

Status Assessment of Tourism on the Sigur Plateau, Tamil Nadu

Impacts and Recommendations



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A report compiled for the Nilgiri and Eastern Ghats
Landscape Office of WWF India

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Contents

Introduction	2
Location and Aim of Report	4
Methods.....	5
Results.....	6
Number of tourist facilities available.....	6
Types of facilities available	6
Facilities' compatibility with the landscape goals.....	8
Community related benefits	13
Constraints faced by the tourist facilities	14
Potential Impacts of Present Tourism Trends on the Sigur Plateau	16
Impacts on wildlife and natural areas.....	17
Vegetation.....	17
Impacts from Utilities.....	18
Impacts on local communities	19
Recommendations	20
Responsible tourism on the Sigur Plateau	20
Wildlife tourism on the Sigur Plateau	23
Conclusion.....	27
Acknowledgements.....	28
References	28

Introduction

Global tourism is increasing every year with the number of people travelling abroad reaching 903 million in 2007 (WTO, 2008). The United Nations World Tourism Organisation (WTO) has predicted that the number of international arrivals will reach 1.6 billion by the year 2020, with 1.2 billion of those being intra-regional travelers and 378 million being long-haul travellers (WTO, 2008). In India alone, in 2007 over 4.97 million tourists arrived in the country, an increase of almost 1.06 million arrivals per year since 2005 (UNWTO, 2008).

Income from the tourist industry is also increasing with the total international receipts in India reaching US\$ 10,729 million in 2007 (WTO, 2008) representing a huge economic boost for the country. Tourism is generally viewed by governments, especially in the third world, as a means of economic development and as a result, investment in the industry is usually encouraged (Glasson *et al.*, 1999 and Hall, 1995 as referenced in Mbaiwa, 2005). However, while tourism can boost a national economy, it is also possible that it can benefit only a small number of industries and not others (Stoeckl *et al.*, 2006) and that the majority of local people can live in poverty while the tourism industry around them thrives (Nubano, 2000 as referenced in Mbaiwa, 2005). Furthermore, tourism can often have damaging impacts on the environment such as increased water use, increased pollution loadings through waste and emissions, and direct and indirect disturbance to wildlife and vegetation (Fennell, 2003; Green & Giese, 2004).

To try to combat negative impacts while still providing tourists with a positive experience, the concept of responsible tourism evolved. Responsible tourism is underpinned by robust social, environmental and economic principles where there is a balance between:

- 1) Making optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
- 2) Respecting the socio-cultural authenticity of host communities, conserving their built and living cultural heritage and traditional values, and contributing to inter-cultural understanding and tolerance.

- 3) Ensuring viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

(WTO, 2004)

Responsible tourism is especially important within natural areas so that the integrity of the environment and local community is not compromised. When natural resources are involved in tourism it is often referred to as eco-tourism, however, eco-tourism is still guided by the three same principles – social, environmental and economic. Eco-tourism has also been suggested to contribute to the conservation or preservation of the area in which it occurs (Fennell, 2003).

Location and Aim of Report

The Nilgiri and Eastern Ghats (NEG) area covers over 12,000 km² of evergreen and dry deciduous forest, thorn scrub jungle and grasslands. It comprises Elephant Range No. 7 of Project Elephant, a conservation project of the government of India. In the state of Tamil Nadu, within the NEG, lies the Mudumalai Tiger Reserve (MTR) and its surrounding reserve forests and revenue land – the Sigur Plateau (Figure 1).

The Sigur Plateau is at the centre of the Nilgiri Hills and Eastern Ghats and is a crucial area of wildlife habitat as it links these two regions. It harbors a diverse range of wildlife including the Asian elephant (*Elephas maximus*), tiger (*Panthera tigris*), leopard (*Panthera pardus*), gaur (*Bos gaurus*), chital (*Axis axis*), sambar (*Cervus unicolor*) and numerous other important mammal and bird species.

The villages within the Sigur Plateau are home to not only local communities but also, more recently, to a number of tourist facilities. These facilities subsist mainly on the attractions of the diverse wildlife and forest systems in the area surrounding the MTR.

Although the area is a critical habitat for elephant, tiger and many other species, as well as being home to a number of local communities, studies of the tourism industry on the Sigur Plateau are lacking. Therefore, the aim of this report is to describe the status of tourism on the plateau, assess potential impacts on the environment and local communities, and to

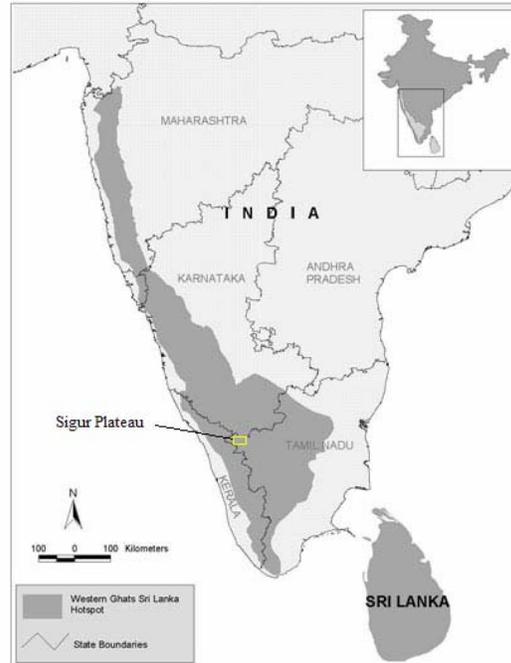


Figure 1: Location of the Sigur Plateau in Tamil Nadu, India (Source: Conservation International, Critical Ecosystem Partnership Fund http://www.cepf.net/xp/cepf/where_we_work/western_ghats/eco_profile/profilesection.xml)

examine constraints facing resorts in their attempts to become sustainable. Finally, this report aims to formulate some ideas and suggestions as to how tourism on the Sigur Plateau can move in a more sustainable direction.

Methods

During the months of October and November 2008, the status of tourism on the Sigur plateau was examined. This included private facilities in six villages – Bokkapurram, Chadpatti, Masinagudi, Mavanahalla, Valaithottum and Singara (Figure 2) – and the government run rest-houses which are spread throughout the plateau. Data for this report was collected using an on-site verbal questionnaire with the resort owner or general manager, as well as a visual assessment (conducted by the author). The questionnaire aimed specifically to: quantify the tourist facilities available (e.g. total number and carrying capacity); classify them according to the type of services they provide and their tariff; evaluate whether each facility’s owner or manager knew what the MTR landscape goals and buffer zone objectives were; assess employment opportunities and other community related benefits; and investigate constraints faced by the tourist facilities (related to eco-tourism – if facility was dedicated eco-tourism).



