

TOURISM, CONSERVATION & SUSTAINABLE DEVELOPMENT

VOLUME I

COMPARATIVE REPORT

Final Report to the Department for International Development

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This is one of four final reports produced at the end of a three year, Department for International Development funded project. Three case study reports (Vols II-IV) present the research findings from the individual research sites (Keoladeo NP, India, Komodo

NP, Indonesia, and the south east Lowveld, Zimbabwe). The fourth report (Vol. I) contains a comparison of the findings from each site. Contextual data reports for each site, and methodological reports, were compiled at the end of the first and second years of the project respectively.

The funding for this research was announced to the University of Kent by the ODA in December 1993. The original management team for the project consisted of, Goodwin, H.J., (Project Director), Swingland, I.R. and Sinclair, M.T. In August 1995, Sinclair was replaced by Parker, K.T.

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Many people in India, Indonesia and Zimbabwe, and in the UK, contributed to this research. They are acknowledged in the three country reports.

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Executive Summary

Purpose

The comparative research proposal submitted to ERP was designed to identify and quantify the nature of the relationships between tourists and the tourism industry, local communities and three national parks. Recognising that the rate of growth in tourist arrivals to national parks represented both a threat and an opportunity, the project sought to determine the current situation and addressed four basic questions:

1. How could the revenues going directly to conservation through national parks for reinvestment in species and habitats be maximised?
2. How could the incomes of local communities from tourism associated with national parks be raised from this non-consumptive use?
3. To what extent does the process of visiting a national park increase awareness of biodiversity and conservation issues?
4. What were the ecological implications for national parks of increased visitor numbers and of changes in the forms of those visits?

Relationship to DFID's development goals

The project addressed several ERP goals.

- Biodiversity Conservation: by identifying ways in which loss of biodiversity can be reduced through monitoring and managing visitor impact **and** through the development of forms of tourism capable of generating significant incomes for local people through sustainable non-consumptive use, such that local people value their patrimony in the protected area.
- Poverty alleviation: by identifying the opportunities, and the constraints to be overcome, for employment and small business development which would offer local people sustainable opportunities for diversified economic development and an enhanced standard of living.
- Environmentally Sensitive Habitats: the world's largest industry is impacting more and more aggressively on the world's fragile environments. National parks attract rapidly increasing numbers of visitors. This project sought to assess visitor impact and identify current problems in national parks consequent on increasing visitor numbers.
- Methodologies Component: to develop methodologies which enable local institutions to monitor the relationships between tourism, local communities and parks and to adaptively manage these processes to enhance incomes and maintain habitats.

Research Activities

In the first year of the project extensive secondary research was conducted in order to ascertain the historical context and to determine what was already known about the dynamics of tourism in the three case studies. This was followed by eighteen months of primary research using a range of survey techniques. There was no opportunity for experimentation.

Outputs of the Project

Methodologies for the analysis of the relationships between protected or conservation areas, local communities and the tourism industry have been developed and detailed studies of three sites have been completed. These methodologies are transferable and could, with moderate amounts of training, be applied at relatively low cost, thereby enabling adaptive management of tourism to be applied in and around national parks and other areas of conservation value.

The case studies show that the relationships are complex and that adaptive management needs to be applied on the basis of information collected locally. The extensive baseline studies have created the opportunity for action research with local partners to be undertaken in order to determine the consequences of particular changes in policy and management. In each area, “desirable” changes have been identified with local people. These changes could raise local people’s incomes or revenues to the parks and to conservation. These ideas remain to be tested. The project has not addressed the issue of which adaptive management strategies have which effects in what circumstances, but it has established the baseline data which would enable such research to be conducted by “experiment”. Whilst we worked extensively with local collaborators, much work remains to be done in establishing the local institutional capacity to take control of the tourism industry in and around national parks (and other areas of conservation value) and to build local capacity for implementation. This was a research project, not an implementation project.

Policy Implications

Visitor Patterns

1. National parks operate in an environment of rapidly growing world tourism.
2. All three countries display rates of growth of tourism greater than the world average (and are particularly high in Indonesia and Zimbabwe).
3. There are no obvious limits on growth of visitor numbers in the immediate future to the three countries we have analysed.
4. Growth of visitor numbers to the three sites is comparable to the growth of foreign tourism to the country as a whole, but is slightly lower in Keoladeo.
5. Current rates of growth in tourist numbers will increasingly impact on park habitats.
6. Visitor patterns to particular parks vary greatly in terms of seasonality and the mix of domestic and foreign visitors. These factors are specific to individual parks.

Visitor Impact and Management

1. Monitoring of impacts within parks has been very limited; there is little base-line data with which to make comparisons.
2. Visitor impact is not perceived as a significant problem by park management, especially in comparison with the issue of relations with local people.
3. Unregulated guiding can seriously exacerbate problems of disturbance.
4. Park-management policy needs to be based on a clear strategy which is informed by the aims and objectives of the parks.
5. Research and monitoring must be consonant with the management objectives of the parks.

6. An adaptive management strategy should be adopted based, for example, on the LAC system of Stankey et al.¹

Contribution of Tourism to Park Finances

1. Traditionally, decisions about the entrance fees and other park charges have been made by government departments; this remains the case in the three countries included in this study. There is no direct relationship between park revenues and park budgets.
2. Parks have a number of purposes, the most important of which is the maintenance of the ecological integrity of the park and the conservation of habitat and species. Visitor fees income should be supplementary rather than core income, the maintenance of biodiversity for future generations could be considered as properly a government responsibility.
3. Entrance and other fees need to be structured to ensure that the host population is able to have access to its national parks for recreational, spiritual, artistic and educational purposes; national parks are their national heritage. There is a good case to be made for dual pricing systems.
4. Parks departments have traditionally been regulators of use rather than operators. The two roles should not be confused.
5. In the pursuit of increased revenues from tourism park managers need to consider the purposes of the park(s) for which they are responsible and to balance a number of competing management goals, arguably the first of which is conservation. Park fees can be manipulated to achieve specific management objectives including:
 - controlling over-crowding
 - raising funds for habitat and species management
 - improving visitor facilities
 - maximisation of revenue to the national park and local people
 - raising money for reinvestment in the park
 - management of the mix of visitors who have access to, and use of, the park
 - managing visitor use of the park
6. The setting of park entrance fees is one aspect of the total management of national parks. The setting of park entrance fees is a complex policy issue involving a number of 'trade-offs'.
7. These decisions need to be made within the framework of the park management objectives. The pricing of entrance fees and other services and facilities can reflect multiple management goals.
8. Tour operators and individual tourists often made two points to us
 - Increases in entrance fees and other charges should be staged (and tourists' expectations of charges are influenced by out-of-date guide books)
 - The reasons for increased fees and charges should be explained
9. There is clearly some scope to increase entrance fees to national parks and to increase revenue; however the consequences of raising fees and charges need to be carefully considered.

¹ Stankey, G.H., Cole, D.N., Lucas, R.C., Petersen, M.E. and Frissell, S.S. (1985) The Limits of Acceptable Change (LAC) System for Wilderness Planning. USDA Forest Service, Intermountain Forest and Range Experiment Station. General Technical Report INT-176. Ogden, Utah.

10. Revenue maximisation may lead to increased conflict with local communities if tourism revenues in the local community are reduced or lead to forms of development within the park which undermine the conservation purpose of the protected area.
11. The best way in which to test the market is through market based ²reactive management of park entrance fees and other charges, through raising fees incrementally.
12. Periodic surveying of tourists and tour operators can assist in the determination of prices for services and facilities and monitoring visitor satisfaction to identify opportunities for increasing revenues.

Tourism and Local Development

1. Focus assistance to non-capital intensive enterprises. Local involvement in the tourism industry depends largely on access to the market. In many cases local benefits are maximised in the informal sector. Local skills and services are often maximised where the scale of capital investment is low. This aspect is sometimes neglected in tourism planning and access to tourists by the informal sector is restricted. Training in market research, understanding consumer tastes and product promotion may increase sales for small traders.
2. Maximise tourism based on local technology. Transferability of skills and hence local involvement is largest where existing capital and know-how can be utilised. Tourism developers should be encouraged, wherever possible, to use and promote existing local modes of transport, accommodation and art and handicrafts, food production and preparations.
3. Discourage enclave practices. Resist the tendency of some tour operators to bypass local business opportunities by regulating traffic (for example through the judicious location of parking spaces and entry restrictions) and ensure local access to centres of leisure and accommodation.
4. Encourage flexible partnerships between public and private sectors. Despite the wishes of protected areas to increase rural support, efforts are sometimes frustrated by emergent monopoly practices within the local private sector. Local Nature Guide training and selection should be based upon a clear agreement of recruitment practices with participation from existing guides, protected area managers, and rural development associations.
5. Create and strengthen appropriate institutions. Local concerns regarding tourism development and attempts to retain some of the revenues from tourism are often hampered by the lack of local representation at an institutional level. Nature tourism, conservation and income generation often fall between the jurisdiction of several institutions. Local government and donor agencies should explore means of establishing an appropriate forum for the articulation of local concerns with

² For concessions and other contracted-out services this can be achieved through auctions and sealed bids

representation from, and managed engagement of, all stakeholders (park management, tour companies, hotel developers and small businesses).

6. Developing Revenue Sharing Policies. Some park directors are considering the introduction of local development levies on entrance fees. Collaborative policies may be pursued in order to raise the total revenue for both local people and parks.
7. Incorporate tourism development as a component of a wider strategy. Research in at least two of the study sites suggests that while protected area managers, tourism professionals and researchers prefer to make a clear distinction between the tourism and conservation objectives of national parks, the views of local inhabitants often combine them. Greater participation in the tourism industry is not always a prime concern of local populations. Tourism should form one component of development strategies for protected areas, but should not over-ride alternative suggestions for raising local benefits such as joint resource management initiatives.

Integration into the International Market

1. As parks and the local economy adapt to incorporate tourism as a significant income, their dependency on the international tourism market increases. The international tourism market is a competitive and volatile one. This makes parks and the local economy vulnerable to changes in the international market and to loss of confidence by tour operators and individual travellers.
2. The decisions which determine the volume and character of tourism to a particular site are not made locally. These decisions are made in the tourist originating countries and by the domestic tour operators based in the tourism centres remote from the parks.
3. Foreign tour operators generally have a low level of commitment to particular destinations.
4. The local destination remains relatively isolated from the international market, receiving tourists but not understanding or playing any part in controlling the terms on which, and the processes by which, they arrive.
5. International tourists choose to visit countries for many reasons but experiencing the culture and seeing the wildlife are prominent.
6. There is evidence that some tour operators are sympathetic to ideas of local community involvement in tourism and a levy on park admissions for local development.

Visitor Education and Awareness

1. Tourists expressed more interest in information boards, vegetation labels and hides than in relatively expensive visitor interpretation centres.
2. There is potential for more sales of literature (books, maps and postcards) in national parks.
3. Significant numbers of tourists at Keoladeo choose to engage a guide. The park guide is an important part of the experience and the primary source of learning at Keoladeo.
4. Systems of guide training which establish high quality standards may be inappropriate for the needs and interests of many tourists and the regulations may function to prevent local people earning a living by guiding.

5. Conversely, where there is no regulation of guides, standards may be so low as to cause dissatisfaction.
6. It is necessary to train guides in languages, natural history, interpretive skills and visitor management

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1. Introduction

At the Royal Geographical Society conference on ecotourism³ in September 1992 the Minister for Overseas Development announced research funding from within the global Environmental Research Programme for research into tourism and national parks. The Minister suggested a range of tourism-related issues which needed to be addressed and invited research proposals.⁴

This Comparative Report draws together the main findings of the three country studies which have been submitted to the ODA in April 1997. Three base line studies on India, Indonesia and Zimbabwe were submitted to the ODA in March 1995 and interim reports dealing in detail with the methodologies employed were submitted in March 1996. The content of these earlier reports is referred to, where relevant, in this Comparative Report.

The Minister argued that all forms of tourism, not just ecotourism, needed to be sustainable and concluded

“If the development of tourism is to avoid some of the most damaging effects that have been observed on the natural and human resources of developing countries, it needs to be seen as part of the whole process of moving towards sustainable development”.

The research programme, which was approved by the ODA, addressed the issue of international tourism to national parks from a range of perspectives in order to understand the nature of the tourism processes in and around national parks and to suggest what needs to be done in order to increase tourism revenues to conservation and local people. This research project has spawned a training programme at the Durrell Institute of Conservation and Ecology in Tourism and Conservation for this purpose. There is also considerable scope for implementation projects and further research.

This was a collaborative research project based upon a partnership with institutions in the host countries.⁵ One of the primary focuses of this research was on the extent to which nature-based tourism from the international tourist originating countries contributes to the maintenance of biodiversity in, and tourism to, national parks in host countries. Domestic visitors to Keoladeo National Park currently constitute 70 per cent of total. Research in Bharatpur has shown that in comparison to foreign tourists, the total spending of domestic tourists is relatively low. However, domestic tourists make a substantial contribution to small scale businesses, whereas much of the spending by foreign tourists circumvents the local economy. Many of the tourist enterprises aim to cater for the foreign market due to the relatively high spend, and the status attached to such sales. Domestic tourism could make a substantial contribution to the development of the low-season market, and offer opportunities for less capital

³ The definitions of nature tourism and ecotourism are considered in sections 1.2 & 1.3.

⁴ Baroness Chalker (1994)

⁵ For full details see the country reports.

intensive tourism enterprises, at comparatively low risk. In Indonesia domestic tourist numbers have been static in recent years and amount to only 10% of total visits. In these circumstances the development of enterprises to meet domestic tourism demand is an unattractive option. In Zimbabwe the domestic tourism market is significant out of season and it could offer entrepreneurial opportunities for new entrants into the industry. However, the primary focus is on international tourists.

The latest figures from the WTO record 592 million international tourist arrivals in 1996; an increase of 4.55% on 1995. The average year on year increase in arrivals over the period 1990-1996 has been 4.4%, with receipts rising at 8% per year. Over the next 25 years the WTO will be forecasting a threefold increase in international tourist arrivals to 1.5bn.⁶ This growth in international tourism presents both a threat and an opportunity. Nature tourism constitutes only a fraction of the industry, but many tourists who would not define themselves as nature tourists also visit a national park or protected area as part of their trip. Although the three sites which form the basis of this study are all designated national parks, the methodologies and policy implications also apply to other forms of protected area.

Jenner and Smith⁷ have produced some estimates and forecasts of environmentally sensitive tourism. They define environmentally sensitive tourism as mass market travel which is dependent on the quality of the environment, where for example a tourist may choose the Pyrenees in preference to the Alps because they consider the Alps overdeveloped. Jenner and Smith define ecotourism as travel to unspoilt natural environments where travel is for the specific purpose of experiencing that natural environment. They further identify minimum impact ecotourism. Jenner and Smith's figures suggest a dramatic growth, with environmentally sensitive tourism and ecotourism doubling between 1995 and the turn of the century.

Table 1.1 **The value of environmentally sensitive tourism and ecotourism world-wide 1980 - 2000**

	1980e	1985e	1989e	1995f	2000f
Environmentally sensitive tourism	\$ 10bn	\$ 20bn	\$ 50bn	\$150bn	\$300bn
Ecotourism	\$ 4bn	\$ 5bn	\$ 10bn	\$ 25bn	\$ 50bn
Minimum impact ecotourism	\$ 25mn	\$ 35mn	\$100mn	\$250mn	\$500mn

Excludes transport. e = Estimate f = Forecast

Adapted from Jenner and Smith, 1992

It is clear that minimum impact ecotourism is a fragment of the total market, although there is considerable scope for conservation to benefit from the demand for environmentally sensitive tourism and ecotourism.

⁶ Robert Cleverdon (pers.comm.)

⁷ Jenner & Smith (1992)

1.1 Tourism and Conservation⁸

Given the strength of consumer demand for “ecotourism” products, and dramatic growth forecasts for this sector of the world's largest industry, it is not surprising that some governments⁹ are now beginning to develop national ecotourism strategies. The management of visitors to national parks and other areas of conservation importance will be a major challenge over the next twenty five years and there has been surprisingly little research into these issues. The growth of tourism also presents opportunities for securing funding for conservation if the process can be managed so that conservation benefits from the industry in a significant way, whilst the integrity of the conserved ecosystems is maintained or enhanced.

Sustainable tourism requires that the host population achieves rising living standards, that the tourist 'guests' are satisfied with the product and continue to arrive each year. It also requires that the natural environment is maintained for the continued enjoyment of the hosts and guests, all of which requires careful management. If nature-based tourism is to benefit conservation, there must be a clear link between the tourist destination choice and locally protected nature. Local people and the industry need to appreciate the economic value of the protected area as a tourist destination.

The development goal is to attract 'visitors to natural areas and use the revenues to fund local conservation and economic development'.¹⁰ The impetus for ecotourism development often comes from the major tourist originating countries and it behoves conservationists, development experts and the tourism industry to be aware of the conflicts between the immediate interests of the rich tourists and the local people. If tourism is to make any adequate recompense for the non-development of relatively pristine sites it will need to generate significant revenue for the benefit of those expected to sacrifice these potential sources of income.

The IVth World Congress on National Parks and Protected Areas (1992) accepted that part of the purpose of a national park was to 'provide a foundation for spiritual, scientific, educational, recreational' use for visitors. This modification of the IUCN's Protected Areas Categories clearly accepted and recognised the value of tourism as a use of national parks, provided that it was 'environmentally and culturally' compatible with the maintenance of its 'ecological integrity'.¹¹

McNeely reflects the changing attitudes of protected area managers when he argues that long-established human activity embracing 'cultural identity, spirituality, and subsistence practices' has contributed to the maintenance of biological diversity.¹² Cultural diversity and biological diversity are often inextricably linked, defining the management context for the protected area manager and the 'product' for the tourist. Tourism is one of the forms of sustainable use which potentially enables protected area managers to allow local people to derive economic benefit from the park and to

⁸ This section draws on work previously published in Goodwin (1996)

⁹ Including Australia, Mexico and New Zealand

¹⁰ Ziffer (1989)

¹¹ McNeely (1994).

¹² McNeely (1993).

encourage local support for the maintenance of natural heritage in national parks and other protected areas.

Tourism, if carefully managed, may offer diversified low-impact development and counter the danger of agricultural mono-culture which threatens biodiversity. But no form of tourism is without environmental, economic and social impacts. Large numbers of ecotourists will quickly constitute a mass and begin to impact on the local physical and cultural environment. If tourism is not carefully controlled and managed it will be incompatible with diversified rural development and conservation objectives. Not all forms of nature tourism support conservation.

