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Ecotourism and conservation in Amazonian Perú: short-term and long-term challenges

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Summary

Several authors have suggested that ecotourism can enhance the value of intact wildlands and thereby promote conservation. Two rainforest lodges dating from the 1970s and located in southeastern Amazonian Perú have been held up as early success stories in tourism-driven conservation, but a more recent assessment reveals that both lodges have since lost their rainforest reserves to encroachment. One of the major reasons for failure was that the national land laws in effect at the time did not allow the purchase of land titles. Recently, Perú has instituted a process for the purchase of land titles in the rainforest. One lodge has used the new land tenure laws with some success to create a rainforest reserve. The very attempt to buy land for purposes of conservation can promote encroachment and land-buying speculation, and the lodge's current agreement with its neighbours to provide a school in exchange for non-encroachment is fraught with moral hazards and appears unstable over the long term. Tourism can promote conservation primarily at the national level, and ecotourism projects in the Peruvian Amazon can stabilize land-use patterns at least in the short term. However, the conservation of habitat over the long-term will rest primarily on the ability of the State to enforce a consistent land use policy with regard to land tenure and Park protection.

Keywords: ecotourism, Perú, tropical forests, Tambopata, sustainable development, land tenure

Introduction

In recent years, there has been a tremendous increase in the number of people visiting natural areas to experience faunal and floral diversity first hand. This phenomenon has become known as ecotourism (Boo 1990; Whelan 1991; Cater & Lowman 1994). The size of the ecotourism market is enormous. In 1993, sales of international-ecotourism packages in the USA alone reached approximately US$ 1.4 thousand million, and in 1994, the market was estimated to be US$ 1.5 thousand million (Monitor Company 1995). The market has been growing annually at a rate of 8% to 10% (Monitor Company 1995). With increased ecotourism has come the idea that tourists are an economic force that can promote the conservation of the natural attractions that entice the tourists in the first place. Under this concept, revenues from tourists, in the form of park fees, domestic airfares, lodging and meals, the sale of local services and goods such as guiding and handicrafts, and tax revenues levied on the above, are distributed among the population that is most likely to exploit the natural area. Such a transfer of revenue establishes a direct link between conservation and personal income. In theory, ecotourism creates a self-sustaining cycle of increased tourism, increased incomes, and increased incentives for habitat protection, which can include foregone hunting and farming. We call this cycle the 'Standard Model' of ecotourism (e.g., Weber 1987; Boo 1990; Stutz 1993; Colvin 1994; Taylor 1994 and references therein; Nowak 1995; MacGregor 1996 and references therein).

In practice, the link is tenuous at best. Local populations are often unable to provide the services that foreign tourists demand or are not contracted to do so, leaving large tourism operators with neither competition, nor the incentive to distribute the wealth. Establishing the link between conservation and local incomes is the challenge that faces conservationists eager to exploit the force that is tourism (Weber 1987; Boo 1990; Brooke 1991; Munn 1992; Cater & Lowman 1994; Taylor 1994 and references therein).

We examine one approach to this challenge through the detailed histories of three rainforest lodges located on the Tambopata River in the Department of Madre de Dios, in south-eastern Amazonian Perú (Fig. 1). Our interest in the conservation utility of tourism arises out of the meeting of three very different backgrounds. We are, respectively, an American field biologist, the American owner of the rainforest lodge featured in this paper, and the Peruvian Chief of Manu National Park.

Madre de Dios, and the Tambopata region in particular, have long been known to tropical biologists as a region high in species diversity, containing some of the world's highest recorded alpha-diversities of plants, insects, birds and mam-