Figure 2: Location of the surveyed villages on the Sigur Plateau in Tamil Nadu, India.

Results

Number of tourist facilities available

The number of new tourist facilities on the Sigur Plateau has increased considerably within the last three years (Figure 3), with the total number presently at 55. Of these 55 facilities, ten were run by the Tamil Nadu Forest Department and one by the Tamil Nadu Government.

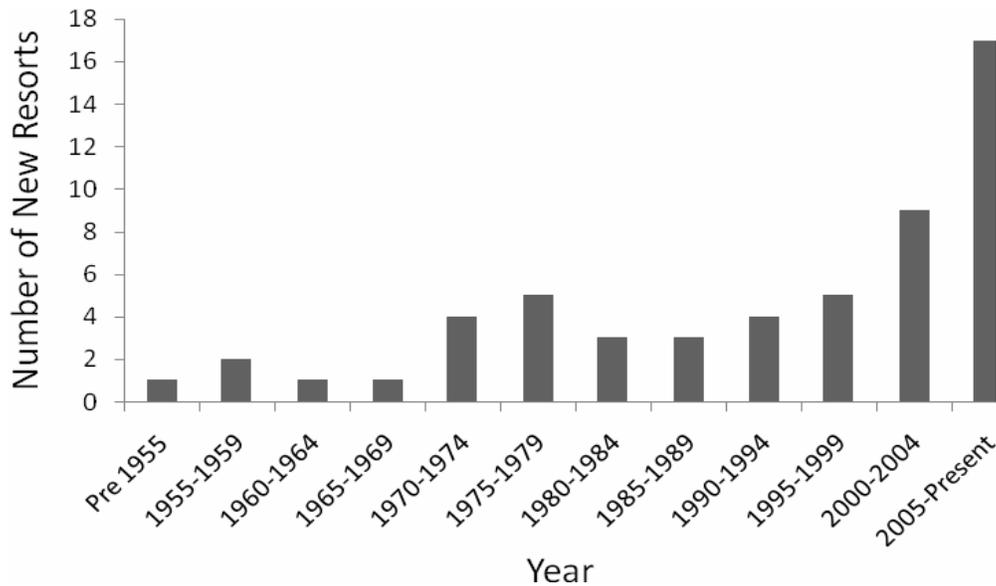


Figure 3: The number of new resorts established on the Sigur Plateau from pre 1955 until present (2008).

Types of facilities available

The total annual carrying capacity of resorts was 485,085 beds; the tariff charged by resorts is negatively correlated to the number of resorts charging that tariff (Figure 4), however, half of the facilities charge less than Rs 500 per night. Annually, close to 73,000 people stay at the tourist resorts on the Sigur Plateau with around 58% of these tourists coming to see the wildlife itself.

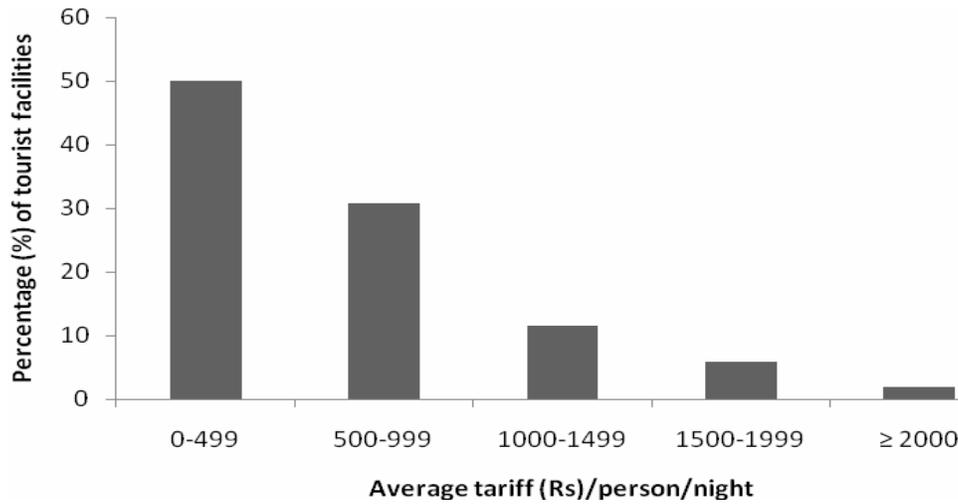


Figure 4: The percentage of tourist facilities charging Rs 0-499, 500-599, 1000-1499, 1500-1999 & ≥2000 per person per night in the Sigur Plateau, Tamil Nadu

Only around 7% of the resorts on the plateau are marketing themselves as eco-friendly. Just over one third of the resorts have a collection of natural history books (i.e. books on birds, mammals, reptiles, plants etc.) and six resorts had swimming pools, of which five were safe for wildlife (i.e. wildlife can get out if they fall in). The percentage of resorts that brief their guests on safety of the area (including within the property), wildlife and social issues (i.e. history of the area and the local culture) is shown in table 1.

Table 1: Percentage of resorts briefing guests on safety, environmental and social issues on arrival and on request

Issue	Safety	Wildlife	Social
% of resorts briefing guests on arrival	75	40	31
% of resorts briefing guests on request	10	17	15

Of the 55 tourist facilities on the plateau only two had legally run bars, however, through personal observation and communication with local people and tourists, it was clear that most of the facilities regularly serve alcohol to their guests.

Facilities' compatibility with the landscape goals

When the resort proprietors were questioned as to the management goals of the forest department with respect to the reserve forests and buffer zone areas, everyone had a different answer. Some believed the forest department were working to protect wildlife, dealing with human-animal conflict, undertaking wildlife surveys, preserving and expanding forests by buying resort land, and that they were working with village/tribal people to obtain alternative livelihoods. However, many of the resort owners or managers did not know where the buffer zone was, and some had never heard of it. A number of facilities felt the Government didn't do anything to manage the forests, that they had no goals, or that they were confused about what they were trying to do.

Land use

The 11 government tourist facilities lie within Mudumalai Wildlife Sanctuary or within reserve forest or revenue land and none of them are fenced. Of the private facilities, 69% have a boundary connection to government revenue land or reserve forest. They cover an area of 791 acres, and 91% are fenced (usually with electric wires). The percentage of private land fenced ranges from 68-100% of the area, with the exception of Singara village which only had 5% (Figure 5).