In 1972 Myers¹³ argued that tourism provided the incentive for conservation through the establishment of national parks. Budowski¹⁴ argued that there could be a symbiosis between conservation and tourism. Where tourism is wholly or partly based on values derived from nature and its resources, it could provide an economic value for conservation of species and habitats. Others argued that the risk was too great and that tourism caused pollution and inflicted damage on flora and fauna¹⁵. The IUCN in 1982 affirmed that the 'tourist potential' of an area is an important factor in the selection of national parks and other protected areas, but recognised that many areas of important conservation value have little appeal for tourists and that the pursuit of tourism revenue may result in inappropriate development.¹⁶ Philips argued that tourism provides conservation with an economic justification, a means of building support for conservation and a source of revenue.¹⁷

The 1992 IVth World Congress on National Parks and Protected Areas declared that tourism associated with protected areas 'must serve as a tool to advance protected areas' objectives for maintaining ecosystem integrity, biodiversity, public awareness, and enhancement of local people's quality of life.¹⁸ Revenue generated from tourism in protected areas should be reinvested in protection and management. Recommendation 9, dealing with tourism and protected areas, significantly makes no particular reference to ecotourism, dealing rather with tourism as a whole..

Tourism to national parks and other protected areas is emerging as a development strategy. The IUCN's World Conservation Strategy (1980) endorsed the sustainable utilisation of species and ecosystems. Over the last ten years there have been a series of initiatives to implement projects which enable local economic development whilst maintaining or furthering conservation objectives. In 1990 Zebu and Bush produced clear survey evidence that park authorities had realised that local populations could no longer be ignored in the establishment, planning and management of national parks and other protected landscapes. The same survey reported that tourism formed part of the management strategy of 75% of respondents¹⁹.

¹³ Myers (1972).

¹⁴ Budowski (1976).

¹⁵ Crittenden (1975); Goldsmith (1974); Liddle (1975).

¹⁶ MacKinnon *et al* (1986)

¹⁷ Then Director General of the British Countryside Commission. Philips (1985)

¹⁸ IUCN (1993)

¹⁹ Zebu & Bush (1990).

Wells and Brandon (1992) in their study of Integrated Conservation Development Projects (ICDPs) reported that many of the projects had promoted nature tourism in order to provide funds for protected area management and to generate income gains for local communities. However, they report that the results had been disappointing, with all visitor spending in the parks going directly to the central treasury or to concession holding private corporate interests. Although, at some popular sites, revenues may exceed local protected area operating budgets, it is unusual for any of the additional revenues to be returned to park management 'and extremely rare for a revenue share to go to local people'. Wells and Brandon reported that local employment opportunities linked to tourism were 'insufficient to attract much popular local support for the parks.' In any event 'only a small minority of protected areas attract significant numbers of visitors'.²⁰

Tourism also presents an opportunity for increasing awareness of the importance of the maintenance of biodiversity to tourists and local visitors. Graham Child argues that the 'challenge is to determine how protected areas can be transformed from the bastions of conservation to the bridgeheads from which to spread more sustainable land use'.²¹

Consumptive and non-consumptive tourist-use both provide potential sources of sustainable revenue derived from protected areas if carefully regulated. Conservation of both species and habitat is essential to sustainable use as is economic viability for parks and tourism enterprises. The tension between the preservation of the ecological integrity of a park and recreational and tourist use will require careful management and long-term monitoring of the impact of tourists on parks.

1.2 Nature Tourism

It is important to distinguish between ecotourism and nature tourism. Nature, or nature-based, tourism encompasses all forms of tourism - mass tourism, adventure tourism, low impact tourism, ecotourism - which use natural resources in a wild or undeveloped form - including species, habitat, landscape, scenery and salt and fresh-water features. Nature tourism is travel for the purpose of enjoying undeveloped natural areas or wildlife. Most of the tourism to national parks is nature tourism. Not all forms of nature tourism are compatible; trekking, mountain biking and white-water rafting may not be compatible with birdwatching or photo-safaris.

Nature tourism involves the marketing of natural landscapes and wildlife to tourists. It has the potential to provide developing countries with the finance and motivation required to boost conservation efforts. National parks and protected areas are one of the primary resources for nature tourism, which is of increasing economic importance, providing foreign exchange and an economic return for the preservation of natural habitats and their dependent species.

Nature tourism includes a wide range of activities from relatively passive scenery and wildlife viewing to physically exerting 'adventure tourism' activities (mountaineering

20 Wells, M & Brandon (1992.)

21 Child (1994).

or white-water rafting) often involving elements of risk. Nature tourism may be consumptive (sport hunting) or non-consumptive and it may or may not be sustainable. Nature tourism may be the primary focus of a tourism activity or part of a package of leisure, recreational or cultural tourism activities. However, only some forms of nature tourism make a positive contribution to conservation. It is these forms of nature tourism which constitute ecotourism.

1.3 Ecotourism

Many of the contributors to the Royal Geographical Society Conference, including the Minister for Overseas Development, pointed to the many competing definitions of ecotourism which are in use for a range of purposes from marketing to implementation. A critical approach to ecotourism is essential if it is to be harnessed for the conservation of habitats and species. Ecotourism will not be significantly different from conventional tourism unless it is carefully managed and controlled. Protected area managers and conservationists need to take more control over the definition and use of the concept and over the supervision of its practice.

There is an urgent need to 'put the ecology back into ecotourism'²² in order to establish a symbiotic relationship between nature based tourism and conservation. For governments and development agencies ecotourism has much to offer in diversifying rural economies in LDC's in urgent need of foreign exchange. Tour operators will continue to use the term "ecotourism" as a marketing tool. It is difficult for consumers to get accurate information about the tours which they are offered and about the operators who claim the mantle of ecotourism.

If ecotourism is to become a means of harnessing part of the tourism industry for conservation of habitats and species, it is essential to focus on the activity rather than the motivation of the ecotourists. It is what they do, rather than what they say (or think) they do that impacts on conservation and ecosystems. It is easier to determine whether individual activities and tours meet ecotourism criteria, by contributing directly or indirectly to conservation, than it is to determine whether or not individuals are ecotourists or not.

Only conservationists and protected area managers are in a position, or have the expertise, to credibly assert a more useful definition of ecotourism. Ecologists and conservationists need to 'take control of the language being used in the name of "ecotourism"²³ and use it to benefit conservation and the maintenance of protected areas. It is protected area managers and conservationists, working with local people, who are best placed to manage nature tourism to ensure that its environmental impact does not jeopardise the integrity of the ecosystem and that both local people and the park gain significantly from ecotourism.

Nature tourism and ecotourism need to be distinguished. Nature tourism is concerned with the enjoyment of nature. Ecotourism additionally requires a contribution to conservation. Hence the following definition of ecotourism is offered:

22 Valentine (1993).

23 Ibid.

low impact nature tourism which contributes to the maintenance of species and habitats either directly through a contribution to conservation and/or indirectly by providing revenue to the local community sufficient for local people to value, and therefore protect, their wildlife heritage area as a source of income.²⁴

According to this definition, ecotourism makes a direct or indirect measurable contribution to the continued protection and management of natural habitats and their species. Generally this contribution is likely to be financial, but the work of commercial and 'not-for-profit' organisations which enable tourists to make a practical contribution should not be ignored. However, the claims of such organisations also need to be carefully assessed by conservationists.

Ecotourism is too powerful a force, driven by producers and consumers in the world's largest industry, for conservationists and protected area managers to allow it to be controlled and developed by that industry. It is the form and impact of nature tourism which must be managed to fulfil ecotourism criteria. It is essential that ecotourism is low impact and that this is ensured through careful extensive and intensive visitor management. Protected area managers and conservationists have an opportunity to manage nature tourism and turn it into ecotourism at the point of consumption, whatever the motivation of the tourist. It is the activity of tourism itself which needs to be controlled and used for conservation. If control is inadequate, pollution, habitat destruction, wildlife disturbance and a host of other negative impacts will result. Carrying capacity analysis and limits of acceptable change (LAC) management tools will need to be applied if tourism is to be harnessed for conservation. It is essential that protected area managers continue to see their role as being responsible for the conservation of habitats and species. The regulators of human activity in the parks should not become the tourism operators.

Ecotourism can benefit national parks and other protected areas in three ways.

I Direct

Ecotourism is one of the most important ways in which money can be generated to manage and protect the world's natural habitats and species. Ecotourism can contribute directly to conservation through park admission fees and payments for guiding, accommodation and interpretation centres. Central to the definition of ecotourism is reinvestment by the industry in the maintenance of habitats and species.

II Indirect

Ecotourism can enable local people to gain economically from the protected area with which they live. Protected areas cannot coexist in the long term with communities which are hostile to them. Local people are important

²⁴ Boo defined ecotourism in similar terms as 'nature travel that advances conservation and sustainable development efforts', integrating conservation with economic development and providing increased funds to parks, new jobs for local residents and environmental education for visitors. Boo (1992).

stakeholders with whom protected area managers must co-operate. More of the benefits of conservation need to be delivered to local people by enabling them to benefit from the protection of the park - their use of which is now regulated. If local people secure a sustainable income (a tangible economic benefit) from tourism to these protected areas, they will be less likely to exploit them in other less sustainable ways - obvious examples are over-fishing, poaching or coral blasting. If local people gain from the sustainable use of, for example, a coral reef or wild animals through tourism, they will protect their asset and may invest further resources into it

III Education

Ecotourism can offer a means by which people's awareness of the importance of conservation and ecological literacy can be raised, whether those tourists are domestic or international. The clients on whom the ecotourism section of the tourism industry depends are potential voters, taxpayers and leaders who may help to build constituencies of support to lobby for conservation.²⁵

The *Tourism, Conservation and Sustainable Development Research Project* was designed to explore, quantitatively and qualitatively, using natural and social science methodologies, the relationships between tourists, the “host” communities, the tourist industry and the protected areas which are the focus of tourism.

1.4 Turning nature tourism into ecotourism

A range of issues need to be addressed in order to empower local people and park managers and to enable them to turn nature tourism into ecotourism.

- Tourism Impact on Conservation
 - securing sufficient revenue to ensure re-investment in conservation and ecological restoration
 - changing the commercial and regulatory conditions to increase the contribution of tourism to conservation
 - improving visitor management to minimise the adverse ecological impact of tourism
- Potential for Increased Revenues for Local People
 - increasing local people's incomes from protected areas and the additional incomes which could be generated from tourism for their benefit

25 US OTA (1993).

removing the barriers which currently prevent local people from gaining from tourism to protected areas and to identify the changes which would enable them to secure the benefits of employment and ownership

- Opportunities for raising Conservation Awareness

increasing the contribution which visits to protected areas make to the raising of conservation awareness.

- Opportunities and Problems of Integration into the International Tourism Market

assessing international and national perceptions of protected areas and tourism to the research sites in order to improve marketing and visitation profiles, maximising revenue benefits.

1.5 Collaborative Research

Tourism to national parks involves both national and international visitors. The main focus of our research was on international visitors, as this is the group thought most likely to make a significant direct or indirect contribution to conservation. 80% of international travel is undertaken by nationals of 20 countries. 50% is undertaken by American, British, French, German and Japanese nationals. Collaborative research between an institution from a major tourist originating country and researchers in host countries was appropriate.

As the process of turning nature tourism into ecotourism is one of management and regulation, it is important that the management skills and methodologies for continuous monitoring of the tourism processes in and around national parks should be developed in the host countries. This research was predicated on the importance of collaborative research involving researchers from tourist originating and destination countries. Within the parameters of a comparative study, local research design has reflected the concerns of local people, conservationists and people from the travel industry in the host countries. The research was designed to maximise the benefit to the countries of the south of receiving comparable reports about nature tourism in their own country and two others.

The research at all three sites was conducted in partnership: in India, with the World Nature Conservation Society of Bharatpur, a local NGO, and with the park staff; in Indonesia, with the Wallacea Development Institute and the PHPA²⁶, both in Komodo and Bogor; in Zimbabwe, with the Geography Department of the University of Zimbabwe.

²⁶ Directorate General of Forest Protection and Nature Conservation.

1.6 Research Sites

The three countries were chosen from amongst five put to the ODA²⁷. Two sites were chosen in Asia and one in Africa. India and Indonesia are predominantly cultural tourism destinations but both have significant wildlife components in their tourism profiles. Zimbabwe's tourism, aside from the Victoria Falls, is overwhelmingly wildlife orientated.

In India, Keoladeo National Park was chosen because of its high level of foreign and domestic visitation, its situation on the Golden Triangle and its importance as an international bird site. This park contains no dangerous animals and many visitors are unescorted. The park offers unusually large numbers of local employment opportunities for non-parks staff. Keoladeo, also called Bharatpur, is a well established tourist destination.

Komodo National Park in Indonesia was chosen because of its relative remoteness and its dependence on one species of charismatic megafauna; the large monitor lizard *Varanus komodoensis*, the national animal of Indonesia, popularly known as Ora or the Komodo Dragon. Komodo National Park is accessible to tourists from Lombok and Bali and is on a rapidly developing backpackers and independent traveller route through the eastern part of Indonesia to Australia. Komodo is a maturing tourist destination.

We had originally intended to undertake our research in Zimbabwe at Hwange National Park; an established mature destination. Our research partner and the Ministry of Environment and Tourism argued that we should research tourism in the south-east lowveld in and around Gonarezhou National Park. Gonarezhou reopened to foreign tourists in 1994. The lowveld has a wide range of institutional forms of wildlife tourism; a major National Park, three conservancies, a charitable trust, a commercial lease farm and a major hotel company development within a CAMPFIRE joint venture. There is a case study of each of these in the Zimbabwe report. There is an additional chapter on the conservancies which describes their original aspirations and identifies some of the policy issues which have arisen as implementation had proceeded. The lowveld is now opening to international tourism and the area provides an excellent opportunity to compare a number of institutional models.

The primary focus of this research project was on tourism to formally protected areas. However, the Zimbabwe case studies included a wide range of other sites and potential sites being put to conservation use in order to secure revenue from tourism. At present, Keoladeo National Park is the only nature-based tourist attraction in Bharatpur. At the workshop there was some discussion of the possibility of developing an alternative natural site near the national park providing additional wetland habitat for birds and a picnic site for primarily domestic tourists, many participants suggested that the local economy would benefit from alternative attractions. This development would offer an additional natural attraction and relieve pressure on the Keoladeo National Park. In the rural areas, economic trends such as the shift from buffalo grazing to agricultural livelihoods has increased the price of land, and encouraged a

²⁷ The two other countries were Madagascar and Ecuador. We were unable to establish a suitable partner in Madagascar. A major French study of tourism at Galapagos pre-empted our working there.

progressively more intensive agriculture. Further land speculation will limit access to the land by poorer groups. While tourism to the rural areas of Keoladeo National Park offers the potential of economic benefits through village stays and handicraft sales, land intensive tourist schemes may be best avoided, unless land is made available by the state or international donor aid..

Each chapter of this comparative report focuses on a different aspect of the relationship between tourism, local people and the protected areas. The chapters conclude with the policy implications arising from the research findings. Appendix 1 contains the research objectives. Appendix 2 discusses the data requirements for future monitoring and the means by which the data may best be collected.

2. VISITOR PATTERNS

2.1 Introduction

In this chapter we shall describe the most important aspects of tourist visitor patterns, and present comparisons between the three sites. Since the three parks are completely unconnected, there is no guarantee that strictly comparable statistics will have been collected by the authorities, both in terms of the actual data collected and the time period for which it is available. However, there is a basic level of commonality which does allow useful comparisons to be made, particularly in relation to total visitor numbers, proportions of foreign visitors and seasonal patterns.

2.2 Total visitor numbers

The three sites were chosen to represent a wide range of tourist experience. Keoladeo bird reserve is small, easily accessible and well provided with a range of hotels in the immediate vicinity. It is also on a well frequented tourist route and a visit can be included in other itineraries with very little effort or additional expense. Conversely, Komodo is an island, and thus accessibility is limited. Furthermore, although there is some accommodation on the island, the main hotel provision is to be found at Labuan Bajo and Sape on adjacent islands. Its attraction is also very much focused on one particular species. Gonarezhou is much larger than either of the other two sites and provides the opportunity to see a wide range of African wildlife over a longer period of time. It is also relatively remote and tourist infrastructure is at a less developed stage.

The annual visitor numbers for all tourists (home and foreign) are shown in Figure 2.1. As can be seen, there are great differences in the levels of visitors, the visitor numbers at Keoladeo being some fifteen times greater than those at Gonarezhou. The reasons for such differences are largely those described above. In addition, however, it should be remembered that these figures are based on the numbers passing through the entrances. They thus do not take account of how long visitors remain within the park. Whereas Keoladeo is primarily a day-trip experience, Gonarezhou requires longer to see and offers varied possibilities for staying within the park. For a given level of entrance figures, there will be more visitors within the park the longer the length of stay. On the other hand, Keoladeo has several hotels close to the park and, as a result, there are many tourists who stay for several nights and make multiple visits to the bird reserve. Consequently, there are fewer tourist visitors to Bharatpur than immediately conveyed by the entrance figures.