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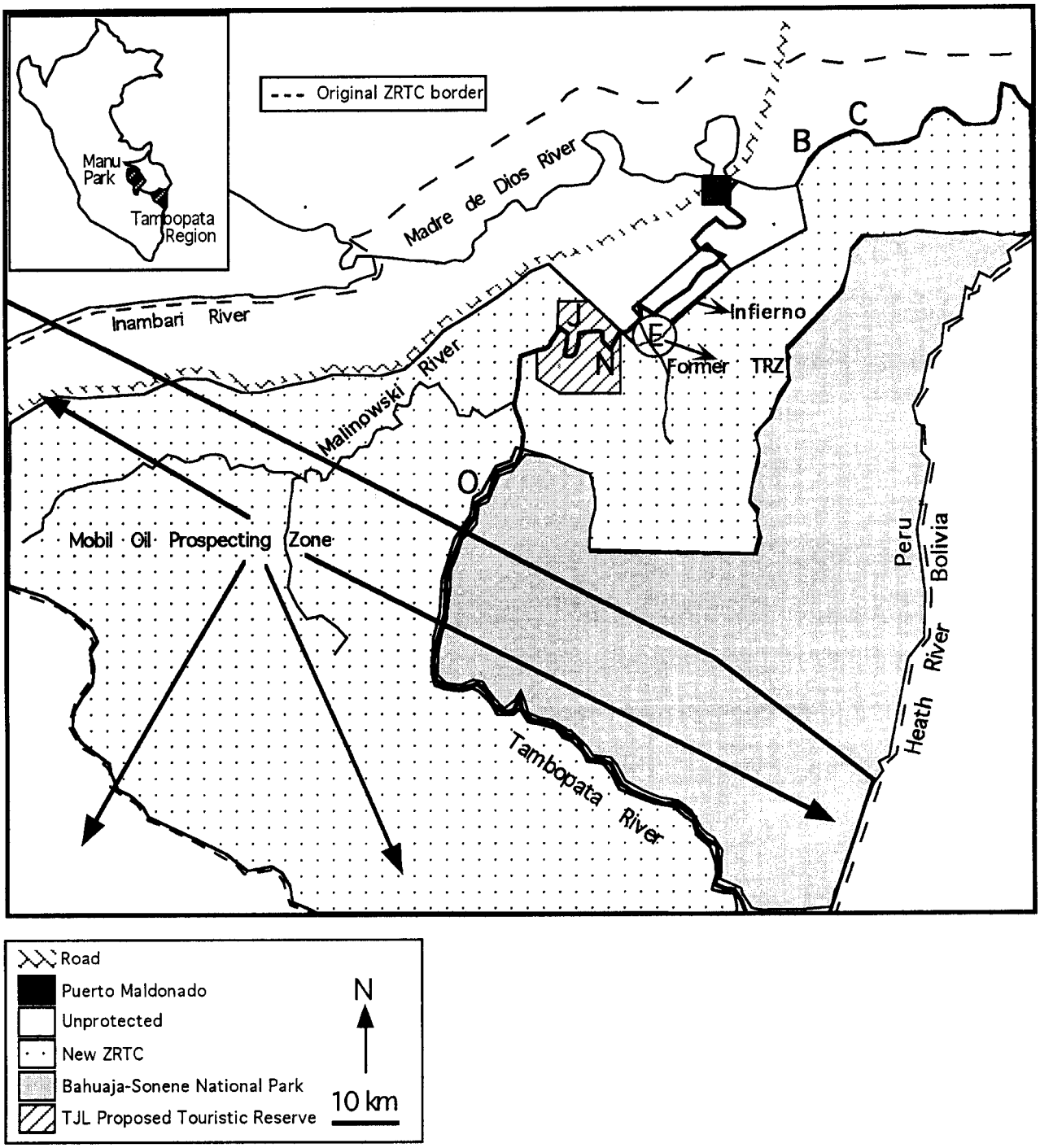


Figure 1 Map of the original 1.5 million ha Zona Reservada Tambopata-Candamo (ZRTC) located within the Tambopata region (inset), the dirt road from Cuzco to Puerto Maldonado that connects to the Trans-Amazon Highway, and the boundaries of the newly-established Bahuaja-Sonene National Park and the new ZRTC. Capital letters indicate lodges: B (Tambo Lodge), C (Cuzco-Amazónico Lodge), E (Explorer's Inn), J (Tambopata Jungle Lodge), N (Colegio Newton Lodge), O (Rainforest Expeditions and Collpa). The area south of the thick, diagonal line represents the area conceded to Mobil Oil for prospecting purposes.

mals (Erwin 1984; Gentry 1990; Foster *et al.* 1994), as well as some of the world's largest expanses of pristine tropical forest, including Manu National Park (Fig. 1). In 1990, Perú established the 1.5 million ha Zona Reservada Tambopata-Candamo (ZRTC, Fig. 1). Unlike the Park, the 'Zona Reservada' designation confers only limited protection and, thus, the ZRTC has been colonized, mainly along the river. Puerto Maldonado, which is the capital of Madre de Dios with 30 000 inhabitants, lies at the mouth of the Tambopata River and at the edge of the ZRTC. The Tambopata River has long supported numerous agriculturalists and fluvial gold miners.

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Methods

We ask if the Standard Model can work in Tambopata. We approach this question by comparing and contrasting the experiences of three rainforest lodges located in the ZRTC, focusing in particular on the history of one lodge, Tambopata Jungle Lodge. Information about the three lodges has been gathered from personal observation and from conversations with employees and owners of the three lodges, as well as from published accounts. DY has spent months resident at all three lodges and has personally witnessed many of the events related below. We identify some of the main obstacles to the success of the Standard Model, and finally, we suggest a way in which tourism can be leveraged to promote conservation in Amazonian Perú.

Results

Two of ecotourism's earliest successes are located in the Tambopata region, Cuzco-Amazónico Lodge and Explorer's Inn. Cuzco-Amazónico Lodge, located on the Madre de Dios River at the northern border of the ZRTC (Fig. 1), was opened in 1976. Soon thereafter, the Peruvian government granted Cuzco-Amazónico Lodge a 10 000 ha reserve (Reserva Cuzco-Amazónico) to administer for tourism and research. By 1990, Cuzco-Amazónico Lodge was receiving 3000 visitors per year and had already hosted a major research expedition (BIOTROP), which was described by Duellman and Koechlin (1991) who claimed that 'tourism supports the maintenance of facilities and protection of the reserve. . . .'

Explorer's Inn lodge on the Tambopata River was also founded in 1976 (Fig. 1). The Peruvian government also granted Explorer's Inn a 5500 ha reserve; this was the confusingly-named Zona Reservada Tambopata (Erwin 1984; Fig. 1). The trail system and buildings, which were paid for by tourism, aided research in tropical ecology (Erwin 1984; Gentry 1988). It was subsequently discovered that the Explorer's Inn's reserve overlapped almost completely with land which had been previously and permanently assigned to the neighbouring Ese'eja Comunidad Indigena of Infierno. To reduce this conflict, Explorer's Inn agreed to pay Infierno US$ 1 for each tourist, to provide employment for some members of the community and to fund a cooperative ethnobotanical study. In return, Infierno would respect the boundaries of the reserve and forego hunting macaws on a clay lick located downstream from the lodge (D. Ricalde, personal communication 1991).