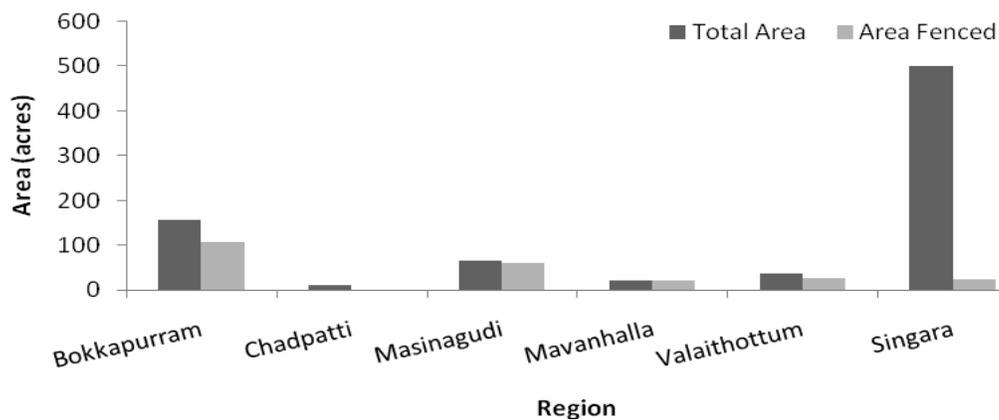


Figure 5: Total and fenced area (acres) of private property containing tourist resorts in the villages of Bokkapurram, Chadpatti, Masinagudi, Mavanahalla, Valaithottum and Singara on the Sigur Plateau, Tamil Nadu

Wildlife and other tourist services

The amount of wildlife on the tourist facility properties varied widely from none, through to tiger sightings (Figure 6), however, on private land, tiger sightings only occur in the unfenced sections of property.

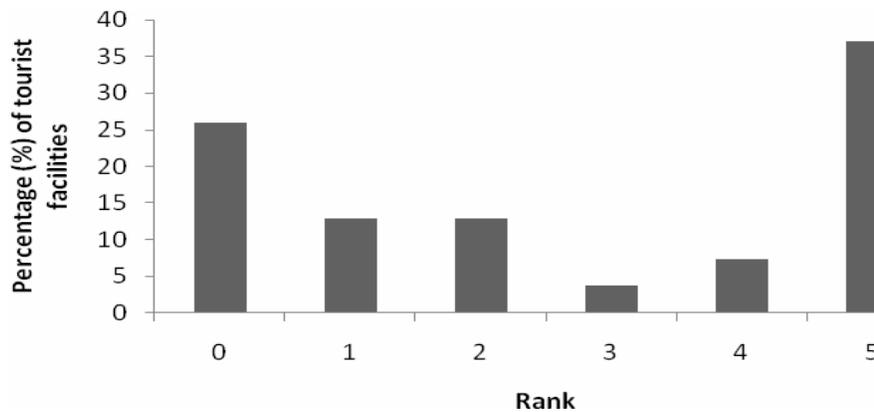


Figure 6: Percentage of tourist facilities on the Sigur Plateau that have a wildlife rank of 0-5.

[0 - represents no wildlife seen on the property; 1 - represents deer or boar or an equivalently common species; 2 - represents deer, boar &/or elephant; 3 – deer, boar, elephant &/or slothbear; 4 – deer, boar, elephant, slothbear &/or leopard; 5 – deer, boar, elephant, slothbear, leopard &/or tiger.]

While there is a legal safari offered by the forest department (the only legal access into the sanctuary for tourists), only 72% of resorts were offering or arranging this for their guests; 70% will arrange for guests to experience the elephant rides and the forest department elephant camp. Unregulated and unauthorised trekking and jeep safaris (both on the main roads and into the reserve forests) are being offered to guests directly or are being arranged through local drivers and/or guides by 57% of the resorts. Furthermore, many tourists will arrange their own jeep safaris or treks, and this unauthorised activity underestimates the amount of known unauthorised wildlife tourism that is occurring. In addition, 60% of the resorts will take their guests into the tribal villages, and four of the resorts arrange for tribal people to come to the resort and perform traditional dances.

Vegetation

Native vegetation growth is being encouraged by around 10% of the resorts. The majority are just maintaining the natives present, while the rest are doing neither (i.e. the land is clear of most vegetation) (Figure 7). Eight of the 44 private facilities are growing agricultural plants; six on a large scale. Non agricultural exotic species of plants are grown on over 60% of the tourist facilities, while 5% have small garden beds of exotics lining buildings or pathways. Around 30% are not growing any exotics. The main non native species grown on the tourist facilities is silver oak (*Grevillea robusta*), and the main weeds present on a large scale are lantana (*Lantana camara*), congress grass (*Parthenium hysterophorus*) and *Eupatorium*.

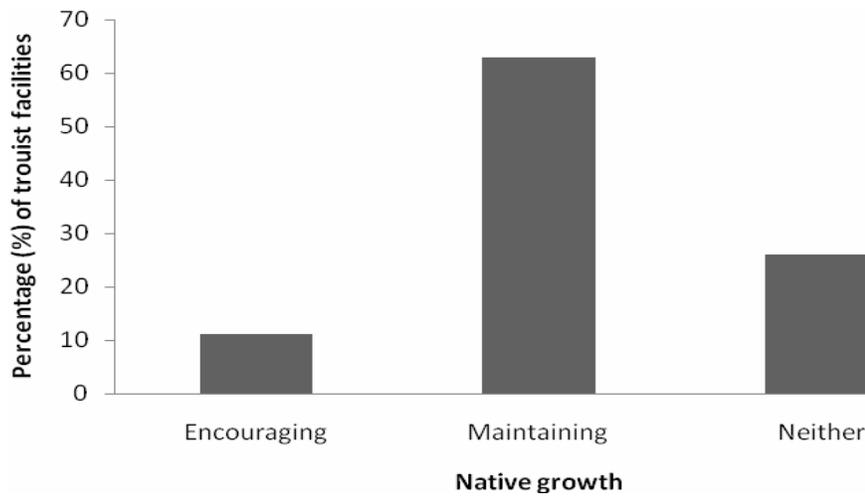


Figure 7: The percentage (%) of tourist facilities on the Sigur Plateau, Tamil Nadu, encouraging or maintaining native vegetation, or doing nothing.

Utilities

Electricity is supplied by the electricity board for all but one resort, which has solar power and uses their mains connection rarely. Just over 60% of the resorts had lights on their pathways and/or in the open areas surrounding the buildings as well as in the core (building) area, while the rest of the resorts had lights only in their core areas.

Thirty seven resorts have access to water through bore wells, six have open wells, six pump water from streams/rivers or natural springs, and two buy their water. Twenty one are connected to the municipal supply.