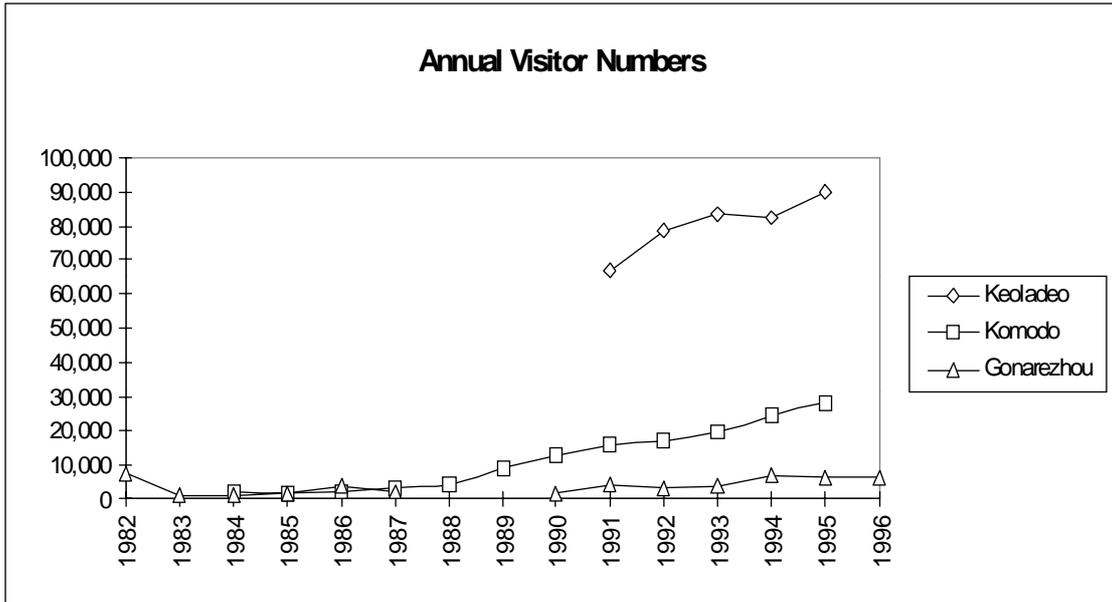


Figure 2.1. Annual Visitor Numbers

There is clearly an upward trend in recent years, but comparisons are difficult because of the differences in absolute size. The visitor numbers have, therefore, been converted to index form, with 1991 being set at 100, so that direct comparisons can be made. The results are presented in Figure 2.2. One must first comment on the very volatile performance of Gonarezhou during the 1980's, including a two-year gap in the data. The reasons are related to the security situation and were described in greater detail in the interim report for Zimbabwe.²⁸

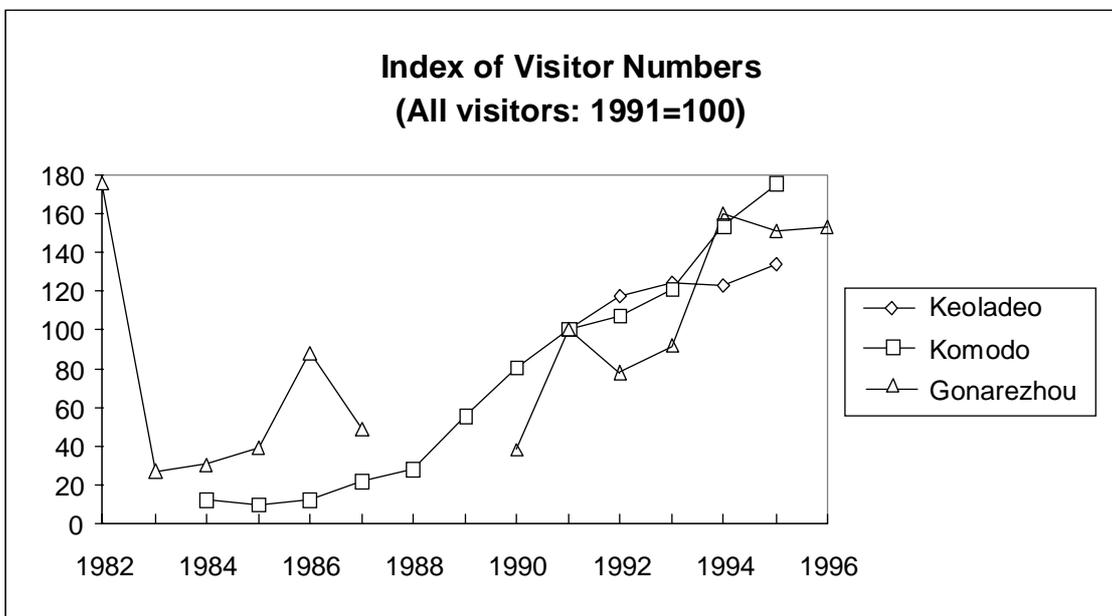


Figure 2.2. Index of Visitor Numbers

²⁸ Goodwin *et al* (1995)

During the 1990s, the curves lie within a band showing a clear upward trend. The annualised growth rates between 1991 and 1995 are 7% for Keoladeo, 15% for Komodo and 10% for Gonarezhou. Keoladeo is growing more slowly than the others, possibly a reflection of its well developed status. As explained in the individual country report, the reasons for Indians visiting Keoladeo are dependent on personal and family motives and are thus not related to growth in world tourism nor specifically to nature-based tourism.

Komodo demonstrates a very strong, continuous increase in numbers. Greater accessibility and growth in tourism to Indonesia as a whole have almost certainly played their part. Visitor numbers to Gonarezhou have also shown strong growth over the 1990s, albeit with appreciable fluctuations.

Foreign tourism is an issue of great importance; it can be a substantial invisible export but, in contrast, can also have less welcome cultural impacts. These issues are addressed elsewhere in the reports. Figures 2.3 and 2.4 show the annual numbers of foreign visitors, both as absolute figures and as percentages of the total.

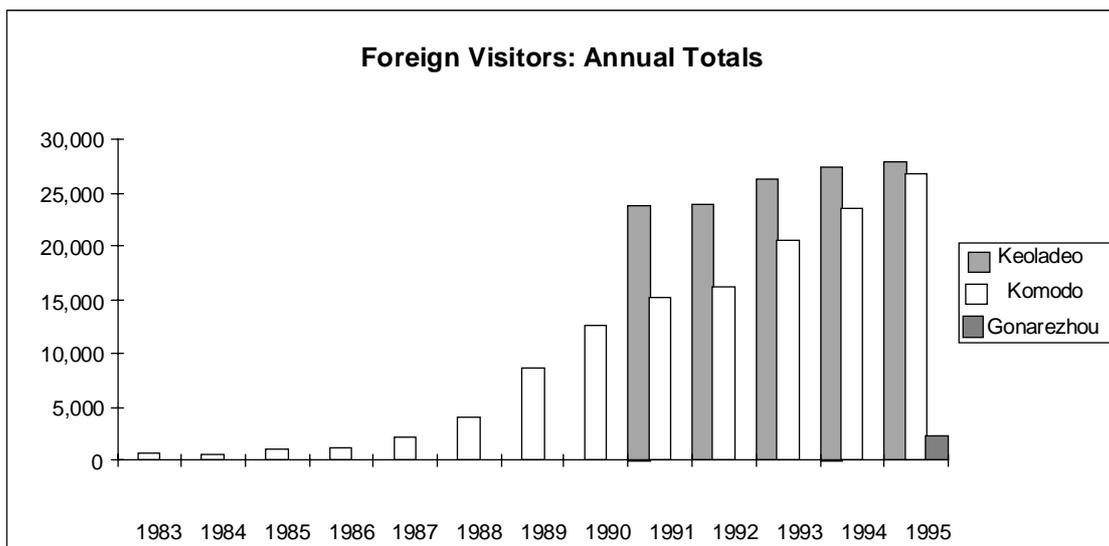


Figure 2.3. Annual Totals of Foreign Visitors

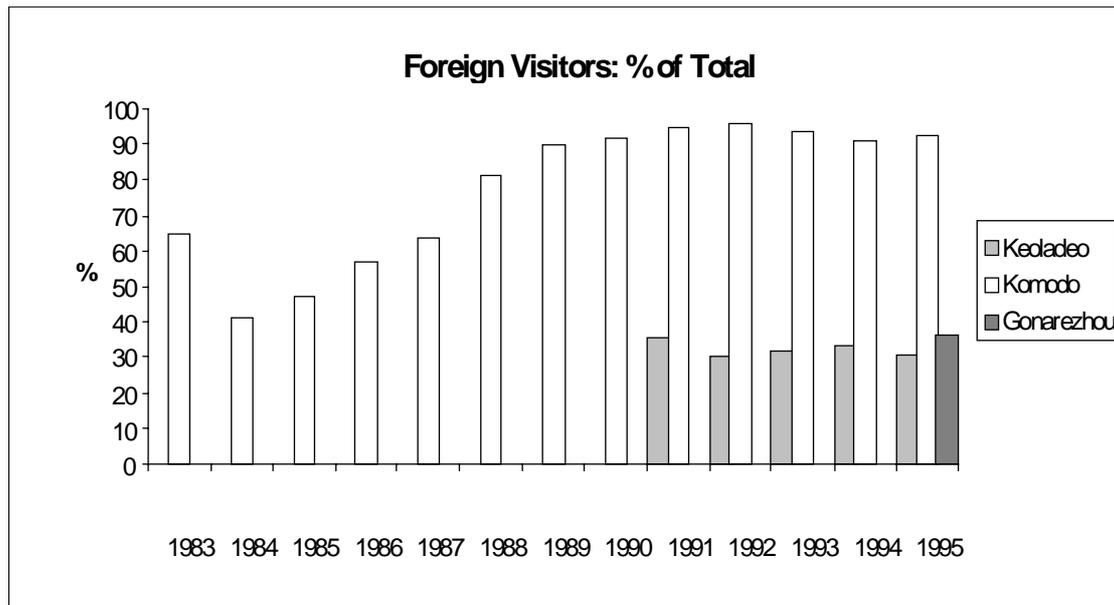


Figure 2.4. % of Foreign Visitors

Unfortunately, there is limited information about foreign visitors to Gonarezhou but the one year of data does give a useful reference point. These graphs bear out many of the points mentioned before. There is a very large base of domestic visitors to Keoladeo, with the proportion of foreign visitors showing very little change; the growth of total visitor numbers is balanced evenly between domestic and foreign tourists. Komodo presents much more striking figures; the growth in foreign visitors has been spectacular (an annualised growth rate of 38% over the decade 1985-95). Furthermore, it outweighs the growth in numbers of Indonesian visitors with the result that tourism to Komodo is currently dominated by foreigners who make up over 90% of visitors to the island.

We also need to investigate how visitor numbers to the three chosen sites relate to the growth of tourism in those countries, in particular to the growth in the number of foreign tourists to the country as a whole. Such relationships are demonstrated in Figures 2.5-2.8 which are based on WTO figures.

As with the visitor numbers to the individual sites, there is a need to use index figures to allow comparisons between the countries. Figure 2.5 shows the growth in foreign visitors to the three countries. (To compare absolute levels, the total numbers of visitors in 1995 were 1.8, 4.3 and 1.3 million for India, Indonesia and Zimbabwe respectively.) The increases are very similar for Indonesia and Zimbabwe, with about a doubling in visitors over the five-year period. India has shown a steady growth since 1991, but at a lower percentage rate than the other two countries; the annualised growth rates over the period 1990-1995 are India 6.0%, Indonesia 14.7% and Zimbabwe 16.0%.

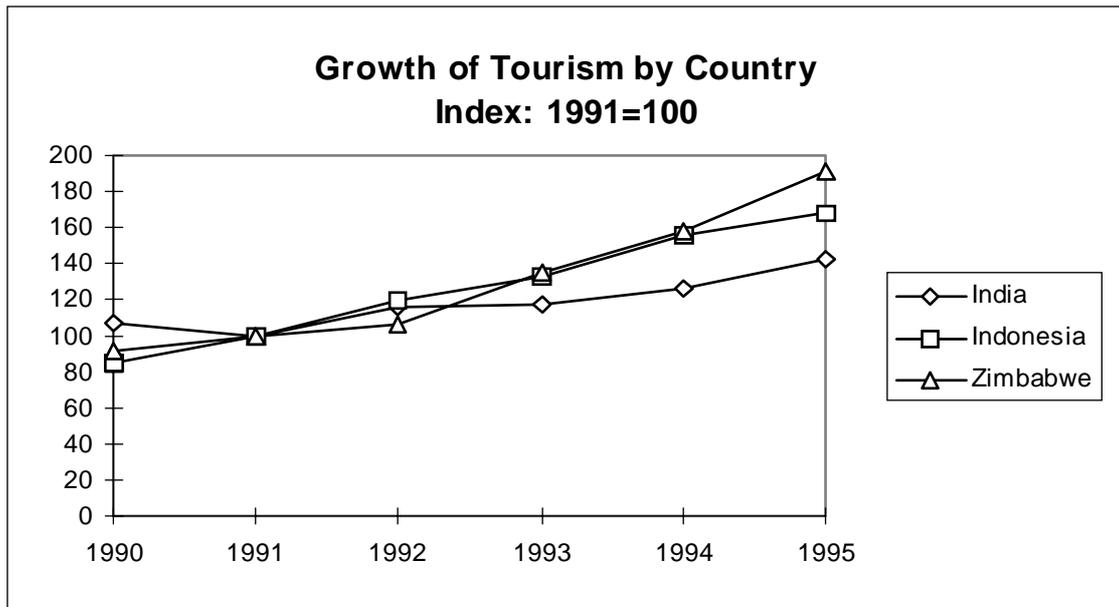


Figure 2.5. The Growth of Tourism by Country

Given the background figures for foreign visitors to each country as a whole, have visitor numbers to the three national parks grown at comparable rates? Since we are looking at foreign visitors to the country, the best comparison would be with foreign visitors to the parks. However, since these figures are not available for Gonarezhou, we have also calculated an index of relative growth for all visitors to the parks (domestic and foreign); this can be seen in Figure 2.6. The indices can be calculated for foreign visitors to Keoladeo and Komodo, and these are shown in Figure 2.7.

As has been found elsewhere, the figures for Gonarezhou can be volatile. However, apart from 1994, it would appear that Gonarezhou has not been as successful in attracting visitors as has Zimbabwe as a whole. On the other hand, the total numbers visiting Keoladeo and Komodo have kept pace with the growth of foreign tourism to India and Indonesia. When we look specifically at foreign visitors to the two sites for which we have figures, there is a relatively small, but quite noticeable, difference. Even though foreign tourism to Indonesia has been growing very rapidly, visitor numbers to Komodo have grown at a comparable rate. In contrast, Figure 2.7 shows that the proportion of foreign tourists to India who also visit Keoladeo has fallen; in other words, the growth in foreign visitors to Keoladeo has not been as great as the growth of tourism to India. One possible explanation is that Keoladeo lies in an area where foreign tourism is most developed (the Golden Triangle of Delhi, Agra and Jaipur). Other parts of India have greater scope for tourism development and thus may have experienced relatively higher growth rates in recent years.

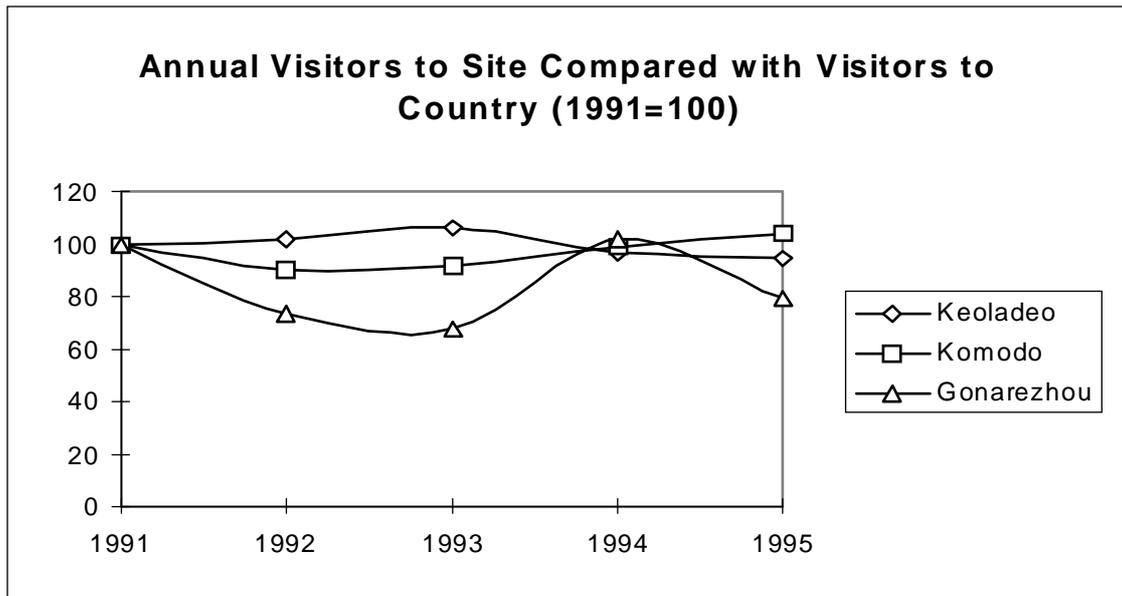


Figure 2.6. Annual Visitors to Site Compared with Visitors to Country

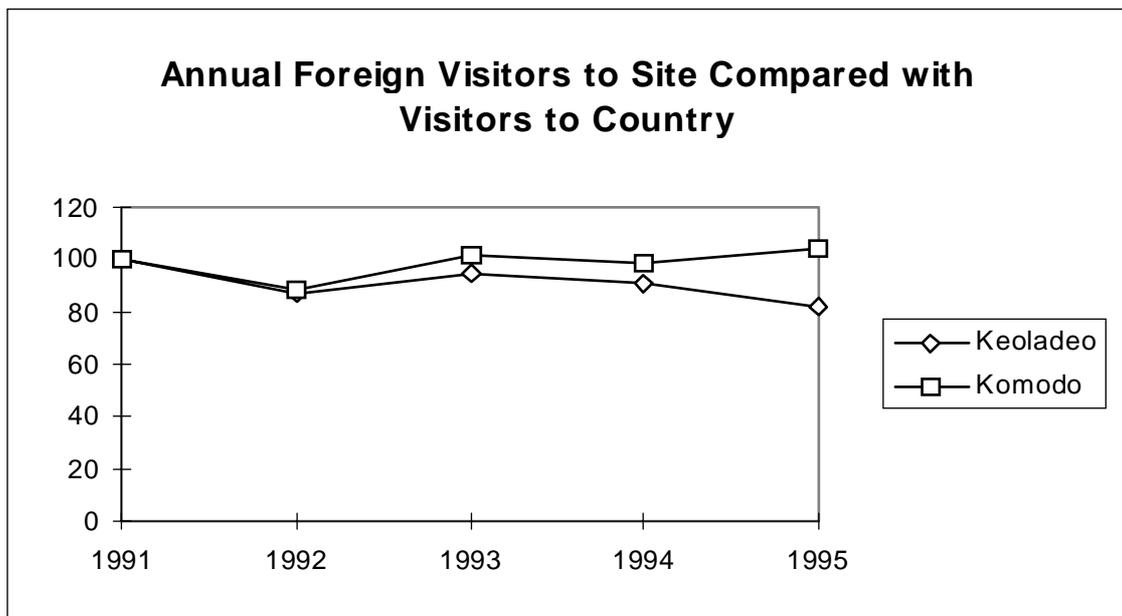


Figure 2.7. Annual Foreign Visitors to Site Compared with Visitors to Country.

2.3 Seasonal visitor patterns

Tourism is a seasonally varying phenomenon. It is driven by climate in both the home country and destination of the tourist. Furthermore it is affected by social, cultural and industrial factors, for example the timing of festivals and the organisation of vacation leave by employers and employees. With so many potential influencing

factors, it is to be expected that many different seasonal patterns of visits will be observed in different tourist attractions. Our three sites are no exception.

