecotourism has been embraced by many developing countries – that are home to many of the world's rare and threatened species – hoping to improve their economies in a way that is environmentally sustainable (Brooks et al., 2006).

Several arguments suggest that the development of indigenous communities is compatible with ecotourism. First, there is a significant overlap between ecotourism and the development of indigenous

communities in the sense that the world's least developed areas – which are usually the most natural – coincide with the traditional homelands of indigenous people (Fisher and Treg, 2007; Goodwin, 1996; Salafsky et al., 2001); indigenous territories are usually located in peripheral areas, away from mainstream development, where indigenous land practices have maintained biodiversity in pristine or fragile ecosystems (Zeppel, 2006).¹ Second, ecotourists generally have an explicit desire to have a positive impact, i.e., to patronize local services and respect the customs of the destination hosts (Hinch, 1998; West and Carrier, 2004). Finally, indigenous communities tend to see themselves as being one with the land rather than apart from it, and to possess "traditional ecological knowledge," i.e., "a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings with one another and with their environment" (Colding and Folke, 2000).

However, there is also the argument that the notions of conservation among indigenous communities do not necessarily coincide with those of the conservation core (Boonzaier, 1996; Meletis and Campbell, 2007). Although in some cases indigenous communities have demonstrated a much better ability to maintain forest than have non-indigenous groups, the presumption that indigenous groups are inherently environmentalist is flawed; indigenous societies have found it difficult to manage scarce resources in a sustainable

* Corresponding author at: Department of Economics, School of Business, Economics and Law, University of Gothenburg, P O Box 640, SE 405 30, Sweden.
E-mail address: Jessica.Coria@economics.gu.se (J. Coria).

¹ An estimated 50 million indigenous people from about 1000 tribes live in tropical rainforests in the equatorial belt of Africa, Asia, Oceania, and the Amazon – the richest region of biodiversity in the world (Zeppel, 2006).

way and over-utilization of natural resources has been the norm (Fennell 2008). For instance, the rate of clearing in some indigenous reserves in Amazonia is alarmingly high: in one extreme case, 11.3% of a reserve was cleared in a two-year period (Fearnside, 2005). Such evidence underlines the fact that the entire socio-cultural environment for indigenous communities is strongly tied to consumptive activities (Meletis and Campbell, 2007; West and Carrier, 2004). It could therefore be argued that an ecotourism scheme that precludes indigenous communities from undertaking the consumptive activities that they normally engage in could result in a great deal of unhappiness and frustration, especially if the profitability of ecotourism is not as large as expected (Belsky, 1999; Koenig and Juska, 2006).

In spite of this somewhat discouraging argument, the international development community has been motivated to use ecotourism to improve the economic welfare of indigenous people by forming a symbiotic relationship between tourism, indigenous communities, and natural areas (Stronza and Gordillo, 2008; Zeppel, 2006). To protect both people and their homes areas, government authorities have legitimized indigenous communities' role in the overall management of protected areas. Unfortunately, they usually face several constraints that prevent them from being successful, and in practice ecotourism has failed to deliver the expected benefits to indigenous communities (Agrawal and Redford, 2006; Barrett et al., 2001; and Blaikie, 2006).

Studies analyzing the experiences of indigenous communities managing ecotourism ventures (e.g., Bookbinder et al., 1998; Brooks et al., 2006; Charnley 2005; Salafsky and Margoluis, 1999; Salafsky et al., 2001; and Zeppel, 2006) have shown that if ecotourism is meant to promote sustainable development in indigenous communities, some fundamental conditions must be met. First, the economic benefits of ecotourism must be accessible to the target population. Second, indigenous communities need secure land tenure over the area in which ecotourism takes place. Third, ecotourism must promote deeper social and political justice goals to local communities, as well as the capability to make land use decisions for that area. If left unaddressed, these aspects restrict peoples' ability to enjoy the economic benefits of ecotourism (Charnley, 2005).

In the present paper, we address these interlinked issues. We review empirical evidence from for example economics, anthropology, political science, and geography on the relationship between biodiversity conservation, local communities' development, and ecotourism. The analysis covers ecotourism in indigenous communities' experiences around the world over the last 20 years. We focus mainly on developing countries, and in particular on Latin America, Africa, and Southeast Asia. We analyze the various symbiotic and antagonistic effects, with special emphasis on the ecological and economical sustainability of integrated conservation and development ecotourism projects (ICDP).

The paper is organized as follows. Section 2 discusses the role of ecotourism by indigenous communities as a strategy to promote biodiversity conservation and local development. Section 3 discusses the factors affecting the capabilities of indigenous communities to capture the economic benefits of ecotourism. Section 4 discusses the lack of community control over land and resources as a major constraint to success. Section 5 discusses the effects of the lack of political empowerment preventing indigenous communities from having an effective voice in land management planning and decision-making, which has a major impact on their well-being. Finally, Section 6 concludes the paper.

2. Biodiversity Conservation and Ecotourism by Indigenous Communities

Worldwide, the level of involvement from indigenous communities in biodiversity conservation depends on the strategy in place. Common approaches to protecting biodiversity include creation of

parks and protected areas, establishment of natural reserves, and implementation of integrated conservation and development ecotourism projects (ICDP). They vary in strictness of conservation in terms of human consumptive uses (Brooks et al., 2006).

The key feature of the national parks strategy is that local livelihood is assumed to conflict with conservation. Thus, they have strictly defined borders that exclude livelihood activities and rarely facilitate local economic development (West et al., 2006). People are meant to use resources outside the parks, and plants and animals are meant to stay inside.

While national parks remain an important approach to conservation, they have proven difficult to implement in many settings, especially in the developing world since boundaries are difficult to enforce due to inadequate government resources, weak management capacities, remote sites, and ineffective legal systems (Adams and Hutton, 2007; Brandon, 1998; Brooks et al., 2006; de Sherbinin, 2008; and Fisher and Treg, 2007). In addition, some authors argue that by modifying the boundaries of communities and their control of land use, national parks have contributed to marginalization of and poverty of the rural communities that have been excluded from parks, as well as conflicts over natural resources outside the park (Clough-Riquelme, 1992; Coad et al., 2008; de Sherbinin, 2008). Such arguments have however been recently challenged by empirical studies showing that the disproportionate presence of poor households at the edge of the national parks is not the result of a causal relationship, but it is merely descriptive (Naughton-Treves et al., 2011). Furthermore, national parks might not be serving as poverty traps, partially because they tend to be located in areas with low agricultural potential and thus, low opportunity costs (Andama et al., 2010; Ferraro et al., 2011).

On the other hand, many national parks have been proposed on lands or in waters that are legally or customarily owned and managed by local communities. Hence, it has often been impractical, illegal, or impossible to declare them off-limits for human use (Brooks et al., 2006; Clough-Riquelme, 1992; Fay, 2007). Indeed, many national parks around the world are inhabited. For example, about 85% of the national parks in South America and 70% of the national parks in the Central African region are inhabited and/or used by local people for livelihood purposes (Mombeshora and Le Bel, 2009). The social and political challenges of establishing national parks have often been beyond the capacity of governments, even when backed by substantial donor assistance (Adams and Hutton, 2007). In countries where remote populations endure structural social and economic inequities, it has been politically difficult to spend money on protecting biodiversity at the same time as there are many poor people with great needs (Fisher and Treg, 2007).

The need to implement strategies to both make economic development feasible and assure nature conservation and development for local people has led to the development of biosphere reserves, where people are entitled to use biological resources according to defined spatial zones (Brooks et al., 2006). In a core zone, consumptive use of resources is prohibited, yet buffer zones allow people to use resources within limits that ensure protection of the core zone (Quintana and Morse, 2005). Despite the promises of this approach, success has been limited since local people have often continued to use resources in the core zone or have pushed for expanding the buffer zones into the core area. In addition, it has not provided local communities with incentives to stop external threats to the biodiversity (Brooks et al., 2006).