The most common form of water heating in these facilities was the electric geyser (60% of facilities), followed by solar (14%), and wood (13%). The rest of the facilities use a mix of electricity and solar (7%), a mix of electricity and wood (2%), gas (2%) or have no water heating (2%). Cooking is largely done using gas burners (83%) with the rest done on wood (15%) and a small amount on kerosene (2%). The percentage of tourist facilities on the Sigur Plateau showing an effort in specific energy and water conservation is fairly low (Figure 8).

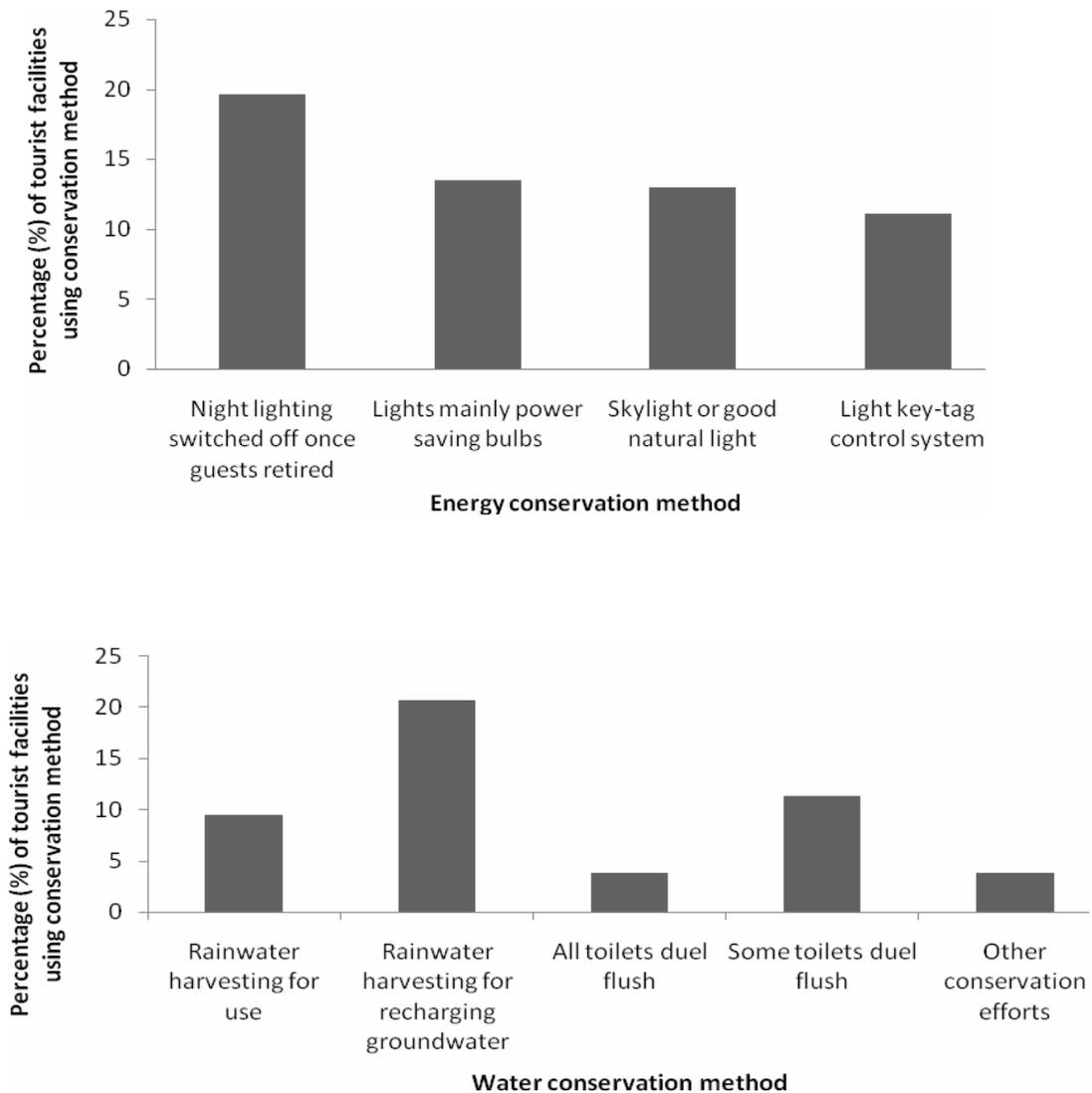


Figure 8: Percentage of tourist facilities showing efforts in energy (top) and water (bottom) conservation

Over 85% of the private tourist facilities have at least one designated campfire on their property and Figure 9 shows how those facilities acquire their wood. The 11 government facilities do not have campfires, however, the wood used for cooking is bought from the local collectors.

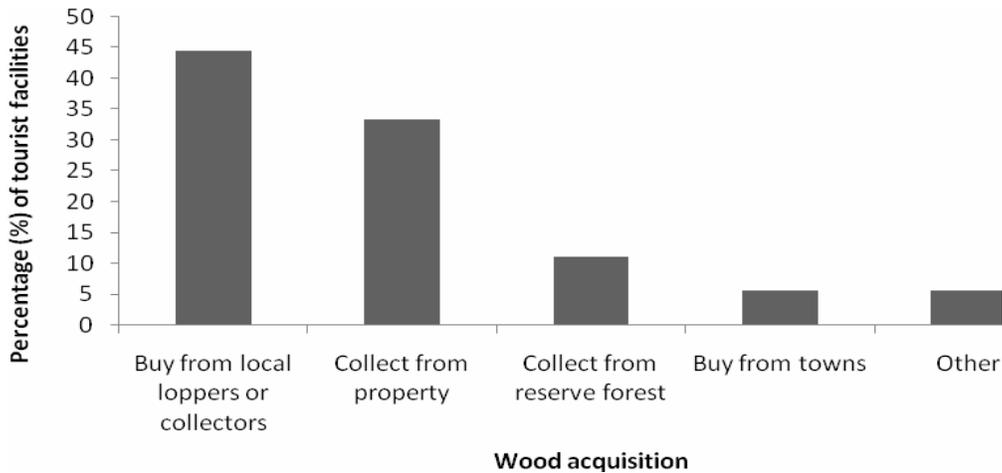


Figure 9: Percentage of private tourist facilities and the methods of wood collection used

Methods of waste disposal vary between tourist facilities. Grey water (non-toilet waste) is discharged untreated onto vegetation by 49% of the facilities, 41% use septic tanks and 9% discharge grey water into government canals/drains. Black water (toilet waste) is disposed of via a septic tank in all but two resorts; one uses a covered soak pit, and one resort has a sewage treatment facility. The majority of resorts throw waste (non-water) into an open dump or pit and will later bury or burn it (Figure 10).