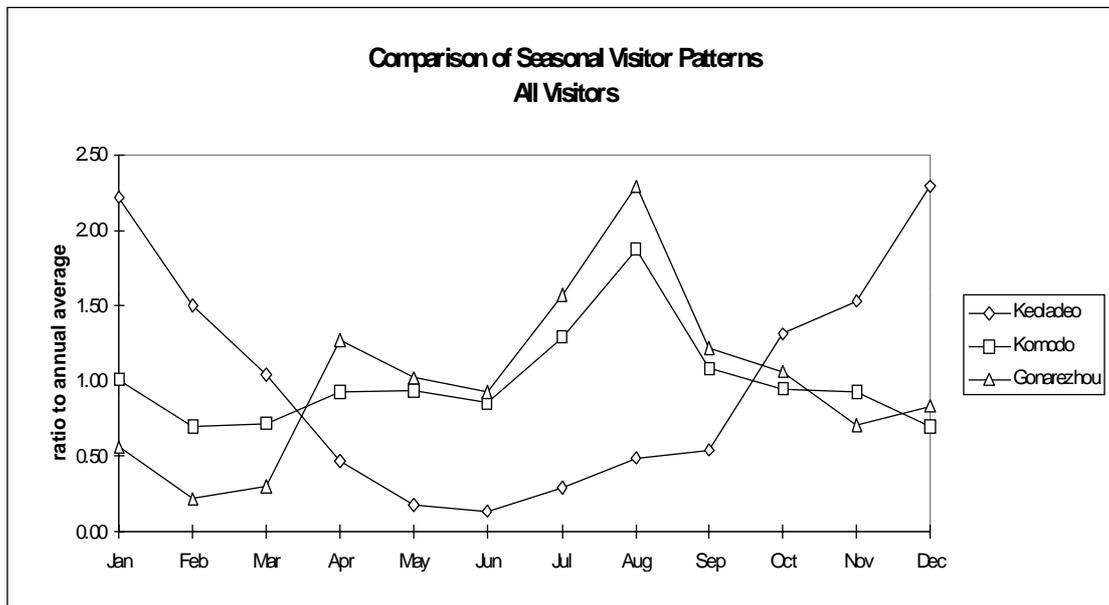


Figure 2.8. Comparison of Seasonal Visitor Patterns- All Visitors

Figure 2.8 shows the seasonal patterns for all visitors. These figures represent the ratio of visitor numbers in any particular month to the monthly visitor numbers averaged over a complete year.²⁹ The graphs are based on most recent data but, even where a longer time series is available, only the most recent five years has been used because we wish to avoid any confusion due to possible long-run secular changes in seasonality. Komodo and Gonarezhou show clear peaks in August. For Komodo, this is probably explained by the fact that most visitors are from the Northern Hemisphere (83% in 1995/96) where August is the conventional month for taking the main annual holiday. In Gonarezhou, the visitor patterns are very much affected by the local dry and rainy seasons. The very different pattern for Keoladeo is also readily explicable. The plains of Northern India are extremely hot in the months of May to August, making outdoor activities very uncomfortable. Furthermore, migratory birds are the main attraction of Keoladeo, and they arrive in greatest numbers during the cooler months.

The data on seasonal visitation patterns by foreign visitors are less reliable; they are not available for Komodo and are based on only fourteen months' data for Gonarezhou. However, since most visitors to Komodo are from overseas, the seasonal patterns for all visitors will be a good indication of the seasonal pattern for foreigners. Finally, data for Keoladeo are complete. The results of the seasonal analysis are shown in Figure 2.9.

²⁹ The seasonal factors were calculated using seasonal decomposition based on multiplicative, centred moving average model (Anderson D.R., Sweeney D.J. and Williams T.A. **Statistics for Business and Economics** 4th ed. West, St. Paul Minn., 1989).

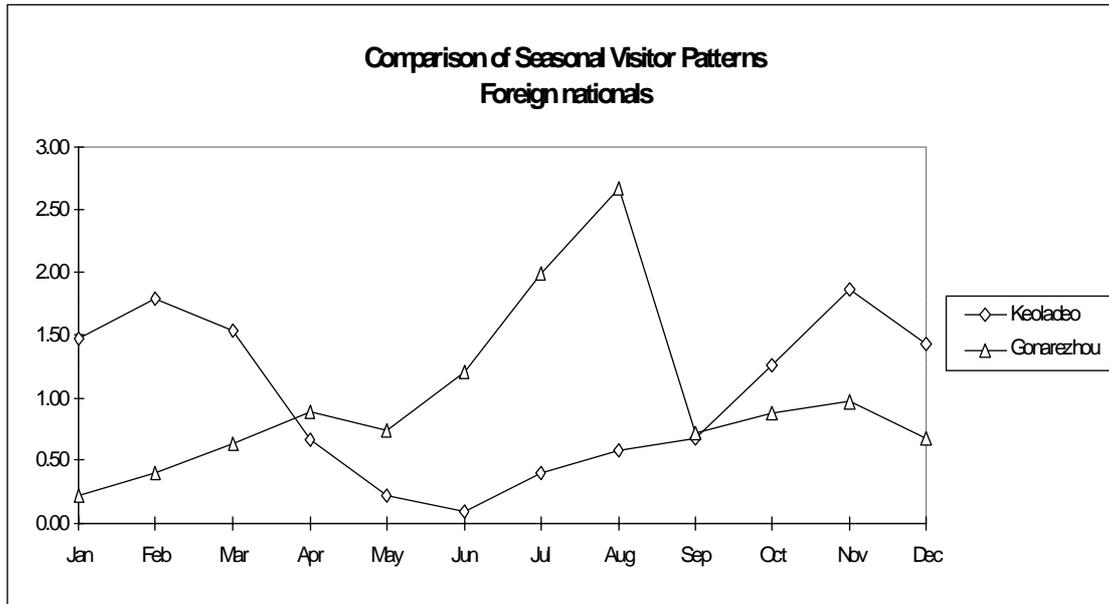


Figure 2.9. Comparison of Seasonal Visitor Patterns- Foreign Nationals

The pattern for Gonarezhou is broadly similar to that for all visitors, but with a pronounced trough in September. Given the limited information on which these calculations are based, it is probably unsafe to draw any strong conclusions. For Keoladeo, the pattern has the same broad shape, with relatively few visitors in the summer months. However, their range of variation is less than for all visitors, the peak in November and December being noticeably diminished. This result is due to the pattern of visits by Indian nationals who show a very great propensity to visit in December.

These results support the contention made at the beginning of this section that there are many influences on seasonal visit patterns and that these influences are specific to the site being investigated. Management of any park will have to take into account seasonal fluctuations and the associated problems of utilisation rates of facilities and in organising labour to cope with the extreme slack and busy times.

2.4 Conclusions

The growth of foreign tourism to the three countries is striking. Although one must exercise caution when extrapolating exponential increases, the annual rates of growth of 15-16% for Indonesia and Zimbabwe imply a doubling period of just under five years. The less spectacular growth rate of 6% per year in India will still result in a doubling of visitors every twelve years and is greater than the figure of 4.4% per year for the growth of world tourism as a whole over the period 1990-96 (see Chapter 1). Whether such rates can be sustained is open to question; however, the absolute numbers of visitors are not yet that high (less than five million per year) when

compared with, say, tourist flows into European countries³⁰. The decreasing costs of long-haul travel, and the increased accessibility of locations previously considered remote are established trends. Taking all these factors into account, it seems very likely that visitor numbers to the national parks we have studied will continue to experience strong growth. The management of the parks will, therefore, have to be prepared for a continued increase in visitors and the implications this has for both the tourists themselves and the impact on wildlife and habitat within the parks.

Although the overall picture may be one of growth, it must still be remembered that individual sites have very individual characteristics. We have seen, for example, greatly differing patterns of seasonality in tourism, and considerable variation in the pattern of visits by residents of the home country. The size, accessibility and the nature of the wildlife experience are also very different. It is essential, therefore, for the park management to be very aware of both local conditions and of the great changes that are taking place in the global tourism industry.

2.5 Policy implications

1. National parks operate in an environment of rapidly growing world tourism.
2. All three countries display rates of growth of tourism greater than the world average (and are particularly high in Indonesia and Zimbabwe).
3. There are no obvious limits on growth of visitor numbers in the immediate future to the three countries we have analysed.
4. Growth of visitor numbers to the three sites is comparable to the growth of foreign tourism to the country as a whole, but is slightly lower in Keoladeo.
5. Current rates of growth in tourist numbers will increasingly impact on park habitats.
6. Visitor patterns to particular parks vary greatly in terms of seasonality and the mix of domestic and foreign visitors. These factors are specific to individual parks.

³⁰ The total number of tourists entering the countries of Europe in 1994 was 330 million, and into Spain alone was 43 million (WTO).

3. VISITOR IMPACTS AND MANAGEMENT

3.1 Introduction

Nature-based, alternative, or ecotourism has been a growing subject area in the last 25-30 years. The literature, and particularly that regarding tourism in protected areas, has expanded exponentially (figure 3.1). The Centre des Hautes Études Touristiques (CHET) at the Université de Droit, d'Économie et des Sciences d'Aix-Marseille holds an electronic database of over 59,000 references associated with tourism, of which 4,500 relate to tourism and parks, 2,750 to tourism and forests, 2,000 to tourist carrying capacity and 2,000 to 'ecotourism' (R.Baretje, 1996, *pers. comm.*).

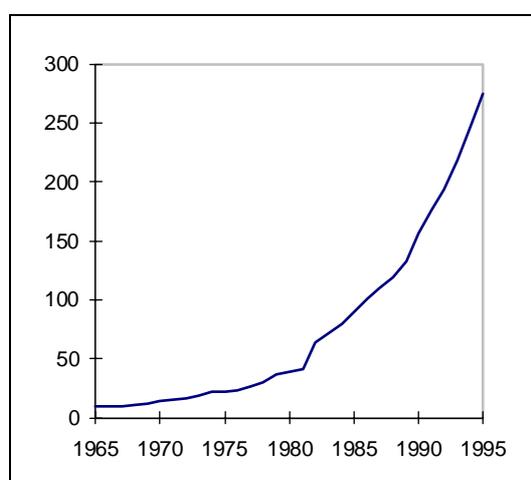


Figure 3.1. The number of volumes of tourism references compiled by CHET over the past thirty years.

Recreation ecology has grown as a discipline over the same period of time. Numerous authors have reviewed the literature concerning the environmental impacts of recreation and tourism (Wall & Wright, 1977; Mathieson & Wall, 1982; Edington & Edington, 1986). Each of these has served to provide an overview of the types of impact associated with recreation. Some have mentioned the limitations associated with visitor impact studies. However, the relevance and value of this area of research in an applied sense, to wilderness (and particularly protected area) management, has not been critically assessed.

Whilst environmental impact assessments are often mandatory prior to the development of tourist infrastructure, the same cannot be said for the impact of visitor activities in protected areas, particularly in the developing world. The development of tourism in protected areas is largely demand driven. Hence management plans, where they exist, deal primarily with defining the requisite development and necessary resources to operate the park to the capacity demanded of it, rather than relying on prior surveys and impact assessments to define in advance a sustainable model of park

development. Where research is identified as a priority in management plans, the focus is usually on the need for baseline research and monitoring, rather than monitoring anthropogenic disturbance. Where visitor controls are defined in management plans, they are often subjective, rarely based on ecological evidence, and rarely implemented.

Studying visitor impacts in order to identify how to limit or prevent them has become popular amongst ecological scientists. But how applicable have the results been, how much do they reveal about visitor impacts, and what difference has this research made to visitor impact management in protected areas? Aside from academic studies which attempt to answer fundamental questions about visitor impacts, a second approach has been to devise systems of management which take into account the uncertainties of a complex relationship, acknowledging both the aesthetic implications of visitor impacts, and the subjective nature of management. But how successfully have these systems been implemented in protected areas in developing countries?

This chapter discusses some of the existing research on visitor impact studies³¹, and considers whether the debate over the impact of tourism in protected areas is adequately informed by scientific evidence. Secondly, a brief review of visitor management practices, and research-based management systems, is presented. The application of visitor management in protected areas in developing countries is discussed, and constraints to effective management identified. Thirdly, the issues raised are illustrated by reference to the three case studies upon which the *Tourism, Conservation and Sustainable Development Project* is based, namely Komodo National Park, Indonesia, Keoladeo National Park, India, and the south-east lowveld of Zimbabwe.

The clear message from this research is that, in order to 'identify means of improved visitor management in order to decrease the adverse ecological effects of tourism'³², the adverse ecological effects of tourism first have to be recognised and measured. This demands the integration of comprehensive, continuous monitoring into protected area management, based on a system of quantitative and qualitative indicators upon which management can have an effect. Whilst visitor impacts may not appear to be severe in any of the three case studies upon which this project has focused, the rapid rises in visitation which are being witnessed will soon exceed the ability of management to deal with tourism. If these parks are to react to the potential impacts of increased visitation, those potential impacts must be monitored.

3.2 The limitations of research into the environmental impacts of tourism

The environmental impact of visitors constitutes a form of anthropogenic disturbance of natural systems. Cayford (1993) defines this as 'any relatively discrete event in

³¹ a comprehensive review of visitor impacts and management systems has recently been undertaken by IIED for the ODA (Roe *et al* 1997)

³² principal objective (c) of this project.

time that disrupts ecosystems, communities or populations, where disruption refers to a change in behaviour, physiology, numbers or survival'.

A recent report from Australia noted that, despite extensive global research into the environmental impacts of tourism (primarily trampling), very little is really known about them, and integrated research, monitoring and management should receive high priority from government funding sources (Preece *et al.*, 1995).

Localised damage to vegetation, by trampling and vehicle tracks, is the most studied aspect of visitor impact, with a wide range of investigations in different environments (Goldsmith, 1983; Preece *et al.*, 1995). However, whether it warrants this attention has been questioned by some (Brotherton, 1981).

Studies in the UK have revealed marked effects of trampling at heavily visited beauty spots, and have shown that the amount of damage and extent of alteration of the natural vegetation is dependent upon the intensity of trampling (Goldsmith, 1983). The sensitivity of a site will also influence the extent of damage from trampling, so that general trends are difficult to establish. Soil fertility, drainage, relief, vegetation type, individual species tolerance and season will all affect the susceptibility of site to damage (Edington & Edington, 1986; Goldsmith, 1983).

The Maasai Mara National Reserve in Kenya is one of the most heavily visited in Africa, with almost 200,000 recorded visitors in 1989, over 27% of all visitors to Kenya (Koikai, 1992; Muthee, 1992). These visitors brought almost 24,000 vehicles into the park, for an average of 2.5 days each, leading to great concern over the potential impacts on the landscape. A study by Wildlife Conservation International revealed that increased vehicle densities and increased speed correlated with a greater loss of vegetation cover and increased soil compaction on the grasslands, that most damage occurred in the wet season, and that plant species composition changed with long term vehicle disturbance. However, damage was localised along vehicle tracks, and limited to 15.3% of the area of the reserve. In addition, recovery of vegetation in experimental plots was swift, taking around three weeks once vehicles were excluded (Muthee, 1992). An earlier study showed similar results (Onyeausi, 1986).

Trampling effects appear to be generally understood. However, in surveying a range of trampling studies, Goldsmith (1983) complains that many are superficial or anecdotal, and that no framework for monitoring and evaluating disturbance is ever provided.

The same can be said for animal disturbance. Human impact on wildlife populations can cause direct mortality or disturbance, the latter resulting in reduced feeding efficiency or reduced reproductive success (Pierce *et al.*, 1993). However, it is difficult to quantify animal disturbance, and even more so to show a significant impact on population dynamics. Chambers *et al* (1983) spent 67 hours over a twelve month period searching for leopards in Ruhuna NP, Sri Lanka, in which time they made 16 sightings. 'Alarm' was observed in 75% of sightings. Diurnal and seasonal activity patterns were inferred to have been influenced by tourist vehicle densities, but no supporting data was offered. Similarly, a study of the effect of baiting upon tigers in Royal Chitwan NP, Nepal, was based purely on anecdotal evidence (McDougal, 1980)

Where quantitative data has been collected (primarily for birds), it is often so specific as to be of little relevance to understanding the wider consequences for the species. Whilst conceding that the reactions of migratory and wintering waterfowl to disturbance has been well studied and documented, Madsen (1994) criticises the apparent focus on local effects. Little is known about the wider significance of localised disturbance in terms of bird distribution, reproduction and population dynamics.

Part of this lack of attention and understanding can be attributed to the problem of isolating key variables. 'So far, most studies of [bird] disturbance have been observational, with the associated problems of controlling for confounding effects and determining causal relationships' (Madsen, 1994, p.68). This statement sums up the general situation regarding studies of the recreational impact on wildlife. Very few experimental studies have been carried out, since manipulating and controlling field conditions is difficult (see Gutzwiller, 1991).

Cayford (1993) suggests that, whilst it is relatively easy to detect responses to disturbance (in wading birds), it is difficult to determine the impact this has on population dynamics, partly because of the difficulty of isolating variables. He advocates a comparative theoretical approach, based upon an understanding of the behaviour and ecology of species in particular environments, but comprehensive baseline data encompassing the range of natural variation in a particular situation is rarely available. Cayford (1993) concludes that experimental manipulations may offer the best method for studying disturbance and its ultimate implications. Madsen (1994) describes the establishment of experimental reserves to examine the impact of recreational hunting on wildfowl.

Experimental manipulation may not be practical in national parks. However, the implementation of simple monitoring procedures based upon indicators of environmental change would provide valuable data not only for adaptive management, but for fundamental understanding of the interaction of tourists with fragile and protected ecosystems.

3.3 Visitor impact management strategies

The concept of carrying capacity as a tool for defining the upper limit of visitor use beyond which environmental degradation would occur was discussed widely in the 1960s and '70s. However, in practice, carrying capacity proved very difficult to establish, principally because of the difficulty of defining maximum limits in naturally dynamic systems; 'it became evident that [carrying capacity] was simply not generating technically effective and politically viable solutions to visitor management problems' (McCool, 1990).

In response to the practical difficulties of defining carrying capacity, a number of research-based management planning systems were developed as alternative strategies for visitor management. Perhaps the most well known of these is the Limits of Acceptable Change (LAC) system (Stankey *et al.*, 1985). However, a number of other systems exist, including Recreational Opportunity Spectrum (ROS), Visitor Impact

Management (VIM) and Visitor Activity Management Process (VAMP) (Graefe *et al.*, 1990; Giongo *et al.*, 1993). Each of these shares four principal planning steps:

- Determining the current situation
- Deciding what situation is desired
- Establishing how to get from the current to the desired situation
- Monitoring and evaluating progress or success in attaining the desired situation³³

In comparison with carrying capacity, the emphasis in these systems has moved from defining limits to the number of visitors, to defining the degree of change which is acceptable within the system. This refers to social as well as ecological factors, and is based on evaluating the state of the system by reference to a number of suitable indicators.

Once indicator limits have been defined, direct and indirect site and visitor management strategies can be implemented. Direct tactics for limiting use include controlling overall volume of visitation, dispersing use patterns away from heavily used areas, concentrating use patterns in designated areas away from fragile areas, seasonal closures at sensitive times of year, and spatial zoning by level and form of use. Indirect tactics include visitor education and raising awareness of impacts.

A questionnaire study was made of the implementation of visitor management strategies in 319 national parks around the world (Giongo *et al.*, 1993). This revealed that monitoring of biophysical impacts were only occurring in 50% of parks in developed countries, and in 35% of parks in developing countries. Direct management tactics are employed in less than 50% of parks overall.