In response to these shortcomings, conservationists began to develop new approaches based on the idea of making livelihood activities dependent on and hence directly linked to biodiversity, e.g., ICDP (Barrett and Arcese, 1995). The strategy is to make livelihoods drive conservation rather than simply being compatible with it. Since indigenous communities are given opportunities to benefit directly from the biodiversity, they presumably have an incentive to stop

external threats to the biodiversity (Bookbinder et al., 1998; Charnley, 2005; Lapeyre, 2010; and Torquebiau and Taylor, 2009). However, the way income is transferred from ICDP to the involved indigenous communities affects the levels of conservation of wildlife, especially in the case where ecotourism provides a higher commercial value than the consumptive value of the wildlife (Johannesen and Skonhøft, 2005).

There has been an extensive debate on whether ICDP are actually contributing to conservation and whether they are profitable for indigenous communities (see, e.g., Barrett and Arcese, 1995; Campbell, 1999; Kramer et al., 1997; Torquebiau and Taylor, 2009; and Winkler, 2011). When it comes to the links between community-based ecotourism and biodiversity conservation, assessments have proved to be difficult due to lack of information (Salafsky and Margoluis, 1999; Salafsky et al., 2001). In this respect, most approaches that measure conservation outcome rely heavily on biological indicators of success that involve assessing biological parameters at a given site. Although a great deal of effort has been put into developing biologically based methods, few are practical and cost effective, especially for use in ICDP in the developing world since they require costly data collection. (Barrett and Arcese, 1995; Brooks et al., 2006). This lack of measurement of conservation success means that project managers and donors cannot determine whether interventions are working and should be continued or whether they are failing and need to be modified (Brooks et al., 2006; Salafsky and Margoluis, 1999).

Empirical evidence has shown that the level of indigenous involvement in ecotourism and the proportion of sustainable ecotourism ventures vary across continents. Unlike Southern and Eastern Africa and Latin America, there are very few ecotourism projects managed by indigenous communities in Southeast Asia, since government policies in the region still mainly support mass tourism and resource usage rather than ecotourism projects or indigenous rights (Zeppel, 2006). As regards sustainability of ecotourism, lower levels are found in South America and Asia (Krüger, 2005). Possible explanations for this include lack of easy-to-see charismatic wildlife in many protected areas, the small scale of the ecotourism ventures, access difficulties and very low visitation rates in some cases and vice versa in others, and substantial revenue leakages from the regional tourism to the national and international scale. Moreover, ecotourism seems to be less sustainable on islands and in mountain habitats due to the higher fragility of these ecosystems (Krüger, 2005; Weaver, 2005).

Reviews of a series of ecotourism projects in a number of developing nations have attempted to determine the key factors that affect the success of ecotourism in the local communities (e.g., Bookbinder et al., 1998; Colvin, 1994; Doan, 2000; Krüger, 2005; Salafsky et al., 2001; Sinclair, 2003; and Weshe, 1993). Though it is difficult to classify these factors neatly, they can be arranged in three main categories. First, although ecotourism has the potential to improve indigenous communities' livelihood possibilities, in practice the distribution of economic benefits is very uneven and tends to favor stakeholders outside the protected area and/or the involved communities' elites. Second, though communities can sometimes engage in successful ecotourism projects in the absence of secure land tenure, this outcome depends on a number of other favorable conditions being in place; hence, in practice the lack of community control over land and resources prevents indigenous communities from investing in ecotourism. Finally, the unequal power relations between stakeholders and indigenous communities imply that the latter have no real voice in management decisions. In the following sections, we will discuss each category.

3. Impact of Ecotourism on Indigenous Livelihood

Besides protecting biodiversity, ecotourism in indigenous communities is meant to improve the livelihood of the members of the community. However, several authors have argued that many indigenous

ecotourism ventures have not had a significant effect on local livelihoods and in fact some negative effects on biodiversity (Kiss, 2004). Moreover, since ecotourism requires that indigenous communities adapt themselves to a different regime of wildlife exploitation, it imposes a view of the indigenous life that is not necessarily in agreement with the real livelihoods of the indigenous communities (Colvin, 1994; Goodwin, 1996; Lindsey et al. 2005; Orlove and Brush, 1996; Weaver, 1999; West, 2008). Yet, other authors have pointed out that even though the benefits from ecotourism are small in absolute terms, they still play an important role in increasing the means of living of indigenous communities relative to a benchmark situation often characterized by poverty and exclusion (Colvin, 1994; Lindsey et al. 2005; Mbaiwa and Stronza, 2010).

In analyzing the impacts of ecotourism on indigenous livelihoods, we must remark that livelihood is a broad concept; it comprises all the capabilities, activities, assets, and the access to these as required for a means of living (Chambers and Conway, 1992). In the case of indigenous communities, livelihood is connected to poverty through the lack of access to employment, income, human capital, as well as with the lack of income diversification (Lepper and Schroenn, 2010). Indeed, in many places, indigenous households survive on no more than US\$ 3 a day (Becker, 2003; United Nations Development Program, 2006).

Empirical evidence shows that cash income from ecotourism has the potential to stimulate income diversification and risk management among households (Lapeyre, 2010; Lepper and Schroenn, 2010; Stronza, 2009). For instance, in their study of ecotourism among indigenous communities in three villages (Sankoyo, Khwai and Mababe) in the Okavango region of Botswana, Mbaiwa and Stronza (2010) point out that ecotourism has become the main livelihood activity of the members of these communities, replacing many traditional livelihood activities that damaged the environment (hunting, gathering, livestock, and crop farming). The total population in the area studied corresponds to 186 households (1022 inhabitants), of which 48.4% were sampled. Unlike most cases, ecotourism benefits in the Okavango region had reached most of the population: only 3% of the sampled households in their study had no members employed in ecotourism, and overall, 93.3% of the households sampled stated that their income had increased during the last 10 years due to ecotourism. The increase, however, was rather modest and approximately equal to US\$ 50 per household annually (Mbaiwa and Stronza, 2010).

Higher income levels also served to improve the provision of local public goods (Barrett and Arcese, 1995). For example, income from ecotourism has been used to enhance water supply and provide housing to many households within these communities, as well as support for local sports activities and assistance for orphans and disabled people (Mbaiwa and Stronza, 2010).

Ecotourism seems to also have a positive effect on land value; the value of ecotourism-controlled land is higher than that of land used for other activities like logging, ranching, or agriculture (Mbaiwa and Stronza, 2010). Finally, financial and physical capital obtained from ecotourism also serves as a safety net in case of unfortunate events and unforeseen expenses (Lepper and Schroenn, 2010).

Unfortunately, the problem is that in practice the ability of the members of indigenous communities to capture the benefits from ecotourism is rarely ensured due to a series of reasons that we will discuss in subsequent sub-sections, including resource and skill constraints and the lack of mechanisms to secure a fair distribution of ecotourism benefits (Bookbinder et al., 1998). Furthermore, as mentioned in the introduction, the potential for ecotourism to attract a steady number of tourists and to generate significant revenues varies from place to place. For instance, there is a clear positive correlation between income flows to ecotourism and the availability of flagship fauna species (for instance charismatic birds and mammals). Charismatic fauna also helps support tourism in times of political instability,

as it reduces the susceptibility of tourism to these conflicts (Lindsey et al., 2007).² This relationship between attractive animals and ecotourism potential has led some to conclude that only a minority of protected areas in developing countries have the potential to create large revenues through ecotourism (see, e.g., Krüger, 2005 and Wells, 1992). The fact that income from ecotourism is variable and dependent on external factors (such as foreign currency exchange rates, weather, and political stability in the host countries) implies that indigenous communities involved in ecotourism might also need to develop other productive activities to smooth consumption in bad times of visits (Barrett and Arcese, 1995; West, 2008).