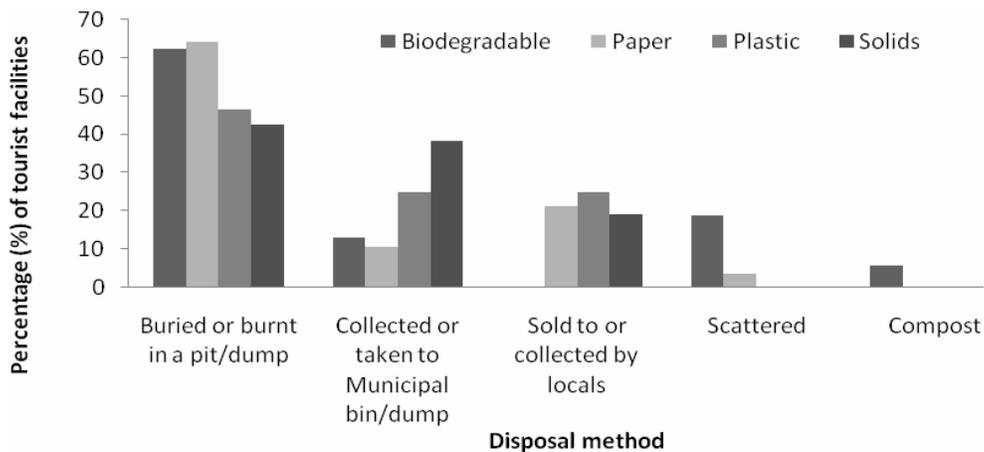


Figure 10: Disposal methods of biodegradable, paper, plastic and solid waste by tourist facilities on the Sigur Plateau, Tamil Nadu

Community related benefits

Employment opportunities

On the Sigur Plateau, approximately 390 people are permanently employed directly through resorts, and around 70% of them are local (from villages on the plateau). In addition to permanent staff, there are also many local people who are employed casually.

Most of the resort owners and managers state that the main reason the resort employs people from outside the plateau is due to the need for skilled labour. They believe local people lack the skills required for jobs such as variable cooking styles (e.g. North and South Indian, Continental and Chinese), or even the ability to acquire these skills. Many also believed they require outside educated staff for housekeeping and gardening in order to be able to interact with the guests. The most common job held by an outside staff member is the role of manager or cook.

The number of resorts marketing local products is low as many proprietors believed that local handicrafts and non timber forest products (NTFP) were not readily available, while others said they were not interested in selling them. Five sell both types of products and another sells just NTFP; the most common products were honey, berries (for jam), spices, oils, Thoda (tribal) scarves and other handicrafts.

Food & provision purchase

Around 50% of the resorts buy all of their food and provisions from the local town or village (see Figure 11), while the rest of the resorts buy some locally and the rest either from Ooty or Gudalur, and some from Mysore, Bangalore, Coimbatore and Chennai. The majority of resorts make specific trips at least once a week to buy these provisions. It was evident that the main reasons purchases were made outside the local area were because 1) the quality of the produce available was not very high, and 2) many provisions required to cater to foreign guests were not locally available.

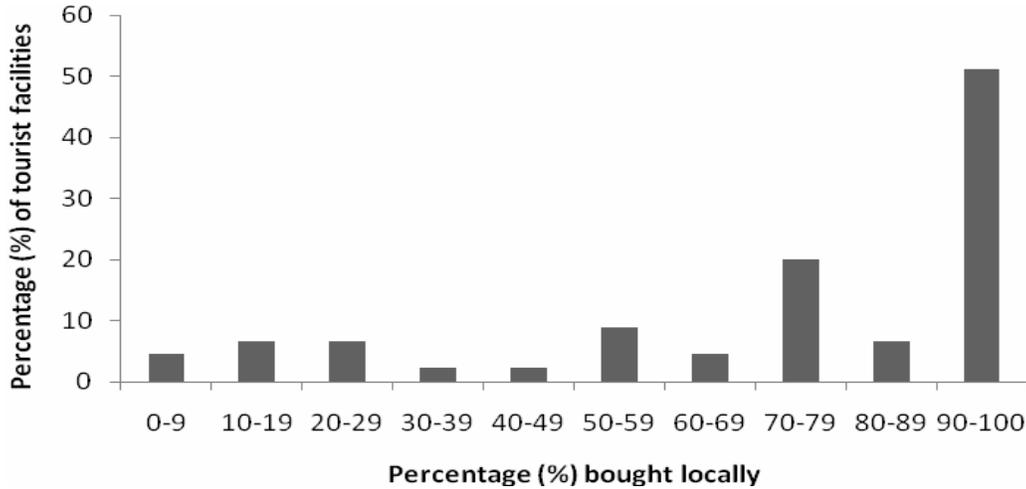


Figure 11: The percentage of tourist facilities that buy their food and provisions locally on the Sigur Plateau, Tamil Nadu

Constraints faced by the tourist facilities

Wildlife tourism and other tourist attractions

At present, tourists can only enter the MTR on safaris run by the Tamil Nadu Forest Department. These safaris are offered as a one hour ride on a small bus (approx. 20 seats) that travels set routes in the morning and in the afternoon. There are no guides, and according to tourist facility operators the buses are noisy (both the vehicle itself and the occupants), it can be difficult to book, and no time is actually spent learning about the wildlife that is seen. As a result, for tourist resorts to be able to educate guests and provide them with a memorable wildlife experience, many of them are resorting to illegal tourism. As a further consequence of the lack of wildlife tourism, most of the returning guests do not come for a wildlife experience, but rather to simply enjoy the resorts' facilities.

In addition to the wildlife safari, the forest department run elephant rides, however, these are extremely short and on one set route, the booking office is in Ooty, and reservations are not possible making it difficult for resorts to cater to their guests' requests. Further, although the elephant camp is a good experience for tourists, there are no information displays or 'guides' available to provide information about the elephants, their mahouts or the importance of the camp.

A number of the facilities organise for tribal people to come and perform their traditional dance for their visitors. Some of the proprietors feel, however, that the tribal people are not proud of their culture; sometimes they arrive at a facility seemingly drunk, without any 'traditional' dress for which they charge a lot. This has caused a negative attitude toward the tribal people by a few of the proprietors.