The conclusion reached by the authors of this study was that, in parks in developing countries, ‘an adequate level of basic infrastructure, information exchange, and training must still be reached before visitor and resource management issues become the focus of attention.’ (Giongo *et al.*, 1993, p.104).

3.4 Comparison of three country case studies

The following sections compare visitor impacts, and the monitoring and management of these impacts, within each of the study sites. They draw on the three individual chapters in the individual country reports (Goodwin *et al.*, 1997a,b,c.). Each of these chapters attempts to assess the environmental implications of tourism within the context of the conservation priorities of the protected area in question, and the additional environmental threats posed by external factors.

In the absence of comprehensive data sets spanning several years, and baseline information against which to compare the current situation, a fully quantitative analysis of the environmental impacts of tourism is difficult. A prolonged period of ecological fieldwork was beyond the scope of this project, and so an alternative approach was employed.

³³ quoted from Giongo *et al.*, 1993.

Information regarding visitor activities, impacts, monitoring and management was collected using a questionnaire, administered as semi-structured interviews with key personnel, i.e. park rangers and managers.³⁴ The format was adapted from the instrument used by Giongo et al (1993) to examine visitor management in protected areas globally. In addition, a rapid environmental appraisal of site and visitor management was carried out. This was conducted as a modified form of field transect whereby a park ranger or other key personnel travelled around a site with an interviewer and relayed details of management, impacts and mitigation in response to the visual prompts of his surroundings. The interviewer also made personal observations whilst undertaking these transects.

Besides the collection of factual information on the management and monitoring of visitor activities and impacts, the principal objective of the survey was to establish the relationship between tourism and the environment, and the relative importance of tourism impacts within the broader environmental context of the park and its surroundings. To this end, interviews focused on the following series of questions.

- What are the conservation priorities, and other values, of the park?
- What environmental problems does tourism present, and is it in conflict with the conservation priorities of the park?
- What are the other environmental threats to the park, how important are tourism impacts in relation to other threats, and what relationships exist between tourism and other impacts?
- What would you change about tourism in the park, and why?

This discussion attempts to compare the results from each of the three individual study sites, and to draw broad conclusions where possible. For a fuller discussion of each site, see the individual country reports (Goodwin *et al.*, 1997,a,b,c).

3.5 Visitor activities and their environmental implications

An overview of visitation patterns, activities, their environmental implications, for each of the three national parks studied, is presented in Table 3.1.

There is a wide variation in annual visitation to each park, and in the level of seasonality. Over 20 times as many people visited Keoladeo in December 1996 as did in June 1996. The seasonal difference in Gonarezhou is only a factor of 6, whilst in Komodo it is only three. There is also a substantial difference in the size of each park, with the smallest (Keoladeo) receiving the greatest number of visitors, and *vice versa*. Further details can be seen in Chapter 2.

However, the spatial distribution of visitors is concentrated into small areas of the parks, particularly Keoladeo and Komodo. In Keoladeo, the majority of visitors (c.60%) are local day-trippers who come to the park to picnic and remain on the tar road and in the grounds of the temple. Foreign visitors include birdwatchers who

³⁴ see Methodology report, Goodwin et al., 1996.

disperse more widely through the park. However, they are restricted to paths on the dykes separating the water bodies, and they rarely travel to the extremities of the park. On Komodo Island, almost 98% of visitors remain within the intensive use zone between the visitor camp and the viewing site. On Rinca Island, distribution is more widespread, but is still restricted to guided trails.

Gonarezhou is different from the other two parks. Visitation is primarily by vehicle, whereas visitation to Komodo and Keoladeo is primarily on foot, or on bicycle/rickshaw for the latter. In addition, access for visitors is more widespread, although still confined to roads. However, given the large size of the park and the small number of visitors, much of the park receives very little or no visitation.

Tourism infrastructure is minimal in all three parks. In Keoladeo, there is a lodge and a picnic area/kiosk, but both are in association with the tarred road running through the park to the temple. Both Komodo and Rinca Islands, in Komodo National Park, have a coastal visitor camp and on the former there is a partially developed viewing area 2km from the camp. In Gonarezhou, development is somewhat more widespread. There are two visitor centres, at Chipinda Pools and Mabalauta, and a number of campsites along the Runde River. There are also numerous platforms at pans for game-viewing, but again, given the size of the park, this development is fairly insignificant in terms of its impact on the environment.

The environmental implications of tourism in each park show both similarities and differences. The difference in size and type of visitation to Gonarezhou separates it from the other two sites in a number of ways.

- In Komodo, visitors can only walk, whilst in Keoladeo they may also use cycles or rickshaws. The visitor trails are flat and predominantly dry in both. As a result, trail/road damage and soil erosion is minimal. The use of vehicles in Gonarezhou, and the more rugged terrain, is likely to result in much greater trail damage and soil erosion at significantly lower visitation levels. Damage will be particularly severe in the wet season when roads become muddy and rutted.
- In smaller parks with high visitation rates and restricted distribution, litter becomes a more visible problem. In both Komodo and Keoladeo the park authorities recognise litter to be a source of environmental impact and a wildlife health risk which needs to be addressed. In Gonarezhou, there are fewer visitors, mostly day trippers in vehicles who are more widely distributed. The reduced density of visitors means that litter is not perceived as a problem, but there is no evidence to show whether it is accumulating or not. There is a risk of litter pollution at campsites, which the park management is addressing.
- The impact of vehicles is naturally of more significance in Gonarezhou which allows entry to cars. However, vehicle associated pollution is cause for concern for the marine environment in Komodo, due to the increasing number of motor boats using the waters of the park.

- Consumptive use of wildlife by tourists only occurs in Gonarezhou, namely freshwater fishing. The unregulated offtake by recreational fishermen is a cause for concern, and some data suggests that current levels of offtake are affecting the population dynamics of certain species. In addition, although not within the park, the removal of mahogany and other hardwoods for the production of handicrafts for sale to tourists has virtually eliminated these species from local areas around craft markets in the lowveld. The consumption of fresh water on Komodo Island is a constraint on the development of tourism, and may have as yet unforeseen environmental implications.
- Although the presence of vehicles can cause disturbance of wildlife, the restriction of visitors to vehicles and platforms in Gonarezhou probably limits this. Also, the focus of visitors on general game-viewing and the wilderness experience, rather than on a specific, sensitive species, probably limits wildlife disturbance in the park. In Komodo, the focus on the dragon has resulted in some habituation and disturbance of the species, but it is confined to a small proportion of the population. Breeding and nesting is not disturbed. In Keoladeo, a market has developed for the disturbance of sensitive animals, notably pythons and tree-nesting birds.

Terrestrial habitat disturbance due to tourism is considered insignificant in all three parks. However, in Komodo there is concern over damage to fringing coral reef systems caused by boat anchors and snorkellers trampling on coral in shallow water. Whilst the former cause is being addressed, the latter has yet to be.

	Keoladeo NP	Komodo NP	Gonarezhou NP
Area (km ²)	29	750 ³⁵	5,033
Annual Visitation ³⁶	122,628	28,991	6,670
Mean daily high season	883.2	130.3	38.3
Mean daily low season	38.3	43.1	6.0
Spatial distribution	Widespread access, but concentrated use	Concentrated	Widespread access, but fairly concentrated use
Confined to trails (y/n)	Yes	Yes	Yes (mostly)
Mode of transport	Foot/ Cycle Rickshaw/ Bicycle	Foot	Motor vehicle/Foot
Roads	Tarred/Graded	None	Graded
Accommodation	1 hotel and 1 lodge	2 visitor camps with cafeterias	Numerous campsites
Other infrastructure	Kiosk, picnic areas	Viewing enclosure	Viewing platforms
ENVIRONMENTAL IMPLICATIONS			
Trail/road damage	low	low	high
Habitat damage	low	localised coral damage	low, probably associated with artificial waterholes
Wildlife disturbance	python disturbance, nesting birds, Siberian Cranes	dragon habituation	unknown, considered to be low
Litter problem	perceived as high	high, from boats	restricted to campsites
Vehicle pollution	low, restricted	from boats	potential problem
Consumptive use	none	freshwater	fishing, firewood, mahogany ³⁷
Non-tourism environmental problems	Considerable	Considerable	Considerable

Table 3.1 Visitation patterns, activities and their environmental implications for each of the three national parks studied.

³⁵ this refers primarily to the terrestrial part of the park. With the expanded marine area added to the park in 1984, the total area is 2,193km².

³⁶ April 1995-March 1996 figures

³⁷ outside of the park, but associated with tourism - see text.

3.6 Environmental Impacts in Context: Other Problems

In each of the three parks, there are other environmental concerns which to some extent outweigh those associated with tourism. In light of these additional problems, it is not surprising that visitor impact monitoring and management have not been priorities for park authorities. Tourism is seen as relatively benign in all three cases. However, a lack of monitoring and quantitative data lead to difficulties in substantiating any claims that tourism is or is not having a significant impact.

In Keoladeo NP, the major factor influencing the ecology of the park is the management of flooding levels. In addition, changes to the regulations concerning usufruct rights have resulted in habitat changes, particularly in the wetland areas. Dryland areas appear to be declining as a result of increased flooding, and particular species are being displaced by alien competitors and as a result of overbrowsing. Some management-related activities in the park (bulldozing, collecting of aquatic grasses) may be causing wildlife disturbance. Also, the presence of pollutants in the floodwater which drains into the park is a severe health risk for aquatic bird species. Finally, the problem of litter needs to be reiterated, since it is caused not only by tourists but by villagers, forest guards and rickshaw drivers. Tourism does not appear to be ranked highly as an environmental problem in the park.

In Komodo NP, the major environmental impacts within the park are associated with the marine environment and the apparent over-exploitation of marine stocks by fishermen. Associated with this are the illegal practices of coral bombing and poisoning of fish with cyanide. For the terrestrial environment, and the dragons in particular, there are two related threats. One is the poaching of dragon prey species (principally deer) and the associated release of hunting dogs onto the islands which turn feral. The other is the deliberate burning of the grasslands on the island by poachers to flush out deer. Although fire is a natural phenomenon to which the environment is somewhat adapted, the increased frequency of man-induced fires poses a threat to the wildlife and the habitat of the park. Tourism is an added drain on management resources, but in terms of its environmental impacts it is perceived as relatively benign.

In Gonarezhou NP, the three major problems are drought, poaching and fire. The 1992 drought resulted in massive wildlife mortality. The additional pressure of poaching by local people and Mozambiquean trespassers has resulted in a paucity of wildlife in the park. Fire, sometimes started deliberately by poachers, tends to spread uncontrolled over large areas of the park. In addition to these problems, habitat management is a serious issue, with implications for the control of the elephant population which can seriously affect vegetation. Tourism is currently at a fairly low level and, although increasing over recent years, is not perceived as a serious threat to the environment of the park. However, the park management are concerned at the extra resources which will be needed to deal with visitor impacts, particularly the restoration of roads associated with the opening of the park in the wet season.

3.7 Monitoring and Management of Visitor Impacts

Current levels of monitoring and management of tourism and its impacts for each of the three parks are shown in Figure 3.2. It is clear that no monitoring of environmental impacts of tourism is carried out at any of the three sites. Varying levels of detail are recorded in the compilation of visitor statistics: for example, Komodo NP collects detailed information on nationality and more comprehensive visitor statistics for accounting purposes, whereas Keoladeo NP records numbers in three categories (home, foreign and student).

	Keoladeo NP	Komodo NP	Gonarezhou NP
Monitoring	Visitor arrivals figures (home/domestic/students)	Visitor use patterns, Dragon numbers at viewing site	Visitor arrivals, overnight figures
Zoning	Picnicking (infrastructure), Birdwatching (natural)	Intensive use (infrastructure), Wilderness (trails), Sanctuary (restricted)	Proposed but not yet implemented
Controlling numbers	No	No	No
Access restrictions	None	Guide compulsory, limited trail network.	4WD necessary in wet season, confined to roads.

Table 3.2 Monitoring and Management of Visitor Impacts in Each of the Three National Parks Studied.

Whilst there is some form of zoning in place, in that visitors tend to be restricted to certain areas of each park, there is no real control of visitor numbers or access. In Komodo NP, visitors must be accompanied by a guide whilst on the islands, but there is no control over the volume of arrivals at any particular time. In the other two parks, visitors are free to move around by themselves, and again there is no control over the volume of entry at any time.

It is unsurprising that little control is exerted over the volume and distribution of visitors in these parks. Tactics can only be implemented once a management strategy has been defined, goals set and the system evaluated. In Keoladeo and Gonarezhou there is an emphasis on revenue generation from tourism, not on sustainable management. The former has revenue quotas to fulfil from tourism each year. The latter, whilst only recently re-opened for tourism, faces the probability of having to become self funded. This will place more pressure on revenue generation than on other concerns such as environmental management.

3.8 Conclusion and Recommendations

The environmental impacts of tourism in protected areas are recognised, but not well understood. Much of the available information is descriptive/anecdotal, with little hard data and analysis. Most studies are of a short term nature, and long term impacts are rarely addressed. Where impacts are recognised, it is difficult to evaluate their wider significance to species distribution, reproduction, population dynamics, and ecosystem functioning.

The monitoring of environmental impacts of tourism is not carried out in the majority of protected areas in developing countries. There is rarely any baseline data with which to compare current situations, and neither is time-series data available for analysing trends. There is a lack of integrated monitoring and management, and no definition of indicators by which to evaluate the environmental performance of protected area tourism.

These general observations are all pertinent to the three national parks studied in this project. Whilst it is recognised that tourism may not currently be the principal environmental concern of protected area managers in these sites, and that tourism impacts may be minimal or localised, there are specific areas of concern in each which need to be addressed. It is recommended that simple social and environmental impact monitoring strategies be implemented, and controls on certain aspects of visitor use be enforced. However, it is also recognised that monitoring is unlikely to be implemented and maintained without the provision of staff, training and financial resources to undertake it successfully. It also needs to be part of an integrated monitoring and management framework within which the adaptive management of tourism, within social and environmental parameters, is seen as a priority.

These issues are similar to those identified by Bell (1984) in relation to research priorities in terrestrial protected areas. Bell noted the following;

- 'Research is expensive in money and manpower and must, therefore, concentrate on questions for which answers are needed by management to achieve its goals;
- However, there is a logical difficulty in identifying research priorities, the research priority paradox, due to the fact that, if one does not understand a system, one cannot identify priority components for study;
- Research cannot be separated from management; these two types of work form a continuum of activities operating together in a system of adaptive management; conservation agencies should be formally structured to operate with integrated adaptive management teams as the basic functional unit.'³⁸

Bell goes on to state that monitoring is a basic feature of adaptive management, but that it is only valuable where:

³⁸ Bell, 1984, p.81.

- ‘the data are actually being *used*, and;
- the [management] objective[s] of an area [are] specified (as they should be) in terms of the states of components of the system.’³⁹

The latter point is the principal upon which the LAC system of wilderness planning is based (Stankey *et al.*, 1985). Bell concludes with a call for increased and improved staff training in order to establish adaptive management strategies in protected areas;

*‘To discuss research priorities for wildlife management and conservation is to sculpture the tip of iceberg. What is needed, in my view, is a general re-education of conservation agencies as a whole to the concept of adaptive management.’*⁴⁰

³⁹ Bell, 1984, p.86.

⁴⁰ Bell, 1984, p.90. Giongo et al., 1993, p104.

3.9 Policy implications

1. Monitoring of impacts within parks has been very limited; there is little base-line data with which to make comparisons.
2. Visitor impact is not perceived as a significant problem by park management, especially in comparison with the issue of relations with local people.
3. Unregulated guiding can seriously exacerbate problems of disturbance.
4. Park-management policy needs to be based on a clear strategy which is informed by the aims and objectives of the parks.
5. Research and monitoring must be consonant with the management objectives of the parks.
6. An adaptive management strategy should be adopted based, for example, on the LAC system of Stankey *et al.* (1985).

4. CONTRIBUTION OF TOURISM TO PARK FINANCES

4.1 Introduction

Protected areas have a number of purposes, the most important of which is the conservation of habitat and species. Myers⁴¹ argued, in 1972, that tourism provided an incentive for conservation through the establishment of national parks and Budowski⁴² argued that a symbiosis could be created between conservation and tourism. Since tourism is in part based on values derived from nature it could provide an economic value for the conservation of habitats and their species. In 1982 the IUCN accepted that the tourist potential of an area is one consideration in the selection of protected areas. Philips⁴³ argued that tourism provides conservation with an economic justification, a means of building support for conservation and a source of revenue. However, the IUCN⁴⁴ has cautioned that many areas of important conservation value have little appeal for tourists and that the pursuit of tourism revenue may result in inappropriate development.

Demand for nature tourism has been expanding rapidly, and it has been argued that nature tourism can be turned into ecotourism by securing both direct and indirect revenue for conservation.⁴⁵ This section focuses on direct revenues, money which flows from park visitors directly to the park authorities. However, a direct revenue maximisation strategy may have a serious negative impact on indirect revenues, those accruing to local people. Protected area managers and policy makers need to consider the maximisation of both direct and indirect revenue *together* and to remember that national parks have important other (non-financial) functions including the conservation of biodiversity.

Our purpose was not to establish the value of parks⁴⁶ nor the value of tourism to the national economy, nor can our data be used for that purpose. For example, we have made no effort to calculate the foreign exchange earnings accruing to the national economy,⁴⁷ nor to identify the costs of travel nor of revenues and margins accruing to nationals living away from the immediate area of the national park. We have not sought to measure the economic impact of tourism but rather to identify the immediate direct benefits and costs of tourism to conservation, in and around the three national park case studies in terms of entrance fees and other revenues accruing to the park authorities from tourism.

This section deals with the finances of the three case study national parks and the contribution of tourism to them.

41 Myers (1972).

42 Budowski (1976).

43 Philips (1985).

44 MacKinnon *et al* (1986).

45 See above Chapter 1 and Goodwin (1996)

46 No attempt was made to determine non-use values (existence, future use or bequest values)

47 There are a number of strategies available to governments which could be used to increase revenues including a tourism tax, a development of the bed levy which some countries already charge to fund tourism promotion. A tourism tax would ensure that visitors made an appropriate contribution for their use of the country.

objectives a) and b)

“identify methods of providing sustainable revenues from tourism for conservation ..” and of providing “increased revenues whilst conserving local ecology and biodiversity.”

scientific and technical objective c):

“identify the net contribution of tourism development to conservation and restoration, and assess the commercial and regulatory conditions necessary for increasing that contribution.”

Protected areas are regarded in all three countries as important national assets but they are coming under increasing pressure to finance themselves. Government expenditure is limited and there are competing demands on national treasuries. These pressures increase where the primary users, and therefore the principal user beneficiaries, of the parks are foreign tourists and the domestic tourism industry, rather than local people.