Thus, what we call the Standard Model of ecotourism was realized early on in Tambopata. Tourism generated the revenues that employed locals and paid for the maintenance and preservation of the reserves, thereby providing the direct link between habitat conservation and local incomes. It was thought that more tourists would lead to more lodges and more and larger reserves (Munn 1992) and in this way, ecotourism could reinforce the partial protection provided by the State in the form of the ZRTC. Some simple extrapolations predicted that ecotourism could grow to employ as many as 25 to 30% of the region's population, making tourism the largest employer in Madre de Dios, as well as the region's third largest earner of foreign exchange after gold mining and extraction of timber, latex, and Brazil nuts (Munn 1992).

Since 1980, four additional lodges have been built in the area (Fig. 1), with concomitant increases in tourist volume, revenues and employment of locals, but the predictions of increased conservation have not been met. For example, the reserves granted to Cuzco-Amazónico Lodge and Explorer's Inn are now openly colonized by settlers. Cuzco-Amazónico Lodge's location, which is only an hour by river from the town of Puerto Maldonado, made it subject to high colonization pressure, and colonists began to encroach on the reserve as early as 1976, the year of its establishment. In the case of Explorer's Inn, the lodge failed in its pledge to pay the Comunidad of Infierno for each tourist, in part due to a three-year crash in tourism which put the lodge's very survival at stake. As a result, relations have soured between the Comunidad of Infierno and Explorer's Inn, and it is unlikely that Infierno will ever enter into a similar agreement in the future. In 1993, Infierno reclaimed its land and hired a surveyor to demarcate boundaries, leaving Explorer's Inn with only 15 of its original 5500 hectares. The Comunidad of Infierno's plans include farming and hunting, as well as timber and Brazil nut extraction. In 1996, the Comunidad also entered into a cooperative venture with the Rainforest Expeditions Lodge (Fig. 1) to begin a *culturally-based* tourism component that would complement the *nature-based* expeditions offered by Rainforest Expeditions (Nycander & Holle 1996). Tourism continues at both Cuzco-Amazónico Lodge and Explorer's Inn.

The failure of these lodges to protect their reserves was probably inevitable given the land tenure laws prevalent in Perú's Amazonian regions prior to 1994. Neither lodge had title to its reserves because such a legal structure did not exist, and thus, neither had any recourse in the face of colonization. More fundamentally, until recently, the national police in Perú's rainforest regions supported the colonists against larger landholders, so enforcement of the reserve boundaries received no official support.

Reforms in the Peruvian land laws since 1994 now make it possible to buy rainforest from the State, turning public lands into private property. Combined with official willingness to enforce private property rights, it is now possible to imagine that rainforest lodges can act as direct agents of conservation. On the other hand, the very act of designating the ZRTC has caused colonization rates along the Tambopata River to increase rapidly, which has led to the clearing of long stretches of forest which had formerly been intact. In part this can be attributed to population growth, as children of the original colonists have taken holdings. Most of the colonization, however, is for speculation, as inhabitants of Puerto Maldonado correctly reason that by establishing holdings inside the re-

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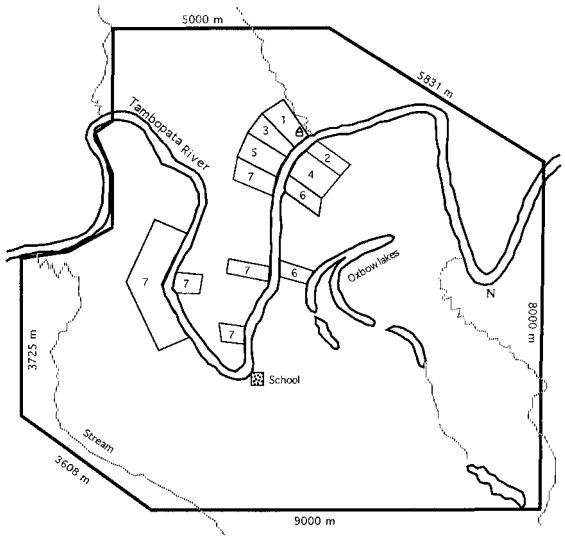


Figure 2 Map of TJL's proposed Reserva Turistica. Numbered plots indicate the order in which concessions were acquired (N = Colegio Newton Lodge, see Fig. 1). Lodge buildings and the school site are indicated by icons. Colonist holdings are arrayed along the entire length of the river on both sides (some of which have been purchased by the lodge and are represented by plots 6 and 7).

serve they may gain control of river frontage, which is expected soon to be a scarce resource. This kind of risk-taking, speculative behaviour is important in the dynamics of ecotourism, as we will show below.