Licensing, Regulation & Policy

Many resort owners and managers find the levels of corruption within government departments very difficult to deal with. Often, they find that rules and regulations are not well clarified, that the people implementing rules and regulations are uncertain of them or that those people that do know, don't bother to undertake checks anyway. Owners are also unclear on the regulations that relate to reforesting private property and are worried that if they undertake this measure, their land will be reclaimed as reserve forest by the government.

The reason why most of the tourist facilities do not have a bar licence is because they felt it is hard to get – the application and yearly fees are expensive, the number of prerequisite amenities a facility must have before a license can be applied for is too great, and the application must be lodged in Chennai. Furthermore, many feel there is no clear pathway to get a license.

Owners and managers also suggest there are confusions and difficulties associated with building regulations, such as problems getting licences for storage structures and roofing (both of which reduce overheads and emissions through reduced travel time), some are confused as to what constitutes a temporary or a permanent structure, and others feel they are not allowed to get licences for new buildings at all due to Project Tiger. (They do however, believe this may be temporary).

Use of resources within private property

Restrictions on the use of private resources such as wood for campfires, means resort owners must obtain their wood from local collectors thereby increasing pressure on the forests. There are further difficulties associated with the use of local resources for construction, and many resort owners find the transport of material is difficult due to the distances that must be

covered in order to get them. Native bamboo was a resource that proprietors especially felt they should be able to harvest given its incredibly fast regeneration time.

Information

Many of the proprietors felt there was a lack of readily available information on the regions' native vegetation and which species were particularly valuable for wildlife, and on restoring sensitive areas and generally maintaining healthy environments. It also became apparent that many lacked information on ecologically friendly technologies such as waste treatment systems, renewable electricity, effective water harvesting and composting. While a few proprietors invested in these technologies, many felt there were no readily available technical personnel and/or backup systems within the region, making maintenance difficult and expensive.

Potential Impacts of Present Tourism Trends on the Sigur Plateau

The low number of resorts marketing themselves as eco-friendly suggests that the concept of eco-tourism is not widely thought about in the area surrounding the Mudumalai Wildlife Sanctuary on the Sigur Plateau. One proprietor even went so far as suggesting that being eco-friendly meant reducing the amenities and services available for guests so that the resort retained a 'jungle' feel. This lack of awareness means many tourist facilities may have been built with no consideration to the environment they are in. This is particularly problematic given the substantial increase in the number of tourist facilities over the last three years. As a consequence many of these facilities have negative regional economic, environmental and socio-cultural impacts which makes them unsustainable. In addition, while the total number of tourist facilities is represented as 55, there are at least three resorts known to be currently under construction, and there are also many small home-stays that are operating unauthorised. Therefore, the total number of tourist facilities is underestimated and as a result, so is the extent of tourism in the area. With the present level of eco-tourism awareness, any further increase in the number of tourist facilities would see increased pressure on the natural areas surrounding Mudumalai Tiger Reserve.

Impacts on wildlife and natural areas

Although the 11 government tourist facilities lie within Mudumalai Wildlife Sanctuary or within reserve forest or revenue land, none of them are fenced and as a result they pose no obstacle to the movement of animals. Private facilities, on the other hand, proved to have a large amount of area fenced (see Figure 5). On the Sigur Plateau this may have an important negative impact on wildlife because the majority of the resorts are situated in a crucial corridor for the movement of many species, especially elephants. Therefore, there is a high possibility that the movement of wildlife is being hindered, and that further movement restrictions would be likely with unchecked development of tourist facilities.

In addition to movement restrictions, unregulated and unauthorised wildlife tourism potentially impacts animals as well as the natural areas, for example through the discarding of rubbish in the forests and the direct disturbance of wildlife (either from vehicles or people on foot). There is also an increase in traffic on the roads – within the sanctuary as well as in and around the reserve forest and revenue land – which may increase the incidents of wildlife disturbances or even deaths, and also increases the emissions from vehicle pollution and its effects. With the only access to the sanctuary and forest areas via a low quality forest department run bus safari, any increase in tourism in the area (with the current access restrictions) would almost certainly see an increase in illegal tourism and as such, many of the indirect economic benefits for the community would also be acquired unlawfully (i.e. through guiding and jeep hire for safaris).

Vegetation

Native vegetation was only encouraged by around 10% of the tourist facilities, while over 60% of them grew non-agricultural exotic species of plants. If tourism continued to grow at the present rate, exotic species would begin to progressively replace native vegetation diminishing the value of the ecological diversity of the region. Given the facilities are all indirectly surrounded by native forests, natural habitat may also become more disjointed, not only for ground dwelling animals but potentially also for arboreal and bird species as well.

Although growing agricultural plants is a sustainable way of life, often these plants encourage wildlife to enter a property which increases the human-wildlife conflict issues in the area. When agricultural plants are grown at a tourist facility for non-agricultural purposes it can be quite dangerous for visitors. For example, many fruit trees are visually appealing and are consequently planted by tourism proprietors. However, fruit trees are often also appealing to wildlife such as elephants which then break, or attempt to break, property fences in an effort to obtain the food source.

Impacts from Utilities

The low effort of energy and water conservation, as well as a lack of waste segregation by the tourist facilities, shows there is little mitigation of negative environmental impacts occurring on the Sigur Plateau.

Given only 40% of the tourist facilities are connected to the municipal water supply, 60% of water use by this sector is actually unmonitored and/or unpaid for. Water in India is in limited supply and the demand is great, therefore, if such a large percentage of use continues to be unmonitored and unpaid for, more and more water will be drained from the water table diminishing the supply available for the environment and also for the local communities.

Nearly 50% of the tourist facilities discharge their grey (non-toilet) waste water directly onto vegetation or open pits, and while many of the facilities see this as direct recycling of the water there are potential risks associated with this activity. Untreated waste water can carry bacteria and chemicals that can pollute the surface and ground water, causing problems for later consumption by humans and wildlife. In addition to discharging untreated grey water, the low amount of biodegradable waste composting and the high percentage of resorts throwing this waste into a dump or pit (and later burnt or covered) means that any wildlife that accesses the property also has access to this waste. Bacteria and disease may be eaten by wildlife, such as deer, and then passed up the food chain, consequently potentially affecting the health of the wildlife population. Domestic animals such as cattle also eat waste which is problematic in the Sigur Plateau as the local people rely on these cattle for their milk supply.

Impacts on local communities

Although around 60% of the resorts take their guests into the tribal villages, it is unclear as to whether or not any thought is put into these visits, such as the impact it may have on the people living there and whether they actually want to host visitors.