	Gonarezhou, Chipinda Pools, 1995-6	Keoladeo	Komodo
% domestic visitors	53.4	70	7
% foreign visitors	46.6	30	93

Table 4.1 Domestic and foreign visitors to the national parks (%)

Charges for access to national parks, and for the use of the accommodation facilities in the parks, has traditionally been based upon the philosophy that the national heritage should be available free, or at a nominal charge. National parks have been priced as merit goods. Income maximisation has not been an objective of government policy and entrance charges have been set by governments often with social or educational objectives in mind. Park revenues are generally below park operating budgets and entrance (and other) fees are often below what visitors would be willing to pay. In Zimbabwe, at peak periods, the allocation of chalets has been decided by a bureaucratic rationing system, graphically demonstrating the existence of excess demand at current prices. In India there is considerable crowding at weekends and public holidays.

The increase in international tourism has raised the issue of whether national governments should be subsidising the use of its natural heritage by more affluent foreign tourists. In a developing country with limited budgets should parks “be viewed as a public amenity or as a more or less self-supporting enterprise contributing as much as possible to rural development.” “This raises the moral question as to whether the state can afford to support the leisure of its more affluent citizens and foreign visitors.”⁴⁸ Undercharging increases the cost to the national treasury of maintaining the parks estate and fails to maximise revenue, much of it in the form of badly needed foreign exchange.

48 Child G & Heath (1990).

However, with national independence and the consequent democratisation of policy-making processes, money available for the maintenance of protected areas has been squeezed by the pressure for increased expenditure on health, welfare and development amongst other government priorities. In the 1980's the constraints on government expenditure became more severe and in Zimbabwe, for example, the Economic Structural Adjustment Programme (ESAP) was introduced in 1990. Increasingly Protected Area Managers (PAMs) have looked to nature tourism as a potential source of revenue for conservation and as a means of enabling local people to gain sustainable economic advantage from their proximity to the national park. These two objectives are not incompatible, but they are mutually self-limiting and, for a given total revenue, inversely related.

A merit goods pricing strategy may also undercut private sector entrepreneurs. In Zimbabwe, where there are initiatives on both communal and commercial farm land, the issue of the undercutting by government of other providers has been raised. It is argued that low admission charges for national parks distort the market and constrain what can be charged for other non-consumptive wildlife enterprises on communal and commercial land.

It is not yet possible to identify a net financial contribution to conservation for the conservancies which form a major part of the south-east lowveld case study. Currently all three conservancies are financially dependent upon inward investment and all are some way from achieving a sustainable economic position. However, the conservancies have been successful, through a change of land use, in investing substantial capital sums into biodiversity and through direct purchase into a broad range of game.

National parks exist to conserve national heritage and in all three countries it is considered important that pricing structures in national parks do not lead to the exclusion of citizens. If fees are raised significantly a system of dual pricing may be necessary to ensure that nationals continue to have access to their heritage. This can be provided either by dual pricing or by single tier pricing with a substantial discount for citizens. Whilst some foreigners will take offence, the argument that national parks are maintained at the expense of the nation's citizens needs to be put.

In India and Zimbabwe there is dual pricing, recognising that nationals already contribute to the maintenance of parks through the national treasury and that they bear the opportunity costs of the land use decision. Foreign tourists and day visitors are also considered to be able to pay higher entrance fees than local people. At Keoladeo foreign tourists⁴⁹ were asked whether they agreed that "foreigners should pay more at the entrance than Indian taxpayers". Over half (57.2%) said that they should.

49 Sample: 786 respondents.

	Gonarezhou		Keoladeo		Komodo	
	Z\$	US\$	Rupee	US\$	Rupiah	US\$
National	10	0.90	5	0.14	2000	0.83
International	-	5	25	0.70	2000	0.83

Table 4.2. 1997 Daily Park Entrance Fees at March 7 1997 exchange rates

The national contexts vary significantly and the purchased experiences are not readily comparable, nonetheless it is clear that entry charges vary considerably. An international tourist at Keoladeo pays less than a national at Gonarezhou.

In none of the three national parks which form the focus of this study was there any direct linkage between the revenues collected by the national park and its operating budgets. Gonarezhou, Keoladeo and Komodo were all run, and financed, by government departments⁵⁰ during the period of this study. Presently decisions about the pricing of admission to national parks are made by government for the national, provincial or state system of parks. India sets its entrance fees at the state level and they are of the same order of magnitude at all parks in the same state. In Indonesia there is variation in entrance fees between parks, but as they do not operate a dual pricing, or two tier system, fees are uniformly low. In none of these countries are entrance fees subject to market forces.

Zimbabwe has two fee structures for category I and II parks but the entrance fees are the same for Hwange, Victoria Falls and Gonarezhou. There is no relationship between demand and entrance charge. There were substantial increases at the end of 1996 as the DNPWLM became a fund-holding parastatal and had its funding capped. However, park entry charges are still set centrally and bureaucratically rather than being set locally and in response to market forces. The price rises announced in October were reduced in January, although the increases were still significant,⁵¹ and it is clear that the DNPWLM is moving towards a revenue maximisation strategy. The impact of these changes is difficult to predict and they fall wholly outside our survey period.

As administrative units, the three parks are very different in size, staffing levels and budgets.

	Gonarezhou, Chipinda Pools, 1995-96	Keoladeo 1995-96	Komodo 1994-95
Area of the Park	505,300 ha	2,873 ha	219,322 ha
Total visitors	6,179	122,628	28,991
Full-time Staffing	51	123	90
Tourist Staff	9.5	30	21
Park Budget US\$	110,522	295,426	372,285

Table 4.3. Comparative table of size, staffing and park operating budgets,

⁵⁰ In Zimbabwe by the national government, in India by the national and state governments and in Indonesia by the national, provincial and district authorities.

⁵¹ See Chapter 4 in the Zimbabwe report.

4.2 Park Revenues

For the period of this study⁵² all revenues to the national parks were remitted to the central treasury. There was no direct linkage between earnings and budgets, although Keoladeo has income targets. Tourism is not the only source of non-grant revenue to parks, although it is the most significant (Table 4.4). In all the comparative tables which follow the “block fee tour operator” revenues at Gonarezhou are excluded. Until the end of 1996 tour operators at Gonarezhou paid a block fee for each registered vehicle which also covered entrances for passengers. Passengers did not count in admission figures and they made no contribution to the park revenues on a per visit basis.

	Gonarezhou, Chipinda Pools, 1995-6	Keoladeo	Komodo ⁵³
Tourism Revenue	90.48%	89.7%	100%
Non-tourism Revenue	9.52%	10.3%	

Table 4.4. Tourism and Non-tourism Revenue.

The three parks earn revenue from tourism in significantly different ways. Table 4.5 is incomplete because it has not been possible to find, or disaggregate, data for all the relevant forms of tourism expenditure in the three parks. In Komodo the tourism services are provided by the Koperasi⁵⁴ and only the entrance fees accrue directly to the park. In Keoladeo the services are provided by concessions or by individuals operating in the park under permit and the revenue does not accrue to the park directly. However, it is clear from Table 4.5 that revenues from entrance fees vary between 38% and 48% of total tourism revenues. Accommodation varies between 5% at Keoladeo and 49% at Chipinda Pools, Gonarezhou. This is a function of visitor patterns (number of people staying overnight in the park) and the organisation of tourism. At Keoladeo the park authorities receive concession fees from the Forest Lodge, at Chipinda Pools the DNPWLM provides camping, at Komodo accommodation is provided by the Koperasi but significant numbers of tourists stay overnight because of the remoteness of the park, although many stay on boats offshore. For a full discussion of these issues see the case studies.

⁵² The situation changed in Zimbabwe on 1st January 1997 when DNPWLM became a parastatal.

⁵³ For the purposes of these comparisons the Komodo Koperasi has been treated as part of KNP.

⁵⁴ The staff co-operative at Komodo National Park.

1995-6	Gonarezhou, Chipinda Pools,	Keoladeo	Komodo
Sales	3.5	Concession	Koperasi
Vehicle Hire	n/a	8	n/a
Trails/guiding	0.7	Individuals	24.0
Concessions and Permits	1.6	7	n/a
Other	n/a	32	Koperasi
Accommodation	49.0	5	37.5
Entrance Fees	45.2	48	38.5

Table 4.5. Tourism revenues excluding tour operator fees (%), figures in bold accrue directly to the park authorities. ⁵⁵.

Different types of tourists spend different amounts in the park and purchase different services. For example in Komodo National Park foreign tourists arriving on the ferry from Sape are estimated to spend an average of US\$6.2 per visitor on entrance fees, guiding and accommodation. This compares with US\$2.1 for those arriving on a charter boat from Sape, and US\$1.33 for those arriving on a cruise boat.⁵⁶

The differences in the purchase of services is marked. For example at Keoladeo over 80% of the backpackers hire a bicycle, compared to about 10% of the package tourists. Just under 30% of the package tourists pay for a boat trip, compared to 20% of the backpackers. 80% of the package tourists hire a cycle rickshaw, compared with about 40% of the independents and 20% of the backpackers. 50% of package tourists hire a guide, while less than 20% of the backpackers do.⁵⁷

4.3 Park Expenditures

	Gonarezhou, Chipinda Pools, 1995-6	Keoladeo 1995-96	Komodo 1994-5
Park Budget US\$	110,522	295,426	372,285
Tourism Related US\$	14,042	36,177	24,485
Non-Tourism Related US\$	96,480	259,249	347,800
Tourism Related %	12.7%	12.2%	6.5%

Table 4.6. Comparative Table of Park Expenditures, Tourism and Non Tourism in US\$

It is very difficult to estimate and allow for repairs and renewals (there are no recorded budgets for this), so these figures can be regarded only as indicative of the

⁵⁵ Fees paid by tour operators at Gonarezhou have been excluded because they distort the comparisons, see Chapter 4 in the Gonarezhou Report for details.

⁵⁶ For full details see Chapter 4 of the Komodo Report.

⁵⁷ For full details see Chapter 4 in the Keoladeo Report.

proportions of the operating budgets being spent on tourism in the parks. It is clear that the tourism related park expenditures are a relatively small part, between 6.5% and 12.7%, of the total cost of maintaining the parks.

4.4 Revenue and Expenditure Compared

With mounting pressure on parks to become more reliant on their own earnings, if not yet fully self-financing, it is necessary to consider the relationship between tourism income and both tourism related expenditure and total park expenditures. At the beginning of 1997 the DNPWLM in Zimbabwe became a fund-holding parastatal and is at the beginning of a transitional period to self-sufficiency. There is discussion at Keoladeo and Komodo about the possibility of becoming more self-reliant, although currently at both these parks revenue is remitted to the treasury and they receive funding as grant from government.

One perspective holds that a national park is maintained solely for the benefit of tourists, whether those tourists are foreign, national, or local. Those who hold this view argue that the parks are designed to meet the needs of visitors, whether they are holiday makers or visiting scientists. All the direct costs of the park are therefore incurred for tourism. Table 4.7 presents the park finances from this perspective. From this point of view each visit is subsidised by between US\$.1.84 or US\$15.78.

	Gonarezhou, Chipinda Pools, 1995-6	Keoladeo 1995-96	Komodo 1994-5
Park Budget US\$	110,522	295,426	372,285
Tourism Revenue US\$	12,988	69,659	26,701
Net Expenditure US\$	97,355	225,767	345,584
% "deficit"	88.2%	76.4%	92.8%
Subsidy per visit	US\$15.78	US\$1.84	US\$13.40

Table 4.7. Tourism Revenue as a Percentage of Total Park Expenditure

The second perspective is of those who recognise that the parks have a range of purposes other than tourism, and argue that it is the tourism related costs which should be covered by tourism revenues - there are of course a range of views which can be held between these two positions.

	Gonarezhou, Chipinda Pools, 1995-6	Keoladeo 1995-96	Komodo 1994-5
Tourism Related Expenditure US\$	14,042	36,177	24,484
Tourism Revenue US\$	12,988	69,659	23,446
Net Expenditure US\$	+1,054	-33,482	+1038
Net Expenditure per visit	+US\$0.17 (subsidy)	-US\$0.27 (contribution)	+US\$0.04 (subsidy)

Table 4.8. Tourism Revenue as a Percentage of Estimated Tourism Related Park Expenditure

The results displayed in the two tables (4.7 and 4.8) show the extremes generated by these two points of view. If all costs are deemed to provide benefit for the visitor, then what the tourist pays only covers a very small part of those costs. As a result, a large subsidy can appear. If a strict definition of tourism-related expenditure is adopted, the calculated subsidies for Gonarezhou and Komodo decrease greatly, and visitors to Keoladeo now appear to be making a net contribution to park costs. However, it should be remembered that this is an extreme interpretation. Visitors to Keoladeo do not visit the park in order to enjoy *only* those facilities provided as a result of tourism-related expenditure (staffing of the gates, administration of ticket sales, provision of picnic area etc.). Their prime interest is in viewing the birdlife, and that birdlife would not be at Keoladeo were it not for the fixed, non-tourist-related costs concerned with the provision and maintenance of the habitat itself. The apportionment of fixed costs to different users is always a problem in accounting, and national parks are no exception. The calculations presented here draw attention to the issue, but cannot offer any clear-cut choice of which is the better approach.

4.5 Increasing Park Revenues

4.5.1 Entrance Fees

Entrance or admission fees set the price of access to the park and may be used to provide revenue and control the numbers of people entering the parks. To the extent that they can be used to control the numbers and types of tourists entering the park, entrance fees are one of the management mechanisms available to managers in seeking to maintain the ecological integrity of conserved areas⁵⁸.

The entrance charges to national parks are not set by markets, and for this reason economists have to use a range of substitute mechanisms for making judgements about the economic value of national parks. All such techniques have considerable

⁵⁸ Laarman and Gregersen (1996) question the viability of such management mechanisms.

methodological weaknesses. Two non-market valuation methods were considered: Contingent Valuation and Travel Cost. We decided not to use the Travel Cost method. For most tourists the case-study national park was only one amongst a number of sites to be visited during their trip and tourists were travelling with a range of motivations.⁵⁹ For many of the independent and backpacker travellers, decisions about whether or not to visit are made in-country rather than prior to departure; at both Keoladeo and Komodo a significant number of travellers stopped as they passed by. Keoladeo is on the “golden triangle” between Agra and Jaipur, and Komodo is on the route east of Bali to Australia.

There is limited market evidence of the value of national parks. The average cost of a two night trip to Komodo National Park from Lombok or Bali is US\$300⁶⁰, although the park entrance fee is less than US\$1⁶¹. A major UK package tour operator was offering a 7 night tour from April to October 1997, including room, breakfast and local excursions with guides at a cost of £495. Keoladeo was available as an optional half-day excursion, including transport and lunch for £29; the park entrance fee was 25 Rupees (£0.43⁶²). For comparative purposes a half day tour to Sikandra (Akbar’s Mausoleum) with no lunch was priced at £18, Fatehpur Sikri (Akbar’s abandoned city) with no lunch was priced at £24. The operator has placed comparative market values on these excursions and in so doing has demonstrated that **for this group of tourists** the entrance charge for the park is an insignificant element of the cost of the tour.

4.5.2 Entrance Fees: Willingness to Pay

The price of entrance to the parks has not been traditionally set by the market, and it is likely that visitors would be willing to pay considerably more to visit. The magnitude of this ‘user surplus’ has been examined using contingent valuation, an economic valuation technique which constructs a hypothetical market by exploring the response of visitors to hypothetical rises in entrance fee. We have not attempted to calculate user surplus *per se*, since the figure itself is of little practical use. We use the method purely to demonstrate the capacity for increased revenue generation by increasing fees and to illustrate the differential effects which arise from the impact of entrance fee increases on different types of tourists.

The Contingent Valuation method was used to test the response of visitors to hypothetical entrance fee increases. In each park a series of questions about willingness to pay were included in the tourist surveys. Details of the questions asked and of the results are to be found in the country reports along with a discussion of the results in the local context.

It is clear from both the Komodo and the Keoladeo data that there is significant variation in willingness to pay amongst different types of tourists and that the impact

⁵⁹ The motivation data is considered in section VII. The primary motivation for travel was culture in India and Indonesia, wildlife was the primary motivation in Zimbabwe, in India it came second to culture, in Indonesia it came third after culture and landscape.

⁶⁰ Approximately £200

⁶¹ Approximately £0.67

⁶² At 7 March 1997 exchange rate 57.5318Rp to £1.

on different groups of tourists needs to be part of the decision making process about park entrance fees.

The surveys were conducted while interviewees were in the park. They were asked what they would have been prepared to pay to enter the park in the same circumstances as those in which the questions were posed. Respondents were asked to express a view on what they would be prepared to pay for the current experience. They were not expected to take into account any improvement in facilities or change in the quality of the experience.

It is likely, in these circumstances, that the answers under-record what people would have been prepared to pay had they had different expectations of an appropriate entry fee whether from a guide book or experience. It is also likely that willingness to pay would be influenced by the tourist's proximity and the money already invested in arriving at the gate. Willingness to pay data has to be interpreted with extreme caution.

Graphs and detailed discussion of methodologies and results for each park are to be found in the individual country reports. The summary table 4.9 brings the information on willingness to pay together in as comparable a manner as possible (it must be remembered that the levels of entrance fee are different).

Proposed	Proportion of sample willing to pay (%)			Projected revenue as a proportion of current revenue (%)		
	Gonarezhou	Keoladeo	Komodo	Gonarezhou	Keoladeo	Komodo
Entrance Fee current	100	100	100	100	100	100
×2	79	91	93	158	182	187
×4	24	70	81	97	281	326
×8	8		62	65		495

Table 4.9. Proportion of respondents willing to pay hypothetical increases in entrance fee, and the estimated change in total revenue.

The amount by which demand falls for each doubling of price is an indicator of price elasticity (defined as the ratio of fractional change in demand to the fractional change in price, strictly speaking measured as a marginal effect for small changes). There are two ways of comparing changes in elasticity; the differences between the three parks, and the changes that are evident at different price levels. For all three sites, the demand is least elastic at low prices since the proportional fall in demand associated with the first price doubling (from current to ×2) is always less than the proportional fall for either of the next two price doublings (from ×2 to ×4 and from ×4 to ×8). However, there are differences between the three. The demand at Gonarezhou is appreciably more elastic than at Keoladeo or Komodo (with Keoladeo slightly the more elastic than Komodo).