3.1. Distribution of Ecotourism Benefits

Several studies have shown that the distribution of the benefits of ecotourism is characterized by a manifest inequality among different stakeholders involved in ecotourism development (see, e.g., Bookbinder et al., 1998, and He et al., 2008). Uneven distribution of economic benefits is partly explained by significant inequality between indigenous communities and stakeholders outside the protected areas. This is particularly the case in developing countries where there are powerful economic incentives to develop ecotourism rapidly and with as few constraints as possible; these powerful economic incentives represent a danger since when offered enough incentives, they can be quick to cede control of ecotourism development to public and private elites or foreign interests through both legal and illegal means (Duffy, 2000 and Griffin, 2002). For instance, He et al. (2008) points out that in China, the majority of economic benefits in three key ecotourism sectors (infrastructural construction, hotels/restaurants, and souvenir sales) go to stakeholders outside the local community, and Mowforth and Munt (2003) show that the proportion of total gross revenues from ecotourism that stays in the community is as low as 10% in certain countries, including Bahamas and Nepal.

Similar evidence is provided by Lapeyre (2010), who argues that tour operators, both inbound and outbound, control most tourist flows within Namibia; consequently, the capacity of the communities to generate tourism revenues for the local area depends largely on the extent to which the association is able to build commercial links with tour operators and travel agents. In such sense, the relationship between tourism operators and indigenous communities is both symbiotic and antagonistic (Lapeyre, 2010; Stronza and Gordillo, 2008). Indigenous populations depend on jobs and guide positions in the lodges or on work for independent guides. Tourism operators in turn depend on the use of indigenous lands for trekking, and some offer visits to indigenous communities as part of their programs. They obtain the cooperation of indigenous individuals or communities by paying user fees, providing occasional gifts, renting indigenous-built huts for overnight stays, and preferential hiring and gifts to oblige surrounding indigenous communities to refrain from unsightly land clearing and from decimating the animal populations that lodge visitors come to see. With the rapidly increasing indigenous organization and militancy since the turn of the 1980s, there is a growing indigenous perception that their relationship with tourism operators is exploitive (Borman, 2008; Fay, 2007). Hence, ecotourism has added a new element to frontier resource conflicts since tourism operators and indigenous populations compete among themselves for resource access. For example, several tourism operators have purchased or occupied sites that indigenous communities consider their traditional territory (Weshe, 1993). Several indigenous groups have used barricades, strategic clearing,

maintenance of natural navigation obstacles, and threats to deny unauthorized passage on their territories (Borman, 2008).

To a large extent, the weak bargaining power of indigenous communities is explained by their lack of resource and skills. Indeed, one of the main problems seen in studies on ecotourism projects in indigenous communities is that NGOs and governments have usually ignored the fact that the communities experience a number of the same problems that small ecotourism operators face, yet the failure rates are much higher (Fuller et al., 2005). These organizations tend to overemphasize the role of community cohesion as the main driver of business success and do not take into account that these communities utilize the natural resources to a substantial degree; that their standard of living in terms of economic, educational, and basic infrastructure is far inferior to their national averages (i.e., their unemployment and income levels, as well as human development indicators such as education and health conditions, have consistently lagged behind those of the rest of the population; see Hall and Patrinos, 2006); and that running businesses in poor and remote or very remote³ areas is associated with many problems, e.g., long distances between markets and key suppliers, lack of access to management skills and skilled labor, and harsh climate and physical conditions (Buultjens et al., 2010; Fuller et al., 2005).

Human capital weaknesses restrain the fraction of the community members who participate in the benefits of ecotourism to only those who are semi-skilled (Ashley and Jones, 2001). Besides, the lack of skills and experience in planning, business management, financial management, marketing, and product research and development often places them in a poverty trap, as the partner NGOs usually undertake these tasks. This prevents the formation of human capital within the communities in the future (Zeppel, 2006).

Indigenous communities face also difficulties accessing market funding channels due to low income and asset levels, lack of familiarity with the procedures of financial institutions, and inability to prepare the formal business and financial plans required by mainstream commercial lenders. For instance, Fuller et al. (2005) point out that although the Australian government has developed schemes to overcome lack of capital and to build capacity, it has not been very successful since most of the programs developed to help indigenous businesses are complicated and difficult to access for people in indigenous communities. The programs have provided little start-up capital and technical support to generate a qualitative change in the ecotourism business. Obviously, these difficulties are much more accentuated in less developed countries.

Indigenous people also often have troubles using their communal property as collateral due to land insecurity (Fuller et al., 2005). In this respect, as will be discussed in the following section, indigenous land regimes are diverse yet are often characterized by land conflicts and tenure insecurity. For instance, the indigenous law in Chile has a provision that makes it difficult to sell or trade these lands. Thus, in practice, such land has no value as collateral (Meza, 2009).

Due to the financial constraints and the limitations on the use of land as collateral, many ecotourism projects have become dependent on external support, and indigenous communities have failed to develop financial and management skills during this process (Kiss, 2004). Securing biodiversity might require continuing external funding despite of the fact that most of the funding for ecotourism is relatively short-term (Garnett et al., 2007).

On the other hand, even when a significant fraction of the benefits of ecotourism flow to the indigenous communities, they are usually confined to a much smaller percentage of households – usually elites that earn the rights to run shops or develop activities, or have access

² For instance, the mountain gorilla in Rwanda helped sustain ecotourism despite the great political instability in the region (Verissimo et al., 2009).

³ A positive aspect of remoteness is that indigenous tourism enterprises are to a degree protected from competition.

to the most profitable locations (Bookbinder et al., 1998; He et al., 2008; and Lapeyre, 2010). Sunk costs needed to operate the venture might prevent equal access to ecotourism revenues within the communities. For example, in the Mapu Lahual Initiative in Chile and Gales Point Manatee in Belize, an important investment is needed to transport the tourists to the protected area, which implies a cost of entry for the members of the community who want to provide the service (Belsky, 1999; Fennell, 2008; Meza, 2009). In the end, only those who have the financial resources to undertake such investment, or have access to the funding from ONGs or private partners end up controlling an important part of the revenues from ecotourism.

Inequitable distribution of benefits within the community discourages participation and creates or exacerbates divisions. To mediate against the poor distribution of benefits in their villages, some communities have developed strategies to ensure that the households in each village have equal access to employment opportunities (Mbaiwa and Stronza, 2010). Another way to overcome the distributional problems linked to ecotourism revenues is to use some of the revenues to finance public goods for the whole community. For example, Gordillo et al. (2008) point out that one of the factors of the success of the Posada Amazonas lodge in Ecuador was that a portion of the revenues was used to improve the local public goods, i.e., schools, infrastructure, water supply, and health assistance.

3.2. The Need for Further Sources to Fund Biodiversity Conservation

Ecotourism can benefit biodiversity conservation and the surrounding local communities if it is small-scale and locally operated or owned (Zanotti and Chernela, 2010). Yet households need resources to live on. How to achieve these two objectives may be a difficult task to both the local and global level. Understandably, there is a limit to the extent of the economic benefits provided by ecotourism. Even though ecotourism can provide enough economic incentives for biodiversity conservation in certain places, it cannot easily be scaled up because of the insufficient global demand. Furthermore, if the aggregate supply of ecotourism increases, one should expect the revenues that protected areas can generate from ecotourism to decrease.

In such sense, ecotourism is often proposed as a way to make conservation pay for itself, an assumption that is usually wrong. If conservation is a goal, the revenues from conservation can be enhanced through the use of complementary sources of funding.