History of Tambopata Jungle Lodge

In 1988, the Cuzco-based tour agency, Peruvian Andean Treks, began to investigate the possibility of constructing a lodge on the Tambopata River. A lodge was a reasonable expansion of Peruvian Andean Treks' booming Andean-based trekking business, especially because many clients had been requesting a rainforest component to their tours, business that Peruvian Andean Treks was then subcontracting to Explorer's Inn. Because there was no legal structure to buy land in Amazonian Perú during this era, the original investor, Raul Medina, applied under his own name for a certificado de poseción (concession) to a plot of land (Plot 1, Fig. 2), upriver from Explorer's Inn (Fig. 1); this was in a manner similar to that of local colonists. These certificados de poseción give colonists the right to hunt, log, and farm a 30 ha plot of land. Concession fees are trivial. Peruvian Andean Treks subsequently became a partner with Medina and ended up becoming the majority partner.

Importantly, certificado-holders do not possess titles to their land, so that they have no rights of ownership; that is, colonists cannot officially buy, sell, or bequeath their plots. Land belongs to the State, and the implication is that the State can repossess concessions at any time in order to make, for example, a park or a road. Significantly, the lack of title also means that certificado-holders receive no legal (police or judicial) protection in the event of boundary disputes or incursions, but they can informally sell their holdings to another party.

In 1991, a year after the ZRTC was declared by the outgoing García presidential administration, plans for the lodge moved ahead rapidly. Construction of the newly-named Tambopata Jungle Lodge (TJL) began. Medina's holdings were transferred to the company Inversiones Maldonado, owned principally by one of the authors (TH). Subsequently, two more pieces of land were acquired. One piece was granted to TJL (25 ha) as a reserve, similar to those of Explorer's Inn and Cuzco Amazónico Lodge. Another 30 ha was granted to TJL under a certificado de poseción, for a total of 85 hectares (Plots 2 and 3, Fig. 2).

Unfortunately, the Gulf War, a cholera epidemic, the onset of a global recession, and terrorist activities caused Peruvian tourism to crash in the second half of 1991. The rapid decline is most strikingly figured in sales in Cuzco of Boletos Turisticos, which are entrance tickets to the major tourist attractions in and around Cuzco. In 1988, sales were estimated at 106 684 Boletos, but in 1992, only 27 447 Boletos were sold (OFEC 1996). In Perú as a whole, official figures recorded 359 281 visitors to Perú in 1988 versus 216 534 visitors in 1992 (PromPerú 1996). We estimate that real, receptive tourism (which we have calculated as total visitors to Perú not counting business people, sailors, people in transit and family visitors) dropped by approximately 75%, from 150 000 tourists in 1988 to 37 000 tourists in 1992. TJL did not open its doors until 1993, and a rapid recovery in tourism saved TJL from bankruptcy. Operations have expanded continuously since 1993, as the tourism sector has seen average, annual growth rates of 29%. Tourism levels in all of Perú now exceed levels last seen in 1988. In 1996, 151 658 Boletos Turisticos were sold (OFEC 1996), and 600 000 visitors were recorded (PromPerú 1996).

TJL received certificados de poseción on another two sites from 1993 to 1994, paying previous colonist holders to transfer their concessions (at approximately US$ 10 per hectare) and expanding total holdings from 85 ha to 215 ha, which included 1920 m of river frontage (Plots 4 and 5, Fig. 2).

In 1991, in part as a direct response to the declaration of the ZRTC, colonists began to claim concessions along the length of the Tambopata River. By 1993, colonists had flanked TJL. Hunting began within TJL's concessions. In 1994, neighbouring colonists measured the north river frontage claimed by TJL and alleged that the lodge was claiming 200 m more river frontage than it actually had certificados for, implying that there had been unmeasured gaps between the various concessions acquired over the past two years (Plots 1, 3 and 5, Fig. 2). Colonists immediately settled and began to clear these gaps. At the same time, the neighbouring colonists formed a *Comunidad Agricola* of 250 inhabitants, (Comunidad Agricola being a legal structure allowing a group of people to apply for state aid in such matters as public works constructions and legal representation). Clearly, the behaviour of the neighbouring colonists was strategic and intended to take advantage of what they saw as an attractive

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economic opportunity. By attempting to take out certificados de poseción to disputed pieces of land within TJL's concessions, colonists were attempting to extract payments similar to those which had been made to the original certificado-holders.

Although Comunidades do not have clearly-defined powers under the law (aside from the right to petition the State for aid), our impression is that such groups wield considerable power over individual members. Members and their families who break Comunidad rules can be denied access to common resources and aid, and can even be expelled from their concessions. Because of the isolated nature of colonial life, the threat of expulsion can weigh heavily in individual decisions, a situation that can prove useful, as we show below.

The difference between land titles and certificados de poseción may seem like legal minutiae, since certificado-holders are able to transfer their holdings to a willing buyer for cash. However, without land titles, TJL was unable to appeal to the police or to the judicial system to resolve the conflict with the Comunidad. Under normal conditions, the concession system of property rights is self-enforcing because the certificado-holder resides on and works his land. TJL, by not farming its concessions, left its territory open to encroachment, exactly as had happened to Cuzco-Amazónico Lodge (and Tambo Lodge upstream from it) and similar to what had occurred to Explorer's Inn.

Fortunately, because the neighbouring colonists had organized themselves into a Comunidad, a negotiated settlement was logistically possible. In December of 1994, TJL promised to help build a school for the Comunidad. In exchange, the Comunidad signed a formal agreement to recognize TJL's permanent claim to the 1020 m stretch of river frontage on the north bank, the 950 m stretch on the south bank, and also agreed to allow TJL to take out concessions along an additional 930 m of river frontage on the north bank. The Comunidad also promised to forego hunting, farming and the extraction of forest products on all of this land.