At all three parks, a doubling of price leads to an estimated fall in demand of no more than 21% (at Gonarezhou⁶³). However, the figures suggest that a four-fold increase would lead to a much greater reduction in visitor numbers in Zimbabwe than in the other two parks, dropping to around one quarter of its original level. Such figures should not be judged in isolation from the current absolute level of entrance fees (see Table 4.2). It is clear that visitors to Gonarezhou are paying five to seven times as much as visitors to Keoladeo and Komodo, though it must be remembered that the length of stay is longer. It is not surprising, therefore, that a four-fold rise in entrance fee (to around US\$20) would have greater impact than a four-fold increase at the other parks (to around US\$4-6).

For Komodo National Park the demand is relatively insensitive to a four-fold hypothetical increase in entrance fee. Analysis of the data suggests that members of conservation organisations, older people, and those who had seen a significantly higher number of 'dragons' were all more likely to be willing to pay higher entrance fees. Those willing to pay higher entrance fees were also those who were paying more for their trip to Indonesia (and staying for a shorter time in Indonesia) and those with a significantly longer stay in the park.

For Keoladeo the demand for entrance is relatively inelastic for a doubling in entrance fees, but more elastic than Komodo for a four-fold increase. A discussion on the differential impacts of entrance fee increases at Keoladeo follows in 4.5.4.

There is anecdotal evidence that the response of tourists to increases in park admission fees would be more favourable if rises were incremental and if it was clear that the money raised would be

- reinvested in parks for conservation
- reinvested in visitor facilities to raise the quality of the experience
- used to offset costs
- used to the benefit of people living in, or near, the park.

4.5.3 Entrance Fees: Tour Operators

For travellers entering the parks as part of a 'package trip', whether the package was purchased in the originating or destination country, the cost of the park entrance is marginal to the total cost of the park visit. Decisions about the content of the tour package will be made by the local or international tour operator on behalf of the park visitor.

At the workshop in Bharatpur in September 1996 incoming operators in India were asked what they felt would be a reasonable entrance fee. The average figure from the tour operator survey was Rs82/- (US\$ 2.3). Their comments included '*would not affect our business*', '*fee is not so important*', '*raising the fee to Rs100/- (US\$2.8) would not affect the price of the tour*' and '*the rise in fees should be proportionate to the enhancement of the product experience.*' They felt strongly that any increase ought to be staged and that it ought to be made clear what the increased revenue was being used for. A notice at the main gate and elsewhere making clear

⁶³ Based on the cost normally incurred by small groups travelling together in a private vehicle and intending to camp.

that the increased revenue was being used for conservation measures in the park or for local development projects would, in their view, significantly reduce the hostility likely to be engendered by entrance fee increase.

Indonesian operators were also asked how a five fold increase in entrance fee would affect their business. A five fold increase in fee was not considered a problem, although the feeling amongst some respondents was that the price itself was not as important as the way that the revenue was used. According to one operator, structural adjustments should be made to allow the park to retain its entrance fee revenue. 80% of respondents said that a fee of Rp10,000 (US\$4.33) would not affect their business, since this only represented 1-2% of the cost of a typical package. This suggests that demand is even less elastic for package tourists than it is for independents.

At Gonarezhou tour operators are charged a “block fee” for operating in the park. This makes a significant difference to the park finances, Chapter 4 of the Gonarezhou Report includes a discussion of tour operator revenue to the park, particularly in the context of the increase in fees introduced in January 1997.

4.5.4 Revenue Maximisation?

This data must be interpreted with extreme caution and each park must be considered individually. There is a detailed discussion of each of the parks included in this project in the country reports.

There are considerable uncertainties attached to the methodology and inherent in the hypothetical nature of the inquiry. People are asked how their behaviour would change in response to one hypothetical change. They may behave otherwise, and in any event it is unlikely that other changes would not have taken place by the time fees were raised.

We **do not** advocate a rise in entrance fees to maximise revenue to a particular park. We present the data only to indicate that there is potential to raise revenue by raising fees. The pursuit of self-interest by a park should be tempered by the likely effects on those who make all or part of their living from tourism to the park locally or nationally, and on the local and national economy. There is considerable potential for exacerbating conflicts between parks and their local communities through price rises. The detailed figures from the Keoladeo research can be used to illustrate the point.

		Self Ascribed Category				Visits made	
Rs /-	US\$	All Visitors	Package Tourists	Independent Travellers	Backpacker	3 or less	4 or more
50	1.43	91%	97%	89%	87%	91%	91%
75	2.14	81%	94%	78%	70%	82%	76%
100	2.85	70%	87%	69%	52%	72%	52%

Table 4.10. Keoladeo National Park proportion of respondents prepared to pay hypothetical increases in entrance fee by self-ascribed category of tourist and number of visits made

The comparative data in table 4.10 shows the impact of increases in park entrance fees on different types of tourists. It indicates that the impact on package tourists is limited; entrance fees are invisible in the overall price of the tour. For the independent and backpacker tourists the anticipated effects are more marked. The difference between them is probably attributable to the planned daily budgets within which they operate. Those who make more visits to the park, mainly the keen birders, would be more affected than those who make fewer visits to the park. By contrast at Komodo visitors pay a single entrance fee for up to 7 days. Those staying longer are less affected by hypothetical increased entrance fees (see Table 4.9).

The consequence of Keoladeo following a revenue maximisation strategy would be to change the profile of visitors to the park. Reductions in the number of independent travellers and backpackers would have significant effects on the local tourism industry, on the hotels, restaurants and other enterprises which service the tourists⁶⁴. The impact of entrance fee increases on the rickshaw operators and the guides would be to adversely affect their incomes. There would also be secondary revenue effects in the park itself, particularly on bicycle hire and use of the boat. There is a detailed discussion of these effects in Chapter 4 of the Keoladeo case study.

4.5.5 Other Sources of Fee Income to Parks

There are a range of services and facilities for the use of which tourists are prepared to pay during their visits to national parks, each of which may provide an opportunity to improve the quality of the visitor experience and generate additional resources for the park. The individual case studies deal with a range of these. They include accommodation and camping fees, guide services, boat trips, and cycle hire. In some circumstances it may be possible to rent out platforms and hides, as at Gonarezhou where fees are charged for their overnight use. At Keoladeo revenue is earned from the permits required by the rickshaws, and Gonarezhou issues fishing permits and sells firewood. There are also opportunities to let concessions and to sell souvenirs and literature about the parks.

⁶⁴ The package tourists are least likely to stay in Bharatpur.

4.5.6 Policy Considerations.

A number of considerations need to be taken into account in the process of deciding on park admission fees.

1. What is the appropriate revenue goal
2. Is the objective income maximisation?
3. Is the objective to raise revenue to share with local communities?
4. Is the objective to cover the costs of tourism to the park?
5. Is the objective to improve visitor facilities?
6. Is the objective to make national parks self-financing?
7. Is the objective to reduce subsidies to foreign visitors?
8. Should the visits of particular host population groups be subsidised?
9. To what extent is it appropriate to have national charges?
10. Should decisions about fees be decentralised and set site by site?
11. To what extent is it important that national parks show their use value (or their lack of use value) through demonstrating people's willingness to pay to enter and use the park?
12. What are the implications for local communities, and for park-people relations, of any projected changes in visitation patterns which would result from changes in admission charges?
13. Will changes in park visitation patterns adversely impact on particular sections of the host community, causing hardship and adversely impacting on the already strained relationships between parks and local people?

4.5.7 Policy Implications

1. Traditionally, decisions about the entrance fees and other park charges have been made by government departments; this remains the case in the three countries included in this study. There is no direct relationship between park revenues and park budgets.
2. Parks have a number of purposes, the most important of which is the maintenance of the ecological integrity of the park and the conservation of habitat and species. Visitor fees income should be supplementary rather than core income, the maintenance of biodiversity for future generations could be considered as properly a government responsibility.
3. Entrance and other fees need to be structured to ensure that the host population is able to have access to its national parks for recreational, spiritual, artistic and educational purposes; national parks are their national heritage. There is a good case to be made for dual pricing systems.
4. Parks departments have traditionally been regulators of use rather than operators. The two roles should not be confused.

5. In the pursuit of increased revenues from tourism park managers need to consider the purposes of the park(s) for which they are responsible and to balance a number of competing management goals, arguably the first of which is conservation.
6. The setting of park entrance fees is one aspect of the total management of national parks. The setting of park entrance fees is a complex policy issue involving a number of 'trade-offs'.
7. These decisions need to be made within the framework of the park management objectives. The pricing of entrance fees and other services and facilities can reflect multiple management goals.
8. Tour operators and individual tourists often made two points to us
 - Increases in entrance fees and other charges should be staged (and tourists' expectations of charges are influenced by out-of-date guide books)
 - The reasons for increased fees and charges should be explained
9. There is clearly some scope to increase entrance fees to national parks and to increase revenue; however the consequences of raising fees and charges need to be carefully considered.
10. Revenue maximisation may lead to increased conflict with local communities if tourism revenues in the local community are reduced or lead to forms of development within the park which undermine the conservation purpose of the protected area.
11. The best way in which to test the market is through market based ⁶⁵reactive management of park entrance fees and other charges, through raising fees incrementally, to achieve specific management objectives including
 - controlling over-crowding
 - raising funds for habitat and species management
 - improving visitor facilities
 - maximisation of revenue to the national park and local people
 - raising money for reinvestment in the park
 - management of the mix of visitors who have access to, and use of, the park
 - managing visitor use of the park
12. Periodic surveying of tourists and tour operators can assist in the determination of prices for services and facilities and monitoring visitor satisfaction surveying to identify opportunities.

⁶⁵ For concessions and other contracted-out services this can be achieved through auctions and sealed bids.

5. TOURISM AND LOCAL DEVELOPMENT

5.1 Introduction

Despite the diversity of local histories, cultures and social forms encountered during the course of this research project, broadly similar trends of local economic adjustment⁶⁶ were discernible in each of the *principal* research sites. From an examination of the contrasts and similarities between each site, this chapter attempts to establish some general patterns of the impact of nature tourism development on local employment and incomes. The chapter proceeds by setting the principal concerns of local tourism development within the context of national and local strategies for export-oriented growth. It then goes on to discuss the terms of reference for the research project and finally outlines some general determinants of local participation in tourism development.

5.2 Tourism as a Strategy for Development

5.2.1 National Strategies

As a rapidly growing sector of many less industrialised countries, international tourism has emerged as an important component of export-oriented development programmes. For each of the three countries featured as case studies, tourism is experiencing substantial growth as a 'non-traditional export', along with, for example, new agricultural products (Zimbabwe) and information services (India). Since the late 1980s, import substitution policies in all three countries have been replaced by strategies based on neo-classical theories of comparative advantage, and in terms of growth, the tourism industry has been a major beneficiary. In the 1990s, international tourism was one of the fastest growing industries world-wide, and was identified as a sector ripe for foreign investment. The Indonesian government declared 1991 'Visit Indonesia Year' which attracted a 24% increase in annual visitor arrivals⁶⁷. In 1993, the Indian Government relaxed the restrictions on the foreign ownership of hotel businesses. Equity participation in foreign exchange was permitted up to 51 per cent of the total equity of the proposed company, and the foreign investor was now free to repatriate dividends after payment of Indian taxes.

The promotion of international tourism as a component of national development is therefore consistent with economic adjustments taking place in each of the three countries under study. Tourism development is a response to market opportunities presented by the emergence of a large international leisure market, declining long-haul travel costs and changing demographics⁶⁸ in more industrialised countries. As a component of national development, proponents hope that tourism will:

- maximise foreign exchange earnings
- increase employment opportunities

⁶⁶ as far as national park legislation and subsequent tourism growth are concerned.

⁶⁷ DGT, Indonesia (1993)

⁶⁸ Principally an ageing population with increased leisure time

- improve socio-economic development and the quality of life
- aid the preservation of natural history and environment

Critics suggest that tourism is vulnerable to problems which are common to other outward-oriented patterns of growth such as excessive foreign dependency, the creation of separate enclaves, the re-enforcement of socio-economic and spatial inequalities and rising cultural alienation (Brohman, 1996). In particular, they suggest that tourism development is susceptible to:

- fluctuations of demand in the global tourism market,
- international and regional leakage of revenue (where there are insufficient links to existing production)
- spatial polarisation at regional and national scales
- social polarisation (poor income distribution)

Some of these issues are discussed in the next chapter. These processes are repeated at a local scale, and the extent to which the local benefits from tourism may be maximised is largely dependent on the ability of the host population to minimise the risks outlined above.

5.2.2 Local Strategies

Nature tourism⁶⁹ is a major growth area within the emerging international tourism markets; and on a local scale, the development of tourism in rural areas may be interpreted as a response to new (export) market opportunities. Reductions in agricultural subsidies and constraints on state financial support for protected areas have further precipitated an interest in rural tourism. In addition, protected areas administrators are under increasing pressure to provide local economic benefits to marginalised populations⁷⁰. Further, the antagonism of local populations to neighbouring protected areas has been regarded as a principal cause of illegal hunting and environmental degradation.⁷¹ Advocates of nature tourism development hope that the local benefits of tourism revenues and employment will eventually create political support among local populations who otherwise feel aggrieved by exclusion policies, thereby reducing local environmental destruction. This last point is dependent on ensuring that the benefits accrue to the same group of people that bear the costs of exclusion from areas set aside for tourism use.

5.3 Tourism and Local Development

In the light of the above debate concerning the benefits and costs of tourism development, this research project has investigated the phenomenon of nature tourism at a local level in three countries. The relationship between tourism and local development was investigated with a particular emphasis on the magnitude of local

⁶⁹Synonymous throughout this chapter with tourism to protected areas

⁷⁰ Balakrishnan, M. and Ndhlovu, D.E. (1992), McShane, T.O. (1990), Makombe, K (1994)

⁷¹ Nepal, S.K. and Weber, K.E. (1995)

revenues and employment opportunities directly associated with tourism. The specific research objectives for this section of the research project were to:

- identify the local indigenous people's incomes from the sites and identify the additional economic benefit which could accrue to them from biodiversity and conservation.
- identify methods of providing sustainable revenues from tourism for...development
- raise the income and related benefits which local people gain from tourism based on biodiversity

5.4 Key Questions

Various approaches and allied methodologies were employed in each site in order to *assess the scale of economic development from tourism and the associated employment and other benefits which accrue to local populations*. In each case a working definition of the 'local population' was cautiously applied. It was recognised at an early stage in the research that any definition of a local population is easily contested, but in most cases, conditions of residency and ethnicity were employed to distinguish between local and non-local actors. It should be noted that the research made no attempt to investigate the impact of tourism at the household level, nor to consider the relative size of the tourism economy in comparison to other sectors.

The extent to which local tourism development contributes to local development depends in part on the ability of the local population to maximise benefits and maintain control of the pace and form of development processes. An appropriate realisation of benefits therefore depends upon:

- the creation of employment (at all skill levels and where there is existing capacity)
- the extent of linkages to existing domestic economy
- the extent of local/non-local ownership of tourist enterprises

During the research project various indicators were used to assess the magnitude of local benefits. Patterns of tourist spending were traced to suppliers of goods and services, and surveys conducted in order to establish the magnitude of revenues and employment. At each site, the research followed three principal avenues of enquiry:

- What is the size and form of the local tourism economy?
- What is the magnitude of local employment generation?
- To what extent do the benefits of employment and revenue from tourism accrue to the local population?

The magnitude of tourism was significantly different at all sites of investigation. In addition to the above components, research was undertaken on the attitudes of the host population towards tourism employment in areas at the early stages of tourism development (Gonarezhou, Zimbabwe) and in transitional stages (Komodo, Indonesia). Although the magnitude of direct employment from tourism was calculated there was only a limited assessment of the opportunity costs of tourism,

although some consideration was given to the spatial distribution of revenue and employment benefits.

5.5 The case studies

Each of the local communities included in this study have undergone a substantial economic transformation as a result of protected area legislation. At all three sites, the development of a local tourism industry is a relatively recent phenomenon. Hotel construction around Komodo, Keoladeo, and Gonarezhou National Parks⁷² has largely taken place within the last decade. In this respect the growth of tourism is but one event in a long history of changing economic relationships between the local populations and the local environment. While earlier economic uses have declined due to exclusion policies, tourism has emerged to become the principal economic activity associated with each protected area.

Tourism infrastructure has developed to a different degree at each site. Situated on the one of the most heavily visited tourist trails in Asia, Bharatpur now has a relatively well established tourism economy, whereas Komodo is fairly distant from the principal Indonesian tourist centres of Bali and Lombok. The southeast lowveld in Zimbabwe remains largely undeveloped as a tourist destination, and tourism at Gonarezhou is yet to be established. However, in all three locations, national park legislation has had the effect of curtailing alternative economies based on the extraction of natural resources. Both the Shangaan in Mahenye and the Gujjars in Bharatpur turned to agriculture when hunting and grazing economies were disrupted by the creation of national parks. Tourism development is a potential source of local employment and revenue, but the opportunities it presents must be considered against alternative uses.

Each of the national parks investigated during the course of this study is situated in a rural location. The local economies and skills are therefore generally concerned with small scale primary production. Livelihoods in the Zimbabwean lowveld and the villages around Keoladeo National Park are predominantly dependent on agriculture. Fishing is the primary occupation of villagers on the edge of Komodo National Park. Where existing income opportunities are low, the potential exists for a high degree of local involvement in tourism. The Beitbridge Road handicraft study in Zimbabwe suggests that participation in the informal tourism sector is low in areas with a high agricultural potential. The decision of local people to invest in tourism is also dependent on the degree to which new forms of employment are accommodated within existing livelihood patterns. Calculation of risk in all activities is a key determinant of involvement, and where the benefits are unknown, participation is low. Informants from one of the villages adjacent to Keoladeo National Park stated that although they possessed appropriate handicraft skills, much of their labour time was already taken up by cutting grass for cattle fodder for which the benefits are largely guaranteed. However, where populations have had little experience of tourism

⁷² The three principal sites considered in this chapter are Komodo National Park, Indonesia, Keoladeo National Park, India and Gonarezhou National Park, Zimbabwe. Associated tourism development has taken place at Sape and Labuan Bajo, Bharatpur, and Mahenye respectively.

development⁷³, expectations of the benefits from tourism are relatively high. The survey evidence from the lowveld suggests that communities with very infrequent contact are interested in developing enterprises. In addition, a comparative survey between the two gateway towns to Komodo National Park suggests that the residents of Sape, the relatively undeveloped town, have a more positive attitude towards tourism than the residents of Labuan Bajo.

Where the potential opportunities for tourism incomes are high, the degree to which the *local* population can capture the benefits is largely a function of access. In the Indian and Indonesian study sites, those populations who reside nearest to the protected areas and who have therefore borne most of the costs of exclusion appear to participate least in the tourism industry. At Mahenye, the tourism industry is still in the initial stages of development. However, the local population has been able to capture a proportion of revenue through special leasing arrangements. For rural populations, participation in the emerging tourist industry more often takes place in the form of low grade employment in the formal sector or entrepreneurial activities in the informal sector.