Benefits generated by the resorts that reach the local community are low on the Sigur Plateau, and while there are no obvious direct impacts, there are also few benefits. For example, while around 70% of the resorts hire local staff, over one quarter of these staff are actually sourced from outside the area. Employing outside staff means the local people miss out on any benefits associated with holding one of these jobs, such as being able to afford to send their children to school or even afford basic health care. It also increases pressure on the natural areas as the family members of outside employees are often also brought, further increasing the population numbers in the area. The marketing of local products by the resorts is also very low and therefore is not a major source of income for the local people.

As tourism grows on the Sigur Plateau, so too do commodity and property prices causing the local community to potentially become excluded from this market; most of the local people can not afford to purchase at these elevated prices. As Figure 11 shows, only around 50% of the resorts purchase all of their food & provisions from the local towns and villages, therefore, many of the potential benefits are not reaching the local communities, but are instead, going to places outside the plateau. Not only is money being spent outside the local region, but there is an increase in emissions from the transportation involved in outsourcing food and provisions.

Recommendations

Responsible tourism on the Sigur Plateau

The tourist facilities on the Sigur Plateau are surrounded by native forests and wildlife (including Mudumalai Tiger Reserve) and are situated in and nearby the local villages. Given the close proximity to the environment and local communities it is important that negative impacts from tourism operations are minimised. Most importantly there is the potential for the environment, communities, resorts and also tourists to benefit from that tourism and theories behind responsible and eco-tourism are designed to do just that. When there are beneficial impacts, local communities are likely to respond more positively towards tourism, further benefiting the sector and the environment. Also tourists who have a positive experience are likely to either return or encourage others to visit. While there can be difficulties implementing some of the sustainable or eco-tourism theories, even small positive changes can be beneficial. Table 2 illustrates ways in which tourist facilities on the Sigur Plateau can become more sustainable, however, actions taken by all stakeholders need not be limited to these suggestions, and the author encourages further research.

Table 2: Ten guiding principles of responsible tourism (sourced from Tourism Concern, 1992 *in* Fennell, 2003 p12) and suggestions for tourist facilities on the Sigur Plateau to move in a more responsible direction

Principle	Some suggestions for Sigur Plateau
<p>1 – Using resources sustainably</p> <p>The conservation and sustainable use of resources – natural, social and cultural – is crucial and makes long-term business sense</p>	<ul style="list-style-type: none"> • Allocate specific species of wood that can be grown on property for use/consumption • All new developments to use sustainably harvested local materials (where possible) during construction and maintenance • Engage in water harvesting (where appropriate)
<p>2 – Reducing over-consumption and waste</p> <p>Reduction of over-consumption and waste avoids the costs of restoring long-term environmental damage and</p>	<ul style="list-style-type: none"> • Ensure tourist facilities set targets/goals towards the reduction of energy, water and waste <ul style="list-style-type: none"> ○ increase use of renewable energy sources ○ install ‘smart’ valves and shower heads to

<p>contributes to the quality of tourism</p>	<p>regulate water flow, reduce overflow and release water only when required; install dual flush or low flow toilets; fix leaks and maintain regularly</p> <ul style="list-style-type: none"> • Engage in recycling/treatment practices of water & wastes, increase waste segregation efforts • Encourage use of environmentally-friendly chemicals and biodegradable soaps/detergents • All new developments to <ul style="list-style-type: none"> ○ use ecologically friendly technologies & materials ○ incorporate the use of sustainable architecture (e.g. light/air flow) to reduce energy consumption ○ minimise pollution (incl. noise & light)
<p>3 – Maintaining diversity</p> <p>Maintaining and promoting natural, social and cultural diversity is essential for long-term sustainable tourism, and creates a resilient base for the industry</p>	<ul style="list-style-type: none"> • Promote native (indigenous) vegetation growth – especially those that will encourage wildlife, particularly keystone species • Reduce the planting of exotic species • Minimise clearing of native species • Reduce fencing from entire property to building/core area – will increase movement of animals • Encourage conservation efforts <ul style="list-style-type: none"> ○ E.g. litter removal, habitat restoration, etc. • Tourist facilities to be sensitive towards potential impacts on local people <ul style="list-style-type: none"> ○ E.g. loss of privacy, use of cultural knowledge, loss of income opportunities (if staff are sourced from elsewhere)
<p>4 – Integrating tourism into planning</p> <p>Tourism development which is integrated into a national and local strategic planning framework, and which undertakes environmental impact assessments (EIA), increases</p>	<ul style="list-style-type: none"> • All new developments to undertake EIAs (both cultural & ecological) • Create a regional criteria as to how tourist facilities can become more sustainable • Establish a credential/rating system for tourist facility level of ‘responsibility’

<p>the long-term viability of tourism</p>	<ul style="list-style-type: none"> • Investigate the use of tax break, subsidies, and reward schemes from the Government to support resorts in their endeavour to become more sustainable
<p>5 – Supporting local economies Tourism that supports a wide range of local economic activities, and which takes environmental costs/values into account, both protects those economies and avoids environmental damage</p>	<ul style="list-style-type: none"> • Support the making and selling of sustainably produced traditional handicrafts and NTFP • Tourist facilities to increase percentage of goods and services sourced locally
<p>6 – Involving local communities The full involvement of local communities in the tourism sector not only benefits them and the environment in general but also improves the quality of the tourism experience</p>	<ul style="list-style-type: none"> • Increase the use of local labour • Establish economic links • In consultation with local communities encourage local village visits by tourists • Develop a guide licensing system for local people
<p>7 – Consulting stakeholders and the public Consultation between the tourism industry and local communities, organizations and institutions is essential if they are to work alongside each other and resolve potential conflicts of interest</p>	<ul style="list-style-type: none"> • Improve communication between tourist facilities, NGOs, forest department and other stakeholders • Educate all stakeholders as to the importance of responsible tourism • Involve local communities in planning/decision making – e.g. if trekking routes are established it should be in consultation with local/tribal people • Encourage tourist facilities to work with product importers/sellers to <ul style="list-style-type: none"> ○ Reduce level of packaging and to increase recycling ○ Increase the quality of local produce so there is no need to out-source it
<p>8 – Training staff Staff training which integrates sustainable tourism into work practices, along with recruitment of</p>	<ul style="list-style-type: none"> • Encourage positive attitude towards local people learning skills • Tourist facilities to support in-house training so local employees can progress to more highly

local personnel at all levels, improves the quality of the tourism product	skilled jobs e.g. western style cooking and management skills
<p>9 – Marketing tourism responsibly</p> <p>Marketing that provides tourists with full and responsible information increases respect for the natural, social and cultural environments of destination areas and enhances customer satisfaction</p>	<ul style="list-style-type: none"> • Ensure visitor briefing on social & ecological impacts, rules/regulations (park & tourist facility) and safety issues • Encourage tourist facilities to inform guests as to what they are trying to achieve (i.e. steps towards responsible tourism) • Engage in visitor education <ul style="list-style-type: none"> ○ E.g. through signage, guidebooks, mammal/bird/reptile books, literature, the use of knowledgeable guides, etc. • Transparency in reporting/marketing
<p>10 – Undertaking research</p> <p>Ongoing research and monitoring by the industry using effective data collection and analysis is essential in solving problems and bringing benefits to destinations, the industry and consumers</p>	<ul style="list-style-type: none"> • Ensure regular auditing is carried out • Visitors have easy access to feedback/complaint mechanisms