In the same year, the legal environment changed drastically when the government of Perú made formal the process for granting title to land in its Amazonian regions. TJL immediately purchased from the State the 1020 m of river frontage on the north bank of the river and the 950 m along the south bank (amounting to 194 ha after correcting for river bends), paying the State the equivalent of US$ 7705 over five years at current exchange rates (Plots 1 through 5, Fig. 2). In 1996, TJL paid colonists to transfer a total of 106 ha of concessions, at approximately US$ 40 per hectare (Plots 6, Fig. 2).

In January 1997, all colonists on the Tambopata River and TJL, but not the Comunidad Nativa of Infierno, were given title to their concessions (Plots 6). The original State plan was to have the colonists buy their concessions as did TJL, but presumably at a lower price. Subsequently, the plan was revised to omit payment but instead to require recipients of titles to reforest their concessions with citrus and timber trees. Finally, colonists were simply given titles outright. TJL then purchased a further 360 ha from neighbouring colonists, again at approximately US$ 40 per ha (Plots 7, Fig. 2).

Currently (April 1997), TJL and the Comunidad have decided on a site for the school (Fig. 2), designed the structure, agreed on the partition of labour and materials, and are applying for state aid, filing for the necessary governmental permits and conducting a census of school children.

Although the purchase of land titles on TJL's lands has almost eliminated the threat of colonization, the maintenance of the ban on hunting and extraction will require a complicated system of self-policing and a system of penalties. Since the agreement has been signed, only one case of hunting has occurred. The Comunidad has sanctioned the transgressor by threatening him with expulsion. Whether the agreement between TJL and the Comunidad will be sustained over the long term depends mainly on whether the colonists judge good relations with TJL to be worth the economic costs of forgone extraction and the political costs of self-policing. This judgement turns on finding ways for the lodge to provide continuous, discrete benefits to the Comunidad. Some prospects include paying teachers' salaries and providing books.

Another possibility, of course, is to provide employment for members of the Comunidad. TJL now has 20 employees. Projections have TJL running at close to maximum capacity (6000 tourists per year) in five years, and the lodge would then need approximately 42 employees. Conservatively speaking, 42 employees translates to 30 families, since several employees would be single. If we assume that these 30 families would normally be colonists, then ecotourism would definitely have a salutary effect on efforts to protect an area. However, experiences of the lodges in the Tambopata area suggest that this direct connection, hiring local colonists, is unlikely to be successful.

Local colonists are mostly unable to fill specialized jobs as managers, administrators, guides, *motoristas* (riverboat pilots), or cooks. For example, TJL must currently hire its guides from a combination of foreign and Peruvian biology students. Nor have the local colonists, who are after all, in their own fashion, landowners, wished to step down the social and economic ladder and take on the structured life of labourers. Explorer's Inn has also found this to be true for employees from the Comunidad of Infierno. Thus, although both TJL and Explorer's Inn have on several occasions hired local colonists on a temporary basis, most permanent employees are hired from the pool of workers in nearby Puerto Maldonado. Few, if any, of these employees are potential colonists, instead originating from the large service economy that characterizes much of Puerto Maldonado. In the future, however, students at the Comunidad school may find permanent employment with TJL. The hope is to inculcate the students with an appreciation for nature conservation while at the same time providing them with the language and clerical skills necessary for work in the tourism industry.

In 1991, TJL began to file *solicitudes* (legal petitions) to encourage the government to establish an 11 000-ha protected

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Zona Reservada dedicated to tourism (Figs. 1 and 2), at that time under the same legal code that governed the Cuzco-Amazónico Lodge's and Explorer's Inn's reserves. In 1994, the concept of 'Reservas Turisticas' was introduced and made formal under the same legal code that allows the granting of title on rainforest land, thus affording Reservas Turisticas official protection. Potentially, a Reserva Turistica, as it is currently legally constituted, will prevent further colonization within the proposed 11 000 ha area and limit the activities of colonists already present. Plans are then to buy out willing colonists within the boundaries of the protected area.

However, the project was delayed at its inception, because the Peruvian Instituto Nacional de Recursos Naturales (INRENA), which administers protected areas, was promoting its plan to turn the entire, original ZRTC into a National Park (Fig. 1). INRENA reasoned that since a National Park designation prohibits hunting and new colonization, a Reserva Turistica was unnecessary. INRENA also planned to limit further the activities of colonists and miners within the proposed park's boundaries. INRENA's plan was rejected, and in August of 1996 the more limited Bahuaja-Sonene (Tambopata-Heath) National Park was established. The new Park does not include any of the ecotourism lodges within its boundaries, but three lodges, including TJL, are found within the borders of the new ZRTC (Fig. 1). Whether INRENA will now approve a Reserva Turistica for TJL, or further control the activities of colonists and miners within the new ZRTC and thereby provide sufficient protection to the area surrounding TJL, is unknown.