One of the instruments that can be used to increase revenues from biodiversity conservation is Payments for Environmental Services (PES), which are voluntary transactions between at least one buyer and at least one seller where payments are conditional on maintaining an ecosystem use that provides well-defined environmental services. The payments⁴ thus provide a direct and tangible incentive to conserve the ecosystem and prevent encroachment by others (Pattanayak et al., 2010).

Today there are more than 300 PES programs implemented worldwide (Blackman and Woodward, 2009). For example, the Costa Rican national law recognizes that forests provide watershed protection, scenic beauty, carbon fixation/sequestration, and biodiversity conservation services, and a PES program funded by donors, earmarked taxes, and environmental service buyers pay forest owners for producing this bundle of environmental services through activities of reforestation, forest management for timber production, and forest preservation (Pattanayak et al., 2010).

Implementing PES schemes in a context where land and resource rights are poorly defined and governance of shared resources is poor poses a particular challenge, as it may be difficult to modify individual

behavior if individual opportunity costs are not taken into consideration (see, e.g., Clements et al., 2010; Nelson et al., 2009; and Somerville et al., 2010). Moreover, PES schemes face the same distributional problems often seen in ecotourism ventures: the distribution of their benefits and costs across the members of the community may weaken governance.

As in the case of ecotourism, exclusion from the benefits derived from PES may be related to a lack of the capital necessary for initial involvement. For instance, Fisher and Treg (2007) show that participants in Costa Rica's payment system are richer and more educated than poorer indigenous communities. On the other hand, the fact that the socio-cultural environment for indigenous communities is strongly tied to consumptive use of resources might imply that they do not fulfill PES eligibility requirements. For example, the Costa Rican PES scheme excluded most small-scale farmers and indigenous communities because agro-forestry was not made eligible. Hence, PES schemes can fail or be detrimental to indigenous communities if they fail to incorporate an understanding of how indigenous communities value and use key environmental services for their own subsistence and well-being (Rosa et al., 2004).

Another economic instrument is the visitation charges and service fees, which help communities to control the demand for tourists and increase the contribution of visitors to ecotourism revenues. Indeed, the level of demand for indigenous ecotourism has important implications for the development of the sector. On the one hand, if the number of ecotourists is too high, projects are not likely to be sustainable from an ecological perspective. Thus, successful ecotourism projects could subsequently fall victim to their own success if the number of tourists is not strictly controlled or quotas are not enforced. As described earlier, this risk seems particularly latent in developing countries. On the other hand, if the number of ecotourists is too low, there is a risk that ecotourism projects do not generate enough revenues to encourage participation of indigenous communities.

Conventional wisdom is that indigenous tourism is much more popular among international tourists, especially from Northern European countries, than among domestic tourists. Moreover, indigenous ecotourism enterprises are to some degree protected from competition due to their relative remoteness. A well-designed fee system can make these areas more financially self-sufficient, sending a positive signal regarding the value of land devoted to conservation. Higher entry fees for foreign eco-tourists can boost revenue creation substantially and make ecotourism the best land use option. In addition, since host countries are poor, charging fees below the amounts that foreign visitors are willing to pay for enjoying the resource would imply that the host country would be subsidizing recreation for visitors from richer countries (Alpizar, 2006).

Empirical studies have used stated preference techniques to assess willingness to pay for different ecotourism attributes. These analyses show that entrance fee hikes for protected areas generally result in fewer tourist visits but more revenue since the demand for ecotourism is generally inelastic (Hearne and Santos, 2005; Naidoo and Adamowicz, 2005a). Regions that are rich in biodiversity and charismatic fauna may be able to charge more, implying a mechanism for funding conservation of rich ecosystems (Gordillo et al., 2008; Naidoo and Adamowicz, 2005a). For example, Naidoo and Adamowicz (2005b) find that the economic benefits derived from avian biodiversity can be substantially increased by basing the pricing on the tourists' willingness to pay; the increased fee revenues could be used to compensate local communities involved in the projects and could protect 80–90% of a tropical forest reserve's bird species. On the other hand, the charismatic fauna of interest to eco-tourists often turns out to be extinction prone, so ecotourists might be willing to donate funds directly to conservation projects (Lindsey et al., 2007). Even in areas without charismatic species, selection of flagship species can help raise awareness about local biodiversity conservation needs.

⁴ PES has to be additional, such that conservation would not have taken place in the absence of the payment.

Tourism revenues related to the conservation of the charismatic species might also encourage positive local attitudes toward conservation. However, while the values that indigenous communities place on species are more related to local cultural and religious factors, foreign visitors are typically interested in high profile, charismatic species like tigers and gorillas (Verissimo et al., 2009).

4. The Need for Land Tenure

Indigenous communities need control over the land in order to prevent destruction of the parks and to maintain the trails. Moreover, secure land rights enhance participation of indigenous communities in the conservation of protected areas and ecotourism (Haller et al., 2008) and favor a long-term outlook toward common property management (Becker, 2003).

In practice, the historical indigenous struggle to regain control over the land they presently occupy has created both distrust among indigenous communities and land insecurity in many regions where ecotourism takes place (Bonham et al., 2008). For instance, the indigenous communities of the Mapu Lahual Park in the South of Chile only possess land titles for around 23% of the total area of the park, while the rest is claimed by other private parties (forestry companies in particular) and the state. Their fear of losing their lands has limited their interaction with outsiders and prevented the realization of investments. Even worse, indigenous communities' land disputes have led to an ongoing violent conflict causing not only significant economic losses but also losses in human lives. The intention was for the Mapu Lahul Park to offer a way to strengthen the legitimacy of the participating communities' land rights, yet this has not been the case. Today many families in the communities still face legal disputes over the land on which they live (Meza, 2009).

In the world of recognition of indigenous land rights, ecotourism has sometimes been used by indigenous communities as a means to ensure community land titling and to establish a sense of stewardship among local residents (Borman, 2008; Fay, 2007). The goal of their attempts has been to "secure" natural resources and indigenous development within the constraints of the national laws and procedures. These efforts, which are less costly than those carried out by government agencies alone, have the potential to speed up the pace of land regularization (Becker, 2003; Bonham et al., 2008). For instance, indigenous groups are using existing forestry and conservation laws to make territorial claims (Davis and Wali, 1994), as in the case of the Awa Ethnic Forest Reserve on the border between Ecuador and Colombia. In the face of expanding lumber extraction activities, the Ecuadoran Awa convinced the government to provide them with land titles in exchange for the Awa's agreement to protect the forest resources of the area. Similar initiatives are taking place in Peru, where indigenous organizations are carrying out land titling projects in exchange for agreements to maintain the natural biodiversity of the forest ecosystems (Bonham et al., 2008). Ecotourism linked to land claims has also prevented and limited the incursion of disruptive activities into protected areas as in the case of postponed petroleum drilling and mining operations in the Arctic National Wildlife Refuge in Alaska and in the Kakadu National Park in Australia, and has stemmed colonization by agricultural migrants in hill zones in Nepal, Peru, and valley zones in Zimbabwe (Becker, 2003; Orlove and Brush, 1996).

In some cases, the assignment of de facto rights to some groups has reduced resource degradation. An interesting case concerns the Communal Areas Program for Indigenous Resources (CAMPFIRE) in Zimbabwe, i.e., the flagship community-based resource program in Southern Africa, where the legally mandated authority responsible for wildlife management in the country has decentralized state authority and conferred privileges on occupiers of titled land as custodians of wildlife, fish, and plants. Hence, indigenous communities were given de facto responsibility for wildlife and were made

beneficiaries of sound wildlife conservation and use (Taylor, 2009).⁵ CAMPFIRE is supported by long-established legislation and the arrangements have no mandated time limits. Nevertheless, permanence is not guaranteed and unfortunately, in recent years certain attempts to re-centralize wildlife management have undermined the generally supportive legislative environment in which CAMPFIRE operates (Taylor 2009).

