Tourism as a Conservation Tool

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Abstract — Tourism and conservation interact principally through public visitation to public protected areas. In addition, however, tourism can generate funding and political support for conservation in multiple-use areas, community conservancies or private reserves. These tenures are likely to prove increasingly important for conservation under growing pressure from human population growth and anthropogenic climate change. The most successful model seems to be through up-market wildlife-watching lodges in private reserves adjacent to larger public protected areas in developing countries. Private companies such as Conservation Corporation Africa and Wilderness Safaris, operating principally in sub-Saharan Africa, have developed successful business models which do also make significant net contributions to conservation of biological diversity.

Index Terms — Connectivity, funding, ecotourism, wildlife.

1 Introduction

The tourism and conservation sectors exist independently of each other; neither exists to serve the other; and to a large degree they operate with little interaction or overlap. Where they do overlap significantly, however, the interactions between them become critical to both. The largest area of overlap is public visitation to public protected areas, the principal focus of the MMV series; and the most critical aspect of the interaction is indeed the monitoring and management of visitors to minimise their impacts on protected-area ecosystems.

My aim here, however, is to identify other areas of overlap and other types of interaction, and to examine how they may be relevant to the MMV mandate. In particular, I focus on the role of tourism as a tool rather than a threat to conservation. It is important to note at the outset, however, that whilst this role may become more significant in future, it is as yet rather small. Mainstream research in parks and recreation ecology and management, the core disciplines of most of the MMV constituency, is still the main game for tourism and conservation, and will remain so for a long time yet. My aim here is to draw attention to some new and additional directions, but this does not mean that we should neglect our traditional interests.

I shall approach my task in three main steps. The first is a brief structural overview of the tourism and conservation sectors respectively, to identify the scale, types and characteristics of major interactions, and their current and potential significance in developing and developed nations respectively.

This is intended to provide a context for the second step, where I present some examples and case studies of the various models and mechanisms used to harness tourism as a tool in conservation. Finally, I attempt to forecast how these approaches may increase or decrease in significance in future, as the global climates and economic structures continue to change.

2 Definitions, Structures and Interactions

Both tourism and conservation can mean different things to different people, so the first preliminary is to define what is included here. For tourism, the key definitional issue is that it includes individual leisure and holiday travel, and this in turn includes holiday visitation to

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national parks and other conservation areas. Many visitors to protected areas, however, especially for parks near to urban centres in developed nations, are local residents making day visits only. These are counted in park visitation statistics but not in tourism statistics. For conservation, the key definitional issue is that it includes all measures and efforts to conserve biodiversity and ecosystem services on all types of land and water tenure, including all private and public holdings and landscape-scale connectivity approaches as well as national parks and other public protected areas.

In numerical terms, whether counted in tourists, visits or expenditure, the bulk of the tourism sector is urban. There is a large and financially significant outdoor subsector, estimated to comprise about one fifth of the industry worldwide. This corresponds to an annual turnover of the order of one trillion dollars (US) globally, including mechanised equipment and fixed-site resorts, but not associated residential development. Most of the outdoor tourism sector, however, is adventure rather than nature-based. It includes a number of large-scale mechanised activities with high environmental impacts which are of course familiar to members of MMV. Most of the activities occur on land and water outside protected areas, but they have conservation impacts nonetheless, and some do also take place inside particular protected areas.

Contemplative nature-based tourism forms one component of the outdoor tourism subsector, smaller in economic terms than mechanised adventure activities but probably larger in the number of individual people involved, especially in older age groups. This component includes the majority of visitors to public protected areas. Ecotourism is a small segment of nature based tourism, including both commercial and non-profit operations and defined by additional management, education and conservation criteria [1].

The core of global conservation efforts consists of the formal public protected areas in the national reserve systems of individual countries, as recognised by IUCN. Since these formal reserves cover only a tenth or so of global land area, however, conservation also depends on remnant ecosystems in other land tenures, which are undergoing continuing attrition [2]. As a result, and given the increasing political difficulties in expanding formal protected area systems in countries with growing populations, conservation efforts have begun to include various landscape-scale connectivity approaches [3]; [4]. These include both community and private landholdings [5], and public forests and rangelands nominally allocated for multiple use [6]. The relative scale and significance of different land tenure types for both tourism and conservation differ greatly between continents and between developed and developing nations. In addition, there are remote wilderness areas either within or outside national jurisdictions, but with little or no infrastructure or permanent human presence, which can be highly significant for conservation irrespective of formal tenure.