Wildlife tourism on the Sigur Plateau

Wildlife tourism has been proven to have positive impacts on the efforts of wildlife conservation in a number of wildlife parks and sanctuaries (protected areas) around the world. When wildlife tourism is carefully designed, implemented and managed it has the ability to increase economic revenue for the protected areas and local communities (Eagles, 2003; Burns, 2004) and influence the knowledge, attitudes and behaviour of tourists in regards to wildlife conservation (Ballantyne & Packer, 2005). Thus, a predominant argument for the continuing development of wildlife tourism attractions is that they benefit long-term conservation (Higginbottom, 2004). On the Sigur Plateau, however, due to the limited access to the Mudumalai Tiger Reserve and its' surrounding forests, and the type of wildlife viewing offered (loud, crowded buses etc.– as discussed earlier) many proprietors feel there is no legal

wildlife tourism that is worth recommending to their guests. Hence, they revert to unauthorised wildlife tourism. In the absence of wildlife viewing, it has been suggested that tourists may by-pass or spend less time in a country or region (Tisdell & Wilson, 2004). On the Sigur Plateau, due to the lack of access to forests and quality authorised wildlife experiences, this may be occurring.

The implementation of well managed wildlife tourism on the Sigur Plateau may theoretically benefit local communities directly through employment opportunities and indirectly through local business opportunities (both pre-established and new), and upgrades in infrastructure (Burns, 2004). Employment in wildlife tourism can be more than five times greater than employment in resource exploitation, and can be up to ten times more economically beneficial (McNeely, 2004). Therefore, by providing economic stability for the local community members, wildlife tourism creates incentives to maintain and/or restore the natural habitat (Higginbottom *et al.*, 2001) as well as wildlife populations, thereby enhancing conservation efforts. Increased economic stability for the local community also often translates into better health care, education, food and water (Gunther, 1999) and consequently also has a role in the reduction of regional poverty.

Environmental interpretation (a form of education) has been suggested to be a key element of sustainable wildlife tourism (Higginbottom & Tribe, 2004). It aims to stimulate interest and learning, demonstrate sustainable visitor behaviour, and enhance the enjoyment and satisfaction of the visitor's experience (Moscardo *et al.*, 2004). It is thought that exposure to wildlife on its own is unlikely to impact tourists' conservation attitudes. However, through visitor interpretation, wildlife tourists gain knowledge and greater awareness of environmental issues which subsequently changes attitudes and behaviours leading to enhanced conservation outcomes and practices, both on-site and off-site (Moscardo *et al.*, 2004).

The wildlife tourism experience in the Mudumalai Tiger Reserve and surrounding reserve forests could be improved by:

<p>1 – Improving vehicle access to MTR and the reserve forests</p>	<ul style="list-style-type: none"> • Ensure the buses are quiet; introduce trained and licensed local guides (particularly those that can communicate in more than one language) that are capable of talking about the wildlife and habitats seen • Introduce informative material throughout the sanctuary to educate and engage visitors • Introduce additional wildlife watching routes (e.g. specialised routes for particular habitat types/species etc.) • Allow a sustainable number of smaller/private vehicles (either government or tourist facility owned) with a trained and licensed local guide at proscribed times for guests that are willing to pay • Alternative fuel sources should be investigated, such as biodiesel, which would improve the quality of the vehicles entering the forests; vehicles should be required to meet certain standards (e.g. age, noise level & 4WD capabilities) before being permitted entry
<p>2 – Introducing trekking</p>	<ul style="list-style-type: none"> • Open controlled trekking routes in the reserve forest with allocated camp sites to tourist facilities and tour operators in consultation with the local communities. <ul style="list-style-type: none"> ○ Assemble rules and regulations for best practice ○ Trained and licensed local guides to accompany every group

3 – Improving the elephant camp experience	<ul style="list-style-type: none"> • Introduce signage and forest department or trained and licensed local guides to the elephant camp to explain the elephant/mahout relationship, training, care and the role of kunkis etc. (i.e. provide details of what the camp is about)
4 – Improving the elephant rides	<ul style="list-style-type: none"> • Open route into forest for elephant ride and increase length (if not cruel to animal) • increase the number of elephants used and the frequency of rides in peak times • make the booking centre local, rather than in Ooty and with the ability to reserve rides

There are many different tourism charges that governments can use to contribute to the management costs of wildlife, their habitats and associated tourism. These may include: admission and/or tour fees; facility service fees; visitor levies; licence, concession and lease fees for commercial tour operators; merchandising revenue and royalties associated with wildlife tourism attractions; and also accommodation charges (Higginbottom *et al.*, 2001; Aylward & Lutz, 2003; pers. obs., 2008). These revenues are often used for direct site management such as the purchase of equipment, maintenance of fences, roads and other forms of infrastructure. Revenue pays the employees, can also be used for further conservation efforts including anti-poaching and the protection of habitat, and goes towards information displays and other forms of education (McNeilage, 1996). Theoretically, when more revenue (from governments, conservation organisations and tourists) is put into a protected area, its management improves and consequently benefits conservation. Better management and conservation efforts should then attract higher numbers of tourists (Tye & Gordon, 1995), leading to further increases in revenue. If the revenue from wildlife tourism is large enough, it may encourage governments to improve their approaches to conservation (Emerton, 2001 as cited in Adams & Infield, 2003; Tisdell & Wilson, 2004), and also persuade them to allocate higher budgets to protected areas (Eagles, 2003).

Conclusion

Currently the status of tourism on the Sigur Plateau in Tamil Nadu is not benefiting the environment or communities, but rather is having negligible or negative impacts. Given the increasing trends in tourism globally and within Tamil Nadu, this is likely to result in further negative impacts if no changes are made to the management and infrastructure (including planning) of tourism facilities. By understanding and implementing the recommendations put forth in this report, tourism on the Sigur Plateau will become more sustainable resulting in positive rather than negative impacts on the communities, the environment and the associated economics

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