5. Empowering Indigenous Communities through Ecotourism

The lack of political power by indigenous communities underlies several barriers to successful ecotourism development. For instance, it is a barrier to setting up direct partnerships with tour operators in order to develop ecotourism ventures. It limits their ability to obtain jobs and training in the tourism sector and to develop culturally appropriate opportunities for participation. It prevents them from effectively addressing problems of corruption that limit the tourism benefits they do receive. Finally, it prevents them from having an effective voice in land management planning and decision-making (Charnley, 2005).

Empowerment of indigenous communities involves economic, psychological, social and political dimensions that have led indigenous peoples to greater economic achievements, self-confidence, social cohesion, and political influence on the acquisition and management of their land rights (Weaver, 2009). Ecotourism as a tool for the development of indigenous communities requires, therefore, the empowerment of community members by shifting economic and political control from governments, multilateral organizations, and NGOs to the communities (Zeppel, 2006). Empowering indigenous communities is an important mechanism that needs to be supported and sanctioned by legal empowerment, since it implies the recognition of the community as an institution with wide rights to control the land, to make rules, and to establish mechanisms to enforce these rules (Sofield and Li, 2007).

In spite of a movement toward local participation, there has been limited commitment to redistribute power among stakeholders; decision-making power related to conservation and ecotourism still lies with government agencies and NGOs, with indigenous communities being limited or restricted in resource use (Zeppel, 2006). Most times, there is a conflict of interest and tensions between indigenous communities managing ecotourism ventures in protected areas and the government (Steenkamp and Grossman, 2001). Government agencies sometimes want to maximize their control of the kind of tourism that indigenous communities develop in protected areas, restricting the rights of the communities. For example, Fay (2007) mentions that revenue stagnation of the Pafuri venture managed by Makuleke people in South Africa has generated efforts by South Africa National Parks to control the project.

On the other hand, the excessive involvement of NGOs and/or multilateral organizations in the management of ecotourism projects may also have negative effects on empowerment as communities become accustomed to little involvement and to patronage (Gordillo et al., 2008).

Furthermore, the interests of indigenous communities in development – even within the broad framework of a forested landscape – differ from those of biodiversity conservation NGOs, which promote survival of all species (Adams and Hutton, 2007). These divergences usually affect the desired scale of the ecotourism project and the degree of participation of the local community. Moreover, while the

⁵ After 1980, Rural District Councils became the appropriate authorities for wildlife management; they act as intermediaries between safari operators and communities passing on a fixed percentage of the revenues earned to producer communities (Frost and Bond, 2008).

consumptive uses of an area by indigenous people are readily observed, outsiders may be ignorant of indigenous land-use practices. These factors can lead to a spurious conclusion that the ecological protection of an area and local control of an area are mutually exclusive (King, 1996). Koenig and Juska (2006) present the case of an ecotourism initiative between the indigenous community of Uaxactún, Guatemala, and the Wildlife Conservation Society (WCS). The involvement of the community in the ecotourism development plans is minimal, implying few opportunities for the community members to develop the capacity and skills necessary to sustain the ecotourism business once the NGO cuts the funding.

Nevertheless, several indigenous associations have managed to develop their own decision-making mechanisms, rules, and procedures and to establish an agreement on the type of tourism activities to promote. For instance, not long after the *Red Indígena de Turismo* in the Caribbean of Costa Rica was created, the coalitions began setting goals for sustainable ecotourism based on local capacity building and environmental education (Jones, 2007). A similar process occurred in Loma Alta in Ecuador (Becker, 2003), where indigenous communities developed a capacity to make rules to regulate forest exploitation. These social arrangements have led to village-level improvements (development), forest protection, and reforestation (conservation), and to employment and training related to forest protection and tourism (integrated conservation and development). Without a local institution representing the community, a collective tradition of consensus decision-making, and support for a forest reserve from the many different families and forest users, this would have been difficult to achieve.

Borman (2008) discusses the experience of ecotourism among the Cofan indigenous communities in Ecuador. They have developed a successful ecotourism project based exclusively on the supply of the natural environment to the visitors rather than on a mixed supply of natural environment and cultural and indigenous heritage and traditions. The business is managed entirely by community members. Those who participate in the project receive payments for their services, yet the rest of the community is involved as well throughout the development and management of the physical infrastructure. The communal profits are used to finance the legalization of lands and the local organization. The development of local skills through ecotourism allows members of the community to expand the activities and to achieve greater bargaining power in negotiations with external travel agencies. Long-term sustainability of the community and its environment has been pursued by creating a non-profit organization with branches in both the US and Ecuador, i.e., the Cofan Survival Fund. This organization seeks outside grants and supports to deepen the land legalization and management initiatives, and also provides a financial buffer that can be accessed during bad times. Greater financial resources will allow the community to improve the management and monitoring of the communal forests and to educate young people to become the future leaders of the community.

Tourism operators may also play a fundamental role in the process of empowering indigenous communities. For example, Stronza (2009) cites the example of Canodros S.A., a private company engaged in the development of nature and cultural tourism that has provided management skills, marketing and financial capital to the Achuar community in Ecuador for building the lodge, technical services, management operations, and marketing of the destination.⁶ Similarly, private operators bear most of the investment risk while the community leases land and labor in successful ecotourism ventures in Ngamiland, northern Botswana. The community benefits from employment, development projects, and fees while at the same time building community capacity by exposing communities

to the tourism business, natural resource management and asset formation (Lepper and Schroenn, 2010).

The design of cooperation between indigenous communities and external institutions must balance the different interests in the best possible way. Supportive external institutions may sometimes not necessarily help integrate conservation and development if they create an inappropriate incentive structure that can easily disintegrate social capital, undermine collective action, and hinder institutional capacity building. Other times, faulty knowledge about indigenous communities' management systems has prevented the fulfillment of the development needs of these communities and, thus, the attainment of conservation success (Marie et al., 2009). Since international donors tend to work with governments at a national scale, their projects may threaten local institutions simply by failing to recognize and use them (Becker, 2003).

6. Discussion and Conclusions

People, no matter where and when, have found difficult to manage natural resources in a sustainable way. The implementation of ecotourism ventures by indigenous communities is not the exemption, and it does not automatically imply conservation or economic development for these groups. Indeed, conservation requires delinking indigenous livelihoods from the consumptive use of flora and fauna in forests, jungles and savannahs, and reducing rates of habitat conversion and poaching (Lewis et al. 2011). Ecotourism has the potential of providing economic incentives to preserve natural habits if and only if the revenues are large enough and accessible to the target populations (Colvin, 1994; Fennell, 2008). The latter is not always ensured due to a series of factors discussed in this paper, as for instance, the lack of secure land tenure over the areas where ecotourism takes place and the lack of mechanisms to secure a fair distribution of ecotourism benefits within the members of the communities or among different stakeholders.

As it has also been discussed in this paper, ecotourism may face the so called fallacy of composition. Even though there are some cases where small scale ecotourism ventures can be successful, ecotourism is not easy to be scaled up because of the insufficient global demand (Schachhuber, 2004). If the aggregate supply of ecotourism increases sharply, one could expect that price and revenues from ecotourism to decrease. This theoretical fact has not yet been proved, as the flows of ecotourists continue to grow worldwide, but it raises an important concern about the benefits from ecotourism in indigenous communities at a global scale. Furthermore, since ecotourism may not be particularly profitable in some countries – due to a combination of factors such as lack of readily natural features and flagship species, infrastructure, and political instability – it should not be conceived as the only source of development of indigenous communities; rather, it must be complemented with other actions (Colvin, 1994; Lewis et al. 2011; Mbaiwa and Stronza, 2010). Economic incentives, as payment for ecosystem services and a well-designed system of visitation charges and service fees, play an important role increasing revenues from biodiversity conservation (Alpizar, 2006; Hearne and Santos, 2005; Naidoo and Adamowicz, 2005a, 2005b).