Under the broad definitions as adopted above, the major interactions between tourism and conservation may be summarised as follows. Outdoor tourism as broadly defined operates largely outside protected areas; partly inside protected areas; and to a small degree in remote wilderness areas. In multiple-use areas, even though adventure tourism produces significant environmental impacts, it may sometimes help to focus land managers' attention on recreation and conservation rather than primary production [7]. In protected areas, many forms of adventure tourism produce major negative impacts on conservation and major practical difficulties for management agencies; but are tolerated either because of historical precedent or current political pressures, or in order to maintain a political constituency. In remote wilderness areas, outdoor tourism takes the form of expeditions which may help to attract public attention to conservation values and issues, but may also create impacts especially if large-scale rescues are required.

Contemplative nature-based tourism operates largely though not entirely in protected ar-

eas, private as well as public. The impacts and management of visitors to public protected areas, the fees they may be charged and the political support they may engender, are very familiar to participants in the MMV series [8], [1], [9], [10]. They need not be re-examined here, except to reiterate that these are still the principal current links, both positive and negative, between tourism and conservation. We should also note that there are commercial wildlife watching tours in other land tenures and in remote wilderness areas, and these are often significant for conservation.

My focus here is on mechanisms by which tourism can make a net positive contribution to conservation, through positive contributions large enough to outweigh negative impacts. The mechanisms may be political, social or economic, or commonly some combination of these. Tourism is often invoked as one political justification for the establishment of protected areas, for example, in both developed and developing nations. Park fees offset management costs in developed nations, and generate net foreign exchange earnings for governments in their developing counterparts. Continuing political support is needed to maintain conservation management in the face of other pressures, whether for oil drilling in Australia's Great Barrier Reef or the Arctic National Wildlife Reserve, or for clearance and subsistence agriculture in parts of Asia and Africa.

In the next section I present some examples of such models and mechanisms, and attempt to illustrate the social, environmental, economic and political dimensions in different countries. I focus on examples where I myself have some direct on-site experience; but even so, one cannot always be confident of understanding political processes, especially in countries with different languages and cultural traditions – or indeed, even in one's own local neighbourhood. That is, I present my perceptions of particular models involving tourism and conservation, but with the proviso that others with greater local experience might well see additional aspects of each case.

3 MODELS AND MECHANISMS

The approaches used to harness tourism as a tool in conservation differ considerably between continents and countries and between tour operators and organisations. There are no standard models, but a menu of approaches which may be tailored to different circumstances. Approaches which have proved successful in one set of circumstances do not necessarily work as well in another, even for the same organisation.

Possible mechanisms for tourism to contribute to conservation include: mandatory fees and voluntary contributions in cash or in kind to public protected area agencies; conversion of other public lands to conservation use through direct political lobbying by tour operators or clients; support for non-government conservation organisations to conduct such lobbying; and the conversion of private or community landholdings from primary production to conservation use through direct financial means.

Many public protected areas charge entry, camping and activity fees both for individual visitors and for commercial tour clients. In most developed countries, per capita fees are generally less than per capita costs of visitor infrastructure, so there is no net contribution to conservation. In some developing nations, park fees from international visitors do constitute a net financial contribution, but governments often appropriate these funds centrally, with no direct link to conservation. A few tour operators do also make direct voluntary in-kind contributions to conservation management in particular public protected areas. Examples include: staff salaries for park rangers and anti-poaching patrols; vehicles and radios; bounties for animal snares; and ecological monitoring [11].

Tour operators have sometimes supported non-government conservation groups. Approaches include: sponsoring transport and accommodation, as at Khutzeymateen in Canada; providing land and infrastructure, as at Walindi in Papua New Guinea [7]; running tours for conservation organisa-

tions, with cash contributions from the price paid by participants; direct cash donations from the tour operator; and donations from tour clients.