Discussion

Assumptions of the Standard Model

Even this short summary of TJL's history demonstrates that the interactions among colonists, tourist lodges and the State, are far more complicated and fraught with moral hazards (in the strict economic sense) than foreseen in the Standard Model. Most importantly, as a major source of employment for colonists, tourist lodges in the Tambopata region have failed. The necessities of the tourist trade (language abilities, specialized vocational skills, and structured work routines) make it difficult for even the best-intentioned tourist lodges to provide much direct employment to local peoples in the Madre de Dios region. More fundamentally, the Standard Model makes two assumptions that do not necessarily hold true; these are that increasing local incomes will reduce ecological damage, and that increased ecological damage will reduce tourism.

Increasing local incomes will reduce ecological damage

Even if revenues generated by tourism were to increase local incomes directly, there is no guarantee that increased incomes would reduce the rate at which forests are converted to farmlands or even that the rate of hunting would decrease (Brandon & Margoluis 1996). More likely, the opposite will happen. Cash income may make the cost of shotgun cartridges and of gasoline for chainsaws less forbidding. Also, by providing a source of temporary employment, lodges can reduce the risks of being a small-scale agriculturist. Such considerations can attract colonists to the area around a tourist lodge, a phenomenon known in the development literature as the magnet effect (e.g., Powell & Gibbs 1995). Exactly such a dynamic seemed to be operating in the scenario outlined above.

It now seems evident that the primary incentive for colonizing the area directly upstream of TJL was land speculation, once it became publicly known that TJL was buying out concessions for conservation. The evidence for our interpretation is the rapidity with which the colonists are now selling TJL their land, especially now that titles have been granted. Movement into the area surrounding TJL over the past four years has thus generated a US$ 40 per ha return on investment to colonists.

Increased ecological damage will reduce tourism

The complementary assumption is that ecotourists will avoid ecologically-damaged natural areas, giving tourism concerns and their beneficiaries the incentive to limit hunting and farming. The bare truth is that given the limited information available to most tourists, the fact that most visitors to rainforest lodges are on package tours, and the surprisingly small amount of land needed to stage a walk in the woods, it is reasonable to conclude that the level of ecological damage explains very little of the variance in visitation rates to lodges in Tambopata and probably elsewhere. Most tourists are simply unable to judge the quality of a forest and are even less likely to pass this information on to prospective tourists. In fact, colonists and gold miners are themselves tourist attractions in Tambopata. Cuzco-Amazónico Lodge has long advertised a visit to a mining camp as part of its package, and the colonization of its reserve has not noticeably reduced its visitation rates. The Comunidad of Infierno is unlikely to reduce farming or hunting rates in order to accomodate tourism, especially since they apparently plan to emphasize *cultural* tourism, that is, visiting the village and its farms. The reputation of the Tambopata region as a whole serves to attract tourists to all lodges. The point is that to make money in Tambopata in the short term, individual lodges are not compelled to make conservation a priority. This is a classic free-rider situation, and hardly a sound foundation on which to base a conservation strategy. However, TJL's experiences suggest two ways in which tourist lodges can choose to promote the protection of natural areas.

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Touristic concerns as catalysts of communal ownership

By entering into an agreement with the neighbouring Comunidad, TJL is effectively promoting the communal ownership of a public resource, the surrounding forest. The mutual policing and sharing of a resource, or in this case, the communal agreement to forego a resource (hunting and farming) in favour of another resource (the school), helps to solve the Tragedy of the Commons problem inherent in public resources (Gordon 1954; Hardin 1968). Communal ownership has governed the sustainable use of public resources in rural societies for centuries, and the breakdown of such communal resource sharing and policing due to rapid modernization has been a fundamental cause of environmental degradation and rapid population growth in much of the developing world (reviewed in Dasgupta 1993, 1995). At the local level, touristic concerns can catalyse the initiation of the communal management of natural resources.

However, it is unlikely that a majority of lodges have the will, credibility or even the managerial ability to *sustain* such agreements. Explorer's Inn's experience with the Comunidad of Infierno exemplifies what we see as the long-term risk facing Tambopata Jungle Lodge. As soon as an agreement breaks down (perhaps as a result of an economic downturn, turnover in lodge management or Comunidad leadership, or in the case of Explorer's Inn, disregard for prior agreements), colonization and hunting begin. The damage wrought by such encroachment is effectively irreversible, and, even if a lodge and its neighbours re-negotiate an agreement of non-encroachment, over time, successive breakdowns will ratchet their way to the disintegration of a reserve. However, as we argue above, one factor working in TJL's favour is the fact that the lodge has title to its lands, thus affording the lodge some official protection from colonization, if not hunting. In that respect, TJL has a much stronger negotiating position than did Explorer's Inn. We expect that TJL will be able to maintain control over its lands for far longer than did Explorer's Inn, and therefore, the purchase of additional land is a conservation priority.

On the other hand, as fluid as conditions are in developing countries, it is difficult to imagine that any ecotourism project, even with land titles, can reconcile local economic interests and State-level conservation goals over a truly significant period of time (at least several decades). For example, the State could conceivably modify rights to titled land, so as to allow incursions by neighbours. We perceive the lack of long-term legal and economic stability in developing countries to be the Achilles' heel of many sustainable development projects, not only of ecotourism. Worse, TJL's agreement with the Comunidad may be ultimately self-defeating due to the magnet effect. And finally, even if ecotourism in Perú could stabilize local land-use patterns over the long term, without State help ecotourism is never going to be able to protect the hundreds of thousands of hectares needed for a rainforest reserve to be ecologically viable.