Reviews of several studies analyzing the experiences of indigenous ecotourism ventures over the world allow us to synthesize the positive and negative aspects of the relationship among biodiversity conservation, indigenous communities and ecotourism. In the positive side, many indigenous communities have been able to manage successful ecotourism ventures, and though the actual benefits of these ecotourism ventures are rather small in many cases, they still play an important role in increasing the means of living of indigenous communities relative to a benchmark situation often characterized by poverty and exclusion (Mbaiwa and Stronza, 2010; Zanotti and Chernela, 2010). Income from ecotourism has also increased the provision of local public goods. Ecotourism has also a positive effect on

⁶ The Achuar community is currently running the business almost completely on its own; Canodros S.A. is only in charge of the marketing of the lodge (Grench, 2009).

land value and capital formation, and it has helped indigenous communities to enhance participation in the management of common property land (Becker, 2003; Haller et al., 2008; Jamal and Stronza, 2009).

On the negative side, the distribution of the benefits of ecotourism reflects significant inequality between indigenous communities and external stakeholders (see, e.g., Bookbinder et al., 1998, and He et al., 2008). Developing countries have powerful economic incentives to cede control of ecotourism development to public and private elites or foreign interests (Duffy, 2000 and Griffin, 2002; He et al. 2008; Mowforth and Munt, 2003). Furthermore, a common problem among developing countries is that regulations are not always enforced in the face of scarce financial resources, limited manpower, and inadequate technological and administrative resources (Agrawal and Redford, 2006; Barrett et al., 2001). Violations of regulations to ensure that ecotourism does not damage the environment might be overlooked or tolerated by key members of state agencies since parts of the state apparatus have been co-opted by powerful networks of elites (Duffy, 2000). Even though in recent years eco-labeling and certification has emerged as a market mechanism for ecotourism operators to provide a market signal to potential partners and funders regarding the environmental impacts of tourism, in practice the certification literature has often pointed to a lack of effect of certification as a means of influencing consumer selection of tourism products (Buckley, 2002).

Though governments, the international development community and NGOs want to use ecotourism to improve the economic welfare of indigenous communities, they tend to play a rather paternalist role in the development and management of ecotourism ventures, which does not contribute to the long-term empowerment of indigenous communities nor the financial autonomy of ecotourism ventures. Indeed, it limits their ability to obtain jobs and training and to develop culturally appropriate opportunities for participation, and precludes indigenous from having an effective voice in land management planning and decision-making (Charnley, 2005). Ecotourism as a tool for the development of indigenous communities requires, therefore, a shift in the economic and political control from governments, multilateral organizations, and NGOs to the communities (Sofield and Li, 2007; Zeppel, 2006). However, such a reallocation of power is not easy to achieve since the underlying objectives of the different stakeholders are usually in conflict.

The question of whether ecotourism is a form of sustainable development for indigenous communities does not have a definite answer due to the many variables involved. What seems clear, though, is that – at least in the short run – indigenous ecotourism does not survive spontaneously without the full involvement of the indigenous community, and the support from external agents in the design, implementation, and diffusion of ecotourism ventures. This review points out that ecotourism is not a panacea, and it highlights the need for a more careful approach to the design and implementation of indigenous ecotourism.

Acknowledgment

We are grateful to three anonymous reviewers for useful comments. Financial support from Universidad Diego Portales (Projecto Semilla CG 070325007), and the Swedish Research Council (FORMAS) through the program Human Cooperation to Manage Natural Resources (COMONS) to the University of Gothenburg is gratefully acknowledged.

References

- Adams, W., Hutton, J., 2007. People, parks and poverty: political ecology and biodiversity conservation. *Conservation and Society* 5 (2), 147–183.
- Agrawal, A., Redford, K., 2006. Poverty, development, and biodiversity conservation: shooting in the dark? Working Paper No 26, March. Wildlife Conservation Society.
- Alpizar, F., 2006. The pricing of protected areas in nature-based tourism: a local perspective. *Ecological Economics* 56 (2), 294–307.
- Andama, K., Ferraro, P., Sims, K., Healy, A., Hollande, M., 2010. Protected areas reduced poverty in Costa Rica and Thailand. *PNAS* 107 (22), 9996–10001.
- Ashley, C., Jones, B., 2001. Joint ventures between communities and tourism investors: experience in southern Africa. *International Journal of Tourism Research* 3, 407–423.
- Barrett, C., Arcese, P., 1995. Are Integrated Conservation Development Projects (ICDPs) sustainable? On the conservation of large mammals in sub-Saharan Africa. *World Development* 23 (7), 1073–1084.
- Barrett, C., Brandon, K., Gibson, C., Gjertsen, H., 2001. Conserving tropical biodiversity amid weak institutions. *Bioscience* 51 (6), 497–502.
- Becker, C., 2003. Grassroots to grassroots: why forest preservation was rapid at Loma Alta, Ecuador. *World Development* 31 (1), 163–176.
- Belsky, J., 1999. Misrepresenting communities: the politics of community-based rural ecotourism in Gales Point Manatee, Belize. *Rural Sociology* 64 (4), 641–666.
- Blackman, A., Woodward, R.T., 2009. User financing in a national payments for environmental services program: Costa Rican hydropower. *Ecological Economics* 69 (8), 1626–1638.
- Blaikie, P., 2006. Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Development* 34 (11), 1942–1957.
- Bonham, C., Sacayon, E., Tzi, E., 2008. Protecting imperiled “paper parks”: potential lessons from the Sierra Chinaja, Guatemala. *Biodiversity and Conservation* 17 (7), 1581–1593.
- Bookbinder, M.P., Dinerstein, E., Rijal, A., Cauley, H., 1998. Ecotourism’s support of biodiversity conservation. *Conservation Biology* 12 (6), 1399–1404.
- Boonzaijer, E., 1996. Local responses to conservation in the Richtersveld National Park, South Africa. *Biodiversity and Conservation* 5 (3), 307–314.
- Borman, R., 2008. Ecotourism and conservation: the Cofan experience. In: Stronza, A. (Ed.), *Ecotourism and Conservation in the Americas*, pp. 21–29.
- Brandon, K., 1998. Perils to parks: the social context of threats. In: Brandon, K., Redford, K., Sanderson, S. (Eds.), *Parks in Peril: People, Politics, and Protected Areas*. Island Press, Washington DC.
- Brooks, J., Franzen, M., Holmes, C., Grote, M., Borgerhoff, M., 2006. Testing hypotheses for the success of different conservation strategies. *Conservation Biology* 20 (5), 1528–1538.
- Buckley, R.C., 2002. Tourism ecolabels. *Annals of Tourism Research* 29 (1), 183–208.
- Buultjens, J., Gale, D., White, N., 2010. Synergies between Australian indigenous tourism and ecotourism: possibilities and problems for future development. *Journal of Sustainable Tourism* 18 (4), 497–513.
- Campbell, L., 1999. Ecotourism in rural developing communities. *Annual of Tourism Research* 26 (3), 534–553.
- Ceballos-Lascurain, H., 1996. *Tourism and Protected Areas*. IUCN – World Conservation Union, Gland, Switzerland.
- Chambers, R., Conway, G., 1992. *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*. Institute of Development Studies, Sussex.
- Charnley, S., 2005. From nature tourism to ecotourism? The case of the Ngorongoro Conservation Area, Tanzania. *Human Organization* 64 (1), 75–88.
- Clements, T., John, A., Nielsen, K., An, D., Tan, S., Milner-Gullard, E., 2010. Payments for biodiversity conservation in the context of weak institutions: comparison of three programs in Cambodia. *Ecological Economics* 69 (6), 1283–1291.
- Clough-Riquelme, J., 1992. The politics of conservation: the Ache of eastern Paraguay and the Mbaracayu Ecological Reserve. XVII International Congress of the Latin American Studies Association.
- Coad, L., Campbell, A., Miles, L., Humphries, K., 2008. The costs and benefits of forest protected areas for local livelihoods: a review of the current literature. Working Paper, UNEP-WCMC.
- Colding, J., Folke, C., 2000. The taboo system: lessons about informal institutions for nature management. *Georgetown International Environmental Law Review* 12, 413–445.
- Colvin, J., 1994. Capirona: a model of indigenous ecotourism. *Journal of Sustainable Tourism* 2 (3), 174–177.
- Davis, S., Wali, A., 1994. Indigenous land tenure and tropical forest management in Latin America. *Ambio* 23 (8), 485–490.
- de Sherbinin, A., 2008. Is poverty more acute near parks? An assessment of infant mortality rates around protected areas in developing countries. *Oryx The International Journal of Conservation* 42 (1), 26–35.
- Diamantis, D., 1999. The concept of ecotourism: evolution and trends. *Current Issues in Tourism* 2 (2–3), 93–122.
- Doan, T., 2000. The effects of ecotourism in developing nations: an analysis of case studies. *Journal of Sustainable Tourism* 8 (4), 288–304.
- Duffy, R., 2000. Shadow players: ecotourism development, corruption and state politics in Belize. *Third World Quarterly* 21 (3), 549–565.
- Fay, D., 2007. Mutual gains and distributive ideologies in South Africa: theorizing negotiations between communities and protected areas. *Human Ecology* 35 (1), 81–95.
- Fearnside, P.M., 2005. Indigenous peoples as providers of environmental services in Amazonia: warning signs from Mato Grosso. In: Hall, A. (Ed.), *Global Impact, Local Action: New Environmental Policy in Latin America*. University of London, School of Advanced Studies, Institute for the Study of the Americas, London, U.K, pp. 187–198.
- Fennell, D., 2008. Ecotourism and the myth of indigenous stewardship. *Journal of Sustainable Tourism* 16 (2), 129–149.
- Ferraro, P., Hanauera, M., Sims, K., 2011. Conditions associated with protected area success in conservation and poverty reduction. *PNAS* 108 (34), 13913–13918.
- Fisher, B., Treg, C., 2007. Poverty and biodiversity: measuring the overlap of human poverty and the biodiversity hotspots. *Ecological Economics* 61 (1), 93–101.