Tour operators could lobby directly on behalf of conservation, but this seems to be rare in practice. Attempts to promote tourism as a conservation alternative to whaling in Iceland [12] or to logging or hydroelectric dams in Australia, Chile, China, Indonesia or Papua New Guinea [1] rarely seem to have been successful. There seems little evidence that a nature tourism experience converts commercial clients to conservation lobbyists [13], [14]; and even if it did, there would be no net conservation benefit unless their lobbying outweighed impacts.

A number of major international environmental NGOs are indeed involved in tourism projects, sometimes with commercial tourism partners. The Worldwide Fund for Nature is reported as involved in projects in South Africa, Namibia, Belize and Greece; Conservation International in the Philippines, Indonesia, Brazil and Panama; and The Nature Conservancy in China and Mexico [11], [1]. In Australia, the Mareeba Wetlands Foundation runs tourism and conservation operations in a private reserve in the tropical north [15]. There are other examples in Chile, Ghana, the Seychelles, the United Arab Emirates and Zambia [1]. I have not visited or audited any of these in person, except for the Al Maha Oryx reserve in the UAE.

The most effective approach for tourism to contribute to conservation seems to be the most direct. Tourism generates revenue, which can be used to fund private or community conservation reserves. Examples have been described for case studies in South Africa [16], Brazil [17], Greece [18], Australia [19] and worldwide [11]. The importance of involving local residents in such efforts has been reemphasised by recent research in Nepal [20], Tanzania [21] and a number of southern African nations [22]. Some successful models of this approach are outlined below.

4 Funding private and community conservation reserves

If a reserve is funded entirely through tourism, then the service and hospitality components must generate a sufficient surplus to cover conservation management costs. In practice this is rarely possible unless the property has an icon attraction for which there is a strong demand. In most instances this is scenery and/or wildlife. In addition, since the need to cover conservation costs means that prices must be relatively high, clients will then expect a high level of service quality, and this in turn will increase prices still further. The most successful model for private conservation reserves funded by tourism hence seems to be through up-market luxury game lodges with skilled staff who can provide a particularly memorable wildlife watching experience, often with animals which are at least partially habituated, and which may be managed to maintain particular population densities.

Private conservation reserves and community conservancies funded by tourism are becoming increasingly commonplace worldwide [11], [1], [23], [24], [5], [25], [26]. The best-known and earliest examples are in southern Africa, particularly in Botswana, Namibia and South Africa itself [22]. Companies such as [27] and [28] have developed successful business models which rely on wildlife tourism to fund quite large-scale conservation efforts, including habitat restoration, anti-poaching efforts and wildlife relocation programmes (author, pers. obs. 2001-2008). Wilderness Safaris (2008), for example, has brought over a million hectares of land in Botswana and Namibia, principally community land, into conservation use. Conservation Corporation Africa (2008) (CCAfrica) has successfully established a considerable number of private conservation reserves funded through tourism, largely in South Africa, and has pioneered restoration, restocking and wildlife relocation techniques.

Tourism funds the private reserves of the Sabi Sands area, which has effectively added 65000 ha to Kruger National Park in South

Africa [11], [29], and the Madikwe private reserve adjacent to the Botswana border [23], [30]. There are many individual operators in each, including CCAfrica. In Madikwe, the individual landowners have removed internal fences and operate the entire area as a single co-managed reserve. In Sabi Sands, they have not only removed fences between private reserves, but also between these and the public national park. CCAfrica also established the Phinda private reserve which extends the St Lucia World Heritage Area in south-eastern South Africa, and the Kwandwe reserve which provides critical habitat for the endangered blue crane in the southwest. In addition, it pioneered capture, translocation and "soft release" techniques for active population management of a number of endangered wildlife species, a key step in using tourism as a conservation tool.