Touristic concerns as national-level interest groups

At this point, the prospects for ecotourism as a conservation strategy may seem irredeemably grim. However, we would like to propose another way in which touristic concerns can effect environmental reforms. As one of Perú's major earners of foreign exchange, tourism exerts a growing and significant influence on national policy. Reflecting this influence, a bill was introduced recently in the Peruvian Congress to upgrade the current Vice-Ministry of Tourism to the level of a full Ministry, putting tourism on equal footing with the Ministries of Agriculture and Mining. Significantly, the bill proposes to take INRENA, the agency charged with proposing and protecting natural areas, out of its problematic location within the Ministry of Agriculture and place it within the proposed Ministry of Tourism. The fate of this bill is uncertain, but the proposal exemplifies what we consider to be the most promising level at which tourism can promote conservation: the national level. It is no coincidence that ecotourism success stories are usually narrated at the national level.

Certainly, we do not wish to suggest that the goals of tourism and conservation never conflict. The recent ecotourism literature concerns itself largely with the deleterious effects of tourism on local cultures and ecosystems of visited areas (Boo 1990; Perlez 1991; Weiner 1991; Whelan 1991; Cater & Lowman 1994). However, unlike many of the other natural areas visited by tourists (coastlands, islands, waterways and alpine areas), tropical forests are very resilient in the face of trail cutting and other typical touristic activities, in part because of the physical inaccessibility of most of the flora and fauna. In the face of alternatives like farming, logging and oil drilling, tourism is a remarkably benign way to balance the sometimes contradictory goals of biological conservation and economic development.

The Peruvian tourist industry is becoming aware that Perú has the potential to become one of the world's most important purveyors of ecotourism, both for the quality of its product (e.g., Manu, Tambopata, Huascarán, and Paracas), and for its outstanding complementary cultural attractions (e.g., the Nazca lines and Macchu Picchu; Monitor Company 1995). Ecotourism is thus becoming an important strategic tool to differentiate and promote the entire Peruvian tourism industry in the face of increased competition on the world market. Because Tambopata is accessible by daily jet flights from Perú's touristic centerpiece, Cuzco, the Tambopata region will necessarily be the principal attraction in Peruvian ecotourism. However, only by stabilizing colonization and other forms of land use will the long-term reputation and viability of Tambopata be maintained.

The tourist industry has already become involved in national-level conservation planning. A German-sponsored aid project, called the Plan Director, recently surveyed Perú's existing parks and reserves system and outlined a comprehensive land-use policy which was presented to the Peruvian Congress in 1996. Two elements of the Plan Director in-

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cluded upgrading the ZRTC to a National Park and taking INRENA out of the Ministry of Agriculture. Peruvian Andean Treks, in conjunction with many other tourist agencies (Peruvian Association of Adventure Travel and Ecotourism, and Eco-Tour Manu, which is an association of ecotourism operators in Manu Park), participated extensively in the formation of the Plan Director.

The tourist industry, which includes tour agencies, hotels, airlines, restaurants and entertainment, is the fastest-growing sector of Perú's economy and is now the third-largest generator of foreign exchange, after copper and fishmeal (PromPeru 1996). The industry's clout contributed significantly to Perú's decision to establish the Bahuaja-Sonene National Park in the centre of the ZRTC in August 1996. This occurred despite conflict with Mobil Oil's prospecting plans and with the proposal to extend the Trans-Amazon Highway (or Trans-Oceanic Highway, as it is now politely called) along the road from Puerto Maldonado to Cuzco (Fig. 1). The establishment of the park does not represent a full victory for the ecotourism industry, given that the park's boundaries do not include any of the region's tourist lodges, and that the Park is considerably smaller than originally proposed. However, at least some portions of the prospecting concession ceded to Mobil Oil will be added to the Park if not used in oil production. Reservas Turisticas are now needed to extend the benefit of protection to the local areas surrounding each lodge.

Conclusions

Significant environmental conservation in the Peruvian Amazon will necessarily run counter to the interests of local inhabitants. Ecotourism can bring about temporary truces in the conflict between development and conservation by transferring some of the benefits of conservation to local inhabitants, at least over the short term. Over the long term, State involvement, including enforcement of local land titles and park boundaries, will be needed to maintain habitat conservation.

As mentioned above, in January 1997, all colonists on the Tambopata River, except for the Comunidad Indigena of Infierno, were given title to their concessions. We interpret the outright gifts of titles as the State buying political support from the colonists. Such rapid policy changes bode ill for habitat conservation in developing countries because they demonstrate the political and economic fluidity that we identified above as being a major obstacle to long-term habitat protection. In particular, Reservas Turisticas may be the only way to assure that future policy changes with respect to titled land, or oil exploration, will not have an effect on the tourism industry and the conservation of land within these reserves.

Long-term conservation will therefore turn on the ability of the tourism industry to pressure the State to enforce a consistent land-use policy in the future. Finally, we note that long-term consistency in land-use policy has not been a prominent feature of developing countries.

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References

Boo, E. (1990) *Ecotourism: the Potentials and Pitfalls*. Volume 1. Washington, DC, USA: World Wildlife Fund: 85 pp.

Brandon, K. & Margoluis, R. (1996) The bottom line: getting biodiversity conservation back into ecotourism. In: *The Ecotourism Equation: Measuring the Impacts*, eds. J.A. Miller & E. Malek-Zadeh, pp. 28–38. New Haven, Connecticut, USA: Yale University, Yale School of Forestry and Environmental Studies Bulletin Series, Vol. 99.