- Frost, P.G.H., Bond, I., 2008. The CAMPFIRE program in Zimbabwe: payments for wildlife services. *Ecological Economics* 65 (4), 776–787.
- Fuller, D., Buultjens, J., Cummings, E., 2005. Ecotourism and indigenous micro-enterprise formation in Northern Australia opportunities and constraints. *Tourism Management* 26 (6), 891–904.
- Garnett, S.T., Sayer, J., Du Toit, J., 2007. Improving the effectiveness of interventions to balance conservation and development: a conceptual framework. *Ecology and Society* 12 (1), 2.
- Goodwin, H., 1996. In pursuit of ecotourism. *Biodiversity and Conservation* 5 (3), 277–291.
- Gordillo, J., Hunt, C., Stronza, A., 2008. An ecotourism partnership in the Peruvian Amazon: the case of Posada Amazonas. In: Stronza, A. (Ed.), *Ecotourism and Conservation in the Americas*, pp. 30–48.
- Grench, E., 2009. Globalization and Indigenous Empowerment in Amazonian Ecuador. Senior Honors Thesis in Spanish B.A., The Ohio State University.
- Griffin, T., 2002. An optimistic perspective on tourism's sustainability. *Sustainable Tourism: A Global Perspective*, ed. Rob Harris, Tony Griffin, and Peter Williams. Butterworth Heinemann, pp. 24–32.
- Hall, G., Patrinos, H.A. (Eds.), 2006. *Indigenous Peoples, Poverty and Human Development in Latin America 1994–2004*. World Bank, Washington, DC.
- Haller, T., Galvin, M., Meroka, P., Alca, J., Alvarez, A., 2008. Who gains from community conservation?: Intended and unintended costs and benefits of participative approaches in Peru and Tanzania. *The Journal of Environment and Development* 17 (2), 118–144.
- He, G., Chen, X., Liu, W., Bearer, S., Zhou, S., Cheng, L.Y., Zhang, H., Ouyang, Z., Liu, J., 2008. Distribution of economic benefits from ecotourism: a case study of Wolong Nature Reserve for giant pandas in China. *Environmental Management* 42 (6), 1017–1025.
- Hearne, R., Santos, A., 2005. Tourists and locals preferences toward ecotourism development in the Maya Biosphere Reserve, Guatemala. *Environment, Development and Sustainability* 7 (3), 303–318.
- Hinch, T., 1998. Ecotourists and indigenous hosts: diverging views on their relationship with nature. *Current Issues in Tourism* 1 (1), 120–124.
- IES, 2008. Fact Sheet: Global Ecotourism. The International Ecotourism Society, Size of Global Ecotourism.
- Jamal, T., Stronza, A., 2009. Collaboration theory and tourism practice in protected areas: stakeholders, structuring and sustainability. *Journal of Sustainable Tourism* 17 (2), 169–189.
- Johannesen, A., Skonhofs, A., 2005. Tourism, poaching and wildlife conservation: what can integrated conservation and development projects accomplish. *Resource and Energy Economics* 27 (3), 208–226.
- Jones, H., 2007. Three case studies of community-based ecotourism: Amistad-Boca del Toro, Costa Rica; Atitlan Volcanoes, Guatemala; and Pacaya-Samiria National Reserve, Peru. In: Higham, J. (Ed.), *Critical Issues in Ecotourism: Understanding a Complex Tourism Phenomenon*. Elsevier, Butterworth-Heinemann.
- King, D., 1996. Ecotourism and commodification: protecting people and places. *Biodiversity and Conservation* 5 (3), 293–305.
- Kiss, A., 2004. Is community-based ecotourism a good use of biodiversity conservation funding? *Trends in Ecology & Evolution* 19 (5), 232–237.
- Koenig, C., Juska, C., 2006. Planning for Sustainable Community Based Ecotourism in Uaxactun, Guatemala. School of Natural Resources and Environment, University of Michigan.
- Kramer, R., Van Schaik, C., Johnson, J., 1997. *Last Stand: Protected Areas and the Defense of Tropical Biodiversity*. Oxford University Press, Oxford.
- Krüger, O., 2005. The role of ecotourism in conservation: panacea or Pandora's box? *Biodiversity and Conservation* 14 (3), 579–600.
- Lapeyre, R., 2010. Community-based tourism as a sustainable solution to maximize impacts locally? The Tsiseb Conservancy case, Namibia. *Development Southern Africa* 27 (5), 757–772.
- Lepper, C., Schroenn, J., 2010. Community-based natural resource management, poverty alleviation and livelihood diversification: a case study from northern Botswana. *Development Southern Africa* 27 (5), 725–739.
- Lewis, D., Bell, S., Fay, J., Bothi, K.L., Gaterre, L., Kabila, M., Mukamba, M., Matokwani, E., Mushimbalume, M., Moraru, C., Lehmann, J., Lassoie, J., Wolfe, D., Lee, D., Buck, L., Travis, A., 2011. Community Markets for Conservation (COMACO) links biodiversity conservation with sustainable improvements in livelihoods and food production. *PNAS* 108 (34), 13957–13962.
- Lindsey, P., Alexander, R., Du Toit, J., Mills, M., 2005. The potential contribution of ecotourism to African wild dog *Lycaon pictus* conservation in South Africa. *Biological Conservation* 123 (3), 339–348.
- Lindsey, P.A., Alexander, R., Mills, M.G.L., Romañach, S., Woodroffe, R., 2007. Wildlife viewing preferences of visitors to protected areas in South Africa: implications for the role of ecotourism in conservation. *Journal of Ecotourism* 6 (1), 19–33.
- Marie, C.N., Sibelet, N., Dulcire, M., Rafalimaro, M., Danthu, P., Carrière, S.M., 2009. Taking into account local practices and indigenous knowledge in an emergency conservation context in Madagascar. *Biodiversity and Conservation* 18 (10), 2559–2777.
- Mbaiwa, J., Stronza, A., 2010. The effects of tourism development on rural livelihoods in the Okavango Delta, Botswana. *Journal of Sustainable Tourism* 18 (5), 635–656.
- Meletis, Z.A., Campbell, L.M., 2007. Call it consumption! Re-conceptualizing ecotourism as consumption and consumptive. *Geography Compass* 1 (4), 850–870.
- Meza, L., 2009. Mapuche struggle for land and the role of private protected areas in Chile. *Journal of Latin American Geography* 8 (1), 149–163.