Similar approaches have been followed by Wilderness Safaris. Its Ongava private reserve, adjacent to Etosha Pan national park in northern Namibia, effectively extends the area of the public park and is separated from it by a "semi-permeable" fence which allows some animal species through whilst retaining others. A series of adjacent community conservancy areas leased by Wilderness Safaris and funded by tourism is gradually building a conservation corridor between the Etosha Pan ecosystems of northeastern Namibia and the arid ecosystems of the Skeleton Coast in the northwest, habitat for desert-adapted elephant. This corridor runs adjacent to the border with Angola, and once politics allow, cross-border connectivity will also be feasible. In late 2006 the tourism ministers of Angola, Botswana, Namibia, Zambia and Zimbabwe signed an MOU to set up a 5-nation Kavango-Zambezi Transfrontier Conservation Area [31]. It is intriguing that the countries concerned were represented by tourism rather than environment portfolios in such negotiations. Internal corporate goals for both CCAfrica and Wilderness Safaris include even more ambitious multi-country conservation corridors.

South of the Skeleton Coast, Wilderness Safaris leases a community conservancy which supports the largest remaining population of desert-adapted rhinoceros. It also supports extensive research on rhino populations, ecology and conservation, both directly and through an NGO, [32]. In Botswana, it funded the reintroduction of rhino, previously poached to local extinction, into the publicly owned Moremi reserve in the Okavango Delta, and leases large areas which it runs for conservation funded by tourism.

A large number of smaller companies have adopted similar models, though with fewer sites and smaller areas. Similar tourism-based models, often run by the same companies, also help to fund conservation in public conservation reserves and conservancies in east Africa and elsewhere. CCAfrica (2008), for example, operates a series of private reserves in east Africa, leased from the national governments and converted from subsistence agriculture and hunting to wildlife conservation [7]. These effectively extend the protected area of the Serengeti ecosystem. It has established a marine reserve at Mnemba Island off the coast of Zanzibar [7], similar to the private marine reserve at Chumbe Island [11]. Through a joint venture known as Taj Safaris, CCAfrica has recently built 4 tourist lodges to support tiger conservation in India. It is currently providing technical expertise to relocate gaur, the endangered Indian wild ox, as part of a continent-wide conservation program.

Critiques of the approach adopted by companies such as these have been provided recently by [22] and [30] for Madikwe and Sabi Sands in South Africa; [22] and [33] for conservancies in Namibia; [34] for the Okavango area in Botswana; and [35] for Tanzania including the Klein's Camp concession operated by CCAfrica. The focus of these authors is on community benefits rather than conservation, and they conclude that a number of local communities in these areas have indeed benefited considerably from upmarket private game lodges, though a variety of mechanisms.

5 The Future

Conservation seems likely to face increasing challenges worldwide in future [36]. The global human population continues to grow, and the greatest growth is in large newly-industrialised nations such as China and India, where protected area systems are relatively weak. In addition, both developed and newly-industrialised nations in both East and West continue to exploit natural resources in areas of high conservation value in developing nations, where conservation frameworks are even weaker and conservation impacts correspondingly more severe. These effects will also be compounded, over forthcoming decades, with those of anthropogenic climate change. This will increase pressures on existing national reserve systems, and simultaneously reduce public funding for conservation by creating other urgent social needs which will compete for public funds.

To conserve biological diversity and ecosystem services under such circumstances, existing public protected areas and landscape-scale connectivity approaches will both be critical. If the impacts of tourism in parks can be reduced through better monitoring and management of visitors, that will help to increase the resilience of protected-area ecosystems to other stresses such as those from climate change. And if the revenue-generating potential of tourism can be harnessed through social and political processes as a tool to help in off-reserve conservation, that will help to alleviate the continuing loss in remnant ecosystems outside the national reserve systems. Various mechanisms have been proposed, including an attempt to link connectivity conservation approaches across national boundaries into a single globally-branded "world wild web" able to attract major funding from carbon mitigation measures [23]. Meanwhile, models developed by tourism operators such as CCAfrica, Wilderness Safaris and their counterparts elsewhere surely deserve expansion, replication and encouragement.

At a global scale, tourism has become a significant source of funding for connectivity conservation, though currently much more prevalent in particular regions and restricted to a relatively small set of tourism operators. The tourism industry more broadly does not necessarily contribute to conservation, and indeed generates a wide range of ecological impacts; but if an adequate conservation framework is in place, tourism can generate significant funding to support it. Indeed, for a small number of leading ecotour operators whose owners are driven by conservation concerns, they may also help to establish such conservation frameworks, by providing examples of what can be achieved.

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