Brooke, J. (1991) Brazil's forests in the balance. *The New York Times* May 19: XX–9.

Cater, E. & Lowman, G. (1994) *Ecotourism: a Sustainable Option?* Chichester, UK: John Wiley and Sons: 218 pp.

Colvin, J.G. (1994) Ecotourism: a sustainable alternative. *NACLA Report on the Americas* Sept.–Oct. 1994: 9.

Dasgupta, P.S. (1993) *An Inquiry into Well-Being and Destitution*. Oxford, UK: Clarendon Press: xii + 661 pp.

Dasgupta, P.S. (1995) Population, poverty and the local environment. *Scientific American* 272: 40–6.

Duellman, W.E. & Koechlin, J.E. (1991) The Reserva Cuzco-Amazónico, Perú: biological investigations, conservation, and ecotourism. *Occasional Papers of the Museum of Natural History, The University of Kansas, Lawrence* 142: 1–38.

Erwin, T.L. (1984) Tambopata Reserved Zone, Madre de Dios, Perú: history and description of the reserve. *Revista Peruana de Entomologia* 27: 1–8.

Foster, R.B., Parker, T.A., III, Gentry, A.H., Emmons, L.H., Chicchón, A., Schulenberg, T., Rodriguez, L., Lamas, G., Ortega, H., Icochea, J., Wust, W., Romo, M., Castillo, J.A., Phillips, O., Reynel, C., Kratter, A., Donahue, P.K. & Barkley, L.J. (1994) *The Tambopata-Candamo Reserved Zone of Southeastern Perú*: *A Biological Assessment*. Washington, DC, USA: Conservation International: 184 pp.

Gentry, A.H. (1988) Changes in plant community diversity and floristic composition on environmental geographical gradients. *Annals of the Missouri Botanical Garden* 75: 1–34.

Gentry, A.H. (1990) *Four Neotropical Forests*. New Haven, CN, USA: Yale University Press: xiii +627 pp.

Gordon, H.S. (1954) The economic theory of common property resources. *Journal of Political Economy* 62: 124–42.

Hardin, G. (1968) The tragedy of the commons. *Science* 162: 1243–8.

MacGregor, J. (1996) Developing a national sustainable tourism strategy: going beyond ecotourism to protect the planet's resources. In: *The Ecotourism Equation: Measuring the Impacts*, ed. J.A. Miller & E. Malek-Zadeh, pp. 10–26. New Haven Connecticut, USA: Yale University, Yale School of Forestry and Environmental Studies Bulletin Series, Vol. 99.

https://doi.org/10.1017/S0376892997000192 Published online by Cambridge University Press

Monitor Company (1995) Construyendo las ventajas competitivas del Perú, turismo. Resumen ejecutivo. Unpublished report, private study commissioned by the Peruvian tourist industry: 22 pp. (copy available from the first author upon request).

Munn, C.A. (1992) Macaw biology and ecotourism, or 'When a bird in the bush is worth two in the hand'. In: *New World Parrots in Crisis: Solutions from Conservation Biology*, eds. S.R. Beissinger & N.F.R. Snyder, pp. 47–4. Washington, DC, USA: Smithsonian Institution Press.

Nowak, R. (1995) Uganda enlists locals in the battle to save the gorillas. *Science* 267: 1761–2.

Nycander, E. & Holle, K. (1996) Rainforest expeditions: combining tourism, education, and research in Southeastern Amazonian Peru. In: *The Ecotourism Equation: Measuring the Impacts*, eds. J.A. Miller & E. Malek-Zadeh, pp. 169–81. New Haven, Connecticut, USA: Yale University, Yale School of Forestry and Environmental Studies Bulletin Series, Vol. 99.

OFEC (1996) Turismo receptivo: Extranjero, cuadro comparativo de ventas del boleto turistico por meses, Oficina Ejecutiva Del Comite, November 1996, 1 p.

Perlez, J. (1991) An African park in peril. *The New York Times* May 19: XX–20.

Powell, J.R. & Gibbs, J.P. (1995) A report from the Galápagos. *Trends in Ecology and Evolution* 10: 351–4.

PromPerú (1996) El turismo es el sector mas dinámico de la economia Peruana. Report, Comisión de Promoción del Perú, PromPerú, Edificio Mitinei (piso 13), calle 1 s/n, Córpac, Lima 27, Peru December 1996, 2 pp.

Stutz, B. (1993) The joys of the jungle. *Audubon* July–Aug. 1993: 62–71.

Taylor, M.R. (1994) Go, but go softly. *Wildlife Conservation* March/April 1994: 12–18.

Weber, A.W. (1987) Socioecologic factors in the conservation of afromontane forest reserves. In: *Primate Conservation in the Tropical Rainforest*, eds. C.W. Marsh & R.A. Mittermeier, pp. 205–29. New York, NY, USA: Alan R. Liss, Inc.

Whelan, T. (1991) *Nature Tourism: Managing for the Environment*. Washington, DC, USA: Island Press: 223 pp.

Weiner, E. (1991) Ecotourism: can it protect the planet? *The New York Times* May 19: XX–15, 26.

https://doi.org/10.1017/S0376892997000192 Published online by Cambridge University Press