- Mombeshora, S., Le Bel, S., 2009. Parks-people conflicts: the case of Gonarezhou National Park and the Chitsa community in south-east Zimbabwe. *Biodiversity and Conservation* 18 (10), 2601–2623.
- Mowforth, M., Munt, I., 2003. *Tourism and Sustainability: Developments and New Tourism in the Third World*, Second Edition. Routledge, London.
- Naidoo, R., Adamowicz, V., 2005a. Biodiversity and nature-based tourism at forest reserves in Uganda. *Environment and Development Economics* 10 (2), 159–178.
- Naidoo, R., Adamowicz, V., 2005b. Economic benefits of biodiversity exceed costs of conservation at an African rainforest reserve. *PNAS* 102 (46), 16712–16716.
- Naughton-Treves, L., Alix-Garcia, J., Chapman, C., 2011. Lessons about parks and poverty from a decade of forest loss and economic growth around Kibale National Park, Uganda. *PNAS* 108 (34), 13919–13924.
- Nelson, F., Foley, C., Foley, L., Leposo, A., Loure, E., Peterson, D., Peterson, M., Peterson, T., Sachedina, H., Williams, A., 2009. Payments for ecosystem services as a framework for community-based conservation in Northern Tanzania. *Conservation Biology* 24 (1), 78–85.
- Orlove, B., Brush, S., 1996. Anthropology and the conservation of biodiversity. *Annual Review of Anthropology* 25, 329–352.
- Pattanayak, S.K., Wunder, S., Ferraro, P.J., 2010. Show me the money: do payments supply environmental services in developing countries. *Review of Environmental Economics and Policy* 4 (2), 1–21.
- Quintana, J., Morse, S., 2005. Social interactions and resource ownership in two private protected areas of Paraguay. *Journal of Environmental Management* 77 (1), 64–78.
- Rosa, H., Barry, D., Kandel, S., Dimas, L., 2004. Compensation for environmental services and rural communities: lessons from the Americas. Working Paper 96, Political Economy Research Institute, University of Massachusetts Amherst.
- Salafsky, N., Margolius, R., 1999. Threat reduction assessment: a practical and cost-effective approach to evaluating conservation and development projects. *Conservation Biology* 13 (4), 830–841.
- Salafsky, N., Cauley, H., Balachander, G., Cordes, B., Parks, J., Margolius, C., Bhatt, S., Encarnación, C., Russell, D., Margolius, R., 2001. A systematic test of an enterprise strategy for community based biodiversity conservation. *Conservation Biology* 15 (6), 1585–1595.
- Schachhuber, A., 2004. Social Movements, Environmental Governance, and Rural Territorial Development: An International Perspective. Department of Political Sciences, York University, Canada.
- Sinclair, D., 2003. Developing indigenous tourism: challenges for the Guianas. *International Journal of Contemporary Hospitality Management* 15 (3), 140–146.
- Sofield, T., Li, F., 2007. China: ecotourism and cultural, harmony and dissonance. In: Higham, J. (Ed.), *Critical Issues in Ecotourism: Understanding a Complex Tourism Phenomenon*. Elsevier, Butterworth-Heinemann.
- Somerville, M., Jones, J., Rahajaharison, M., Milner-Gulland, E., 2010. The role of fairness and benefit distribution in community-based payment for environmental services interventions: a case study from Menabe, Madagascar. *Ecological Economics* 69 (6), 1262–1271.
- Steenkamp, C.I., Grossman, D., 2001. *People and Parks: Cracks in the Paradigm*. IUCN South Africa Policy Think Tank.
- Stronza, A., 2009. Commons management and ecotourism: ethnographic evidence from the Amazonas. *International Journal of the Commons* 4 (1).
- Stronza, A., Gordillo, J., 2008. Community views on ecotourism. *Annals of Tourism Research* 35 (2), 448–468.
- Taylor, R., 2009. Community based natural resource management in Zimbabwe: the experience of CAMPFIRE. *Biodiversity and Conservation* 18 (10), 2563–2583.
- Torquebiau, E., Taylor, R., 2009. Natural resource management by rural citizens in developing countries: innovations still required. *Biodiversity and Conservation* 18 (10), 2537–2550.
- United Nations Development Program, 2006. *Human Development Report 2005*. United Nations Development Program, New York.
- Verissimo, D., Fraser, I., Groombridge, J., Bristol, R., McMillan, D., 2009. Birds as tourism flagship species: a case study of tropical islands. *Animal Conservation* 12 (6), 549–558.
- Weaver, D., 1999. Magnitude of ecotourism in Costa Rica and Kenya. *Annals of Tourism Research* 26 (4), 792–816.
- Weaver, D., 2005. Comprehensive and minimalist dimensions of ecotourism. *Annals of Tourism Research* 32 (2), 439–455.
- Weaver, D., 2009. Indigenous tourism stages and their implications for sustainability. *Journal of Sustainable Tourism* 18 (1), 43–60.
- Wells, M.P., 1992. Biodiversity conservation, affluence and poverty: mismatched costs and benefits and efforts to remedy them. *Ambio* 21 (3), 237–243.
- Weshe, R., 1993. *Ecotourism and Indigenous Peoples in the Resource Frontier of the Ecuadorian Amazon*. Department of Geography, University of Ottawa, Ontario, Canada.
- West, P., 2008. Tourism as science and science as tourism: environment, society, self, and other in Papua New Guinea. *Current Anthropology* 49 (4), 597–626.
- West, P., Carrier, J., 2004. Ecotourism and authenticity: getting away from it all? *Current Anthropology* 45 (4), 483–498.
- West, P., Igoe, J., Brockington, D., 2006. Parks and people: the social impact of protected areas. *Annual Review of Anthropology* 35, 251–277.
- Winkler, R., 2011. Why do ICDPs fail? The relationship between agriculture, hunting and ecotourism in wildlife conservation. *Resource and Energy Economics* 31 (1), 55–78.
- Zanotti, L., Chermela, J., 2010. Conflicting cultures of nature: ecotourism, education and the Kayapó of the Brazilian Amazon. *Tourism Geographies* 10 (4), 495–521.
- Zeppel, H., 2006. *Indigenous ecotourism: sustainable development and management*. Ecotourism Book Series.