The degree of local involvement in the tourism industry, and access to the financial benefits, is therefore due to a range of factors, in particular the transferability of existing skills, patterns of land ownership and the mode of tourist arrival. These determinants are discussed in the following sections.

5.5.1 Transferability of Existing Skills and Capital

Many of the employment opportunities offered by tourism belong primarily to an urban entrepreneurial culture. The difficulty of transferring rural primary sector skills in order to fit tertiary sector jobs is evident in all three countries. Leakage from the local economy is minimised where existing resources, skills and capital can be utilised. In the predominantly rural areas, where nature tourism takes place, this usually occurs in those services which are dependent on labour, and primary produce (or small capital outlay). In the Indian and Indonesian sites, local participation is relatively large in the local transport sector. Many of the rickshaw pullers working in Keoladeo National Park held the same job in the domestic/non-tourist market before joining the tourist sector. The charter-boats of Sape and Labuan Bajo have close links with the existing fishing industry, and small fishing boats are easily adapted for use with tourists.

Participation in the tourism industry is not, however, synonymous with ownership or control. Although charter-boats operating to Komodo National Park utilise existing transport skills, many of the owners are Javanese. The capital cost associated with purchasing transport of this type is beyond the reach of many of those employed. In India, rickshaws are comparatively less expensive, and local government has, on occasion, assisted with start-up costs. An additional barrier to local involvement is the need to acquire specifically tourist-related marketing skills. Training in the informal

⁷³ And have not been adversely affected by protected areas

sector is largely acquired 'on the job' but sufficient inertia often exists to deter newcomers. Training in marketing techniques would make a considerable impact on handicraft sales alongside Beitbridge Road in Zimbabwe. In India, initial training for rickshaw pullers and guides is provided by the Forest Department and local involvement in this sector is high.

As a result of the general difficulty of transferring rural resource extraction and artisan skills to tertiary employment based on urban entrepreneurial skills, local involvement in tourism largely takes place through subordinate and semi-skilled jobs. For example, while the construction phase for tourist lodges in Zimbabwe has provided a significant numbers of jobs, these skills are unlikely to contribute to permanent employment when the construction phase is over (other than where those skills are transferable to maintenance). In Bharatpur, the majority of hotel staff from local villages hold menial jobs, while managerial positions are in the main reserved for members of an urban class. Survey results from the southeast lowveld in Zimbabwe suggest that expectations are highest for handicraft business opportunities than they are for participation in more formal sectors of the tourist economy, such as accommodation.

Local knowledge is, however, a skill that is marketed at all three sites. In Bharatpur, nature guiding probably offers the greatest opportunity for the development of local skills, although the necessary language skills have until recently restricted employment to wealthier individuals. In terms of skill transfer, guiding has the advantage of sustained tourist contact and nature guides have the opportunity to study the market thoroughly. Early guides at Keoladeo National Park were mostly urban, but even the few from rural backgrounds have been able to make connections within the national tourism industry. With the development of the lowveld in Zimbabwe, local guides at the Save Valley Conservancy also have good prospects for employment, although the process of indigenisation is slow.

5.5.2 Mode of Tourist Arrival

Tourism development is more likely to marginalise rural populations where transport, accommodation and guiding are vertically integrated by tour companies. Coach parties visiting Keoladeo National Park for lunch are a particular example. The brevity of visits and their tendency to bypass the small group of businesses at the entrance to the park, reduces their local spend. In Indonesia, cruise ships represent the biggest source of tourist revenue leakage from the local economy. These allow Bali-based operators to combine transport, accommodation, food and guiding into a single package so that the only local spend is in the form of park entrance fees and occasional handicraft sales. An estimated 85% of tourist expenditure on a visit to Komodo National Park bypasses the local economy due to the dominance of non-local carriers and package tour operators in the market. Through package transport of this kind, nature tourism assumes all the negative impacts of enclave developments more usually associated with beach tourism.⁷⁴

⁷⁴ For a discussion of these, see Freitag, T.G. (1994)

5.5.3 Geographical accessibility

Geographical accessibility plays an important role in the involvement of the local population, even though this variable is mediated by local structures of land ownership. In the case of Komodo and Keoladeo National Parks, the location and pace of tourism development has been dependent on the existence of arterial transport networks. Development has been swift at Labuan Bajo and Sape; both situated on the trans-Indonesian highway and traditional gateways to Komodo island. In Bharatpur, infrastructural development has taken place close to the junction between the Agra and Jaipur roads, and within walking distance of the entrance to the park. In this case, the creation of Keoladeo National Park truncated existing arterial links to rural areas through the closure of a principal access road. As a result, infrastructural development has been entirely absent from the rural areas, and participation in employment by members of the rural population has been confined to those resident in the two villages close to the hotels. In addition, the relative contribution of tourism revenue to the various sectors of the industry is also dependent on the geographical location of the site. Apart from accommodation owned by the park authority itself, hotels are necessarily distant from Komodo island itself. Lengthy transport by boat is therefore a requirement of the visit and as a consequence charter boats receive an estimated 44% of tourism revenue. In contrast, most of the accommodation in Bharatpur is within walking distance of the park and the local transport sector consequently receives a much smaller proportion of total tourist revenue.

To some extent, lack of permanent access to prime sites can be overcome by mobility; a strategy adopted by informal businesses trading at the entrance to Keoladeo National Park. This is in part a contributing factor to the general pattern that peripheral services (e.g. snacks and handicrafts) generally have a higher degree of local participation than core sectors (such as accommodation). However, the activities of informal enterprises at two of the sites are constrained by the lack of sufficient trading space. At Bharatpur, the operation of small businesses at the park gate is dependent upon the unofficial sanction of park staff, which may be revoked for any reason. In Komodo, the Koperasi⁷⁵ has a monopoly on the marketing of products crafted by island communities since they lack a feasible trading site of their own.

The geographical site of tourist locations also plays an important role in determining the degree of linkage and articulation with the existing economy. Keoladeo National Park is exceptional in that it lies close to a relatively large urban centre and regional market place. The ready availability of goods and supplies for the tourism industry within Bharatpur City reduces regional economic leakage, but the urban bias creates a high level of rural dislocation. The presence of Bharatpur city also allows the domination of the industry by an urban elite with the necessary skills to participate in the industry and with existing connections overseas.

5.5.4 Patterns of Land Ownership

Patterns of land ownership have profound implications for the distribution of costs and benefits of tourism within particular regions. The organisation of land also has a considerable effect on the ability of local communities gain access to tourists. In the

⁷⁵ The staff co-operative at Komodo National Park

case of Mahenye in Zimbabwe, particular rules preventing the sale of communal land have prevented the sale of prime tourism sites to non-local entrepreneurs and have fostered potentially profitable lease agreements for local people under the CAMPFIRE scheme. The land upon which the local Shangaan people are settled cannot be sold, and opportunities have arisen for them to maintain a share of tourism revenue. In contrast, tourism development on private land in Zimbabwe has largely circumvented local populations, so that conservancies have developed in an enclave form. Similarly, beach fronts in Labuan Bajo have been purchased by Javanese entrepreneurs at the expense of the indigenous population. In Bharatpur, India, the most lucrative sites in terms of access to tourists are held by a single community, who are also members of the ruling caste.

5.5.5 Local Social Structures

Much of this chapter has been concerned with the relative levels of local and non-local ownership of tourism enterprises. However, orienting benefits towards the local population does not necessarily ensure that the majority of local people benefit. In societies where existing social structures are highly skewed, local elites with urban skills and international connections dominate operations, and hamper widespread local control. The pattern of enterprise ownership in both the Indian case study, and among the private conservancies of Zimbabwe tends to perpetuate structural inequalities. However, traditional hierarchies based on age are often challenged by the process of tourism development. Problems of wage disparity have been raised as a particular issue of concern by the local population in Mahenye, where younger workers earn more than their elders. In all three sites, employment opportunities in the tourism industry are biased towards younger members of the community. In contrast, the visible employment of women is low. However, the impact on women in the household is unknown. The level of participation by women is to a large degree dependent on existing cultural norms but is thought to be high in small scale enterprises where family labour is the general mode of production. Women play a more active role in the hotels, restaurants and shops in Indonesia, but whether this is a contribution to financial independence, or an additional burden requires detailed investigation.

5.5.6 Local Institutions

In some cases, a higher degree of local involvement in the tourism industry occurs where an appropriate institution is able to mobilise participation of community members in decision making. From the case studies, the clearest example of this occurs under the Mahenye CAMPFIRE programme in Zimbabwe. However, the establishment of this institution was not without its problems. Conservation, revenue generation and infrastructural planning decisions usually fall between different local institutions. Revenue distribution at Mahenye was achieved through the revision of local institutions under the concerted effort of a few individuals. In India, proposals put forward for the establishment of a community tourism fund have been met with a degree of scepticism by some local people who question the accountability of existing local political institutions, and their ability to distribute funds according to the collective wish of the community.

5.5.7 Conclusions

Many of the points discussed above refer to general concerns which are raised during all processes of rapid economic change. The case studies from the three countries each reveal a degree of local involvement in the local tourism industry, and some of the key determinants for this have been suggested. Despite the temptation to seek general trends in the forms of local involvement, change can only be understood within the context of particular social and economic systems. However, the level of income and employment opportunities arising from tourism at protected areas depends largely on the form of tourism development (enclave or dispersed), and the articulation of particular social structures in the host population. Histories of land ownership, political representation and engagement by the state have a special relevance.

5.6 Policy Implications

Programmes for increasing the degree of local control over tourism development can only proceed from techniques and approaches which seek to articulate local concerns. Where tourism is identified as an appropriate area for growth, the following principles may be useful in guiding development.

1. Focus assistance to non-capital intensive enterprises

Local involvement in the tourism industry depends largely on access to the market. In many cases local benefits are maximised in the informal sector. Local skills and services are often maximised where the scale of capital investment is low. This aspect is sometimes neglected in tourism planning and access to tourists by the informal sector is restricted. Training in market research, understanding consumer tastes and product promotion may increase sales for small traders.

2. Maximise tourism based on local technology

Transferability of skills and hence local involvement is largest where existing capital and know-how can be utilised. Tourism developers should be encouraged, wherever possible, to use and promote existing local modes of transport, accommodation and art and handicrafts, food production and preparations.

3. Discourage enclave practices

Resist the tendency of some tour operators to bypass local business opportunities by regulating traffic (for example through the judicious location of parking spaces and entry restrictions) and ensure local access to centres of leisure and accommodation.

4. Encourage flexible partnerships between public and private sectors

Despite the wishes of protected areas to increase rural support, efforts are sometimes frustrated by emergent monopoly practices within the local private sector. Local Nature Guide training and selection should be based upon a clear agreement of

recruitment practices with participation from existing guides, protected area managers, and rural development associations.

5. Create and strengthen appropriate institutions

Local concerns regarding tourism development and attempts to retain some of the revenues from tourism are often hampered by the lack of local representation at an institutional level. Nature tourism, conservation and income generation often fall between the jurisdiction of several institutions. Local government and donor agencies should explore means of establishing an appropriate forum for the articulation of local concerns with representation from, and managed engagement of, all stakeholders (park management, tour companies, hotel developers and small businesses).

6. Developing Revenue Sharing Policies

Some park directors are considering the introduction of local development levies on entrance fees. Collaborative policies may be pursued in order to raise the total revenue for both local people and parks.

7. Incorporate tourism development as a component of a wider strategy

Research in at least two of the study sites suggests that while protected area managers, tourism professionals and researchers prefer to make a clear distinction between the tourism and conservation objectives of national parks, the views of local inhabitants often combine them. Greater participation in the tourism industry is not always a prime concern of local populations. Tourism should form one component of development strategies for protected areas, but should not over-ride alternative suggestions for raising local benefits such as joint resource management initiatives.

6. INTEGRATION INTO THE INTERNATIONAL MARKET

6.1 Introduction

One of the purposes of this project was to “identify and quantify the benefits and problems created by integration into the international market.”⁷⁶ With current rates of growth in international tourist arrivals, national parks are increasingly visited by foreign tourists. The comparative rates of growth in tourist arrivals were considered in Chapter 2 and the impacts of this growth on the habitats and species were considered in Chapter 3. Chapter 4 focused on the economic value to the parks of the tourists who use them. In this chapter the focus is on the implications for the park of being marketed in the tourist originating countries.

There is considerable further work to be done on the marketing of national parks both within the tourism industry and to the end consumer, the individual tourist. The international marketing aspect of parks was not a central focus of this research project. The data on the nature of the parks’ integration into the international market was collected through the survey of international tourists in the parks and through additional surveys of UK and German tour operators undertaken by Jordan (1996) and Metcalfe (1996).

An analysis of tour operator brochure content relating to Zimbabwe and a detailed survey of tour operators by Pirie (1996) is reported in detail in the Zimbabwe report. Pirie’s work shows that the visual image of Zimbabwe presented in the brochures of UK tour operators is dominated by wildlife and landscape, to the virtual exclusion of people and culture. This contrasts with National Tourist Office publications which place a stronger emphasis on the social and cultural facets of Zimbabwe. It is the tour operators who “showcase” the destinations and construct their image. Analysis of the postal survey of UK tour operators revealed that their main reasons for not featuring Gonarezhou were the difficulty of access and the lack of client awareness of the park, rather than the quality of the game viewing. By contrast Hwange, Zimbabwe’s most visited game park, is popular with tour operators because it is easily accessible, has good wildlife viewing and tourists want to go there. UK tour operators prefer to market destinations which are both established and accessible.

Workshops and meetings were held with host country tour operators in all three countries in the final phase of the project.⁷⁷ The host country tour operators operating to the parks were often relatively geographically remote from them. For Keoladeo most of the operators are based in Delhi, Agra or Jaipur and they operate from there. Most of the host country tour operators featuring Komodo are based in Bali, as well as a few with offices in Sape and Labuan Bajo. Many of the Bali based operators had never visited the park. Few of the host country operators are located adjacent to the

⁷⁶ Scientific/technical objective e.

⁷⁷ This group was particularly difficult to survey by postal questionnaire. They did not respond to repeated mailings even when the questionnaires were organised by their own trade associations

parks and relatively few of them have detailed knowledge of the parks or commitment to the parks and their environs. In Indonesia and India there are very few links of ownership between the domestic tour operators and the hotels. The major domestic tour operators do not own accommodation or transport which is committed to the parks and their environs.

The situation in the lowveld is different. As the operators are based in the lodges, they have fixed investments in the area and the commercial viability of their businesses is dependent upon marketing the lowveld and wildlife assets.

All three parks are, in different ways, characterised by being at the periphery of the centres of tourism organisation and control in their domestic tourism industries. Komodo is either a side-trip from Bali or a stop-over on the overland route east. Keoladeo is a lunch stop or stop-over on the road between the major tourist centres of Agra and Jaipur. The lowveld is simply remote.

All three parks are relatively isolated from other tourist attractions. At none of the parks has there been any significant development of additional attractions which would encourage tourists to stay longer and explore the vicinity of the park. At the tour operators' workshop in Keoladeo there was some discussion of the ways in which, through the addition of cultural tourism, Bharatpur might become a tourism centre. In Labuan Bajo the acquisition of land by developers suggests that it may be about to develop further. There are plans for the development of tourism in the lowveld, but these are still far from being implemented.

Decisions about the development of the industry locally and its linkages into the international market are made elsewhere. The local industry does not negotiate its own relationship with the international market. There is considerable concern about the nature of the structural relationship between the domestic industry and the international market. This was not the focus of this research project but it is an issue of particular concern in Zimbabwe.

The Zimbabwe Association of Tour and Safari Operators (ZATSO) is concerned at the dominance of international companies in the tourism industry, particularly the international wholesalers. In 1993 ZATSO wrote to DNPWLM expressing concern that the bulk of international tourists were handled and controlled by two international companies.⁷⁸ This dependence upon a limited number of companies in the international marketplace exacerbates the vulnerability of a local tourism industry to changes in the international market.

6.2 Market Volatility

6.2.1 Changes in international market trends

Changes in international market trends are largely beyond the control of national industries although they do react to these changes. No longer viewed as being quite such an exotic destination as it was, India has responded to the changing trends by developing beach tourism in Goa and developing new heritage products; one of the

⁷⁸ cf. Geckoconsult (1994):36

hotels in Bharatpur is a beneficiary of this marketing initiative. Indonesia has gained as South East Asia has become fashionable with tourists, although it should also be recognised that Indonesia has invested heavily in marketing itself, and is now beginning to market Komodo as part of its *East of Bali* campaign.

Domestic industries struggle to respond to these changes in the international market. It is very difficult for the local industry to respond except through regional or national bodies.

6.2.2 Tourist Confidence

India has been particularly vulnerable to events which have caused short term problems for the Indian travel industry. In 1990 the Gulf War, the Indian Airline's A329 crash in February and student protests all contributed to a reduction in tourism. In the period 1992/93 tourist numbers were adversely affected by the incidence of communal violence and in the winter of 1994 the industry was hit by outbreaks of pneumonic plague, cerebral malaria and tourist kidnappings. The earthquake in Flores, adjacent to Komodo National Park, may have affected the tourism industry and park visitor numbers in 1992.

6.3 International Tourists

From the responses in visitor surveys to the standard questions on motivation for travel, it is possible to compare the motivations for travel of tourists interviewed at the three research sites.

Landscape, wildlife and culture rank as the top three motivations for travel amongst international tourists interviewed in all three parks. Markets and shopping is least important in all three samples. Wildlife is most important at Gonarezhou for 66% of respondents. At Keoladeo wildlife is second to culture with 30% of respondents rating wildlife as their primary motivation for travel. At Komodo wildlife ranked third, with only 7.4% of respondents rating it as their most important reason for travel.

Culture was the most important motivation for travel at Keoladeo with a mean score of 4.3 (out of a maximum of 5) and 45% of respondents rating it the single most important reason for travel. At Komodo the rankings are contradictory, culture is ranked second in terms of the mean scores, but 57% of respondents say that it is their most important reason for travel. At Gonarezhou culture is ranked third with a relatively low mean score and only 9% citing it as their main motivation for travel. This is disappointing for a country rich in cultural interest. It is important to remember that these ratings were collected in national parks and that they can be expected to show higher wildlife values than would be found in the general population of tourists to the destination countries.⁷⁹

⁷⁹ cf Tables 6.4 and 6.5 below.

	Gonarezhou	Keoladeo	Komodo
Landscape	4.5	3.9	4.5
Wildlife	4.8	4.1	4.1
Culture	3.7	4.3	4.4
History & Archaeology	3.3	3.7	3.2
Art & Architecture	2.5	3.8	3.3
Marine	-	2.7	3.8
Markets and Shopping	2.5	2.6	2.7

Table 6.1. Foreign Tourists Motivation for Travel, Mean Scores on a 1 to 5 scale

	Gonarezhou	Keoladeo	Komodo
Culture	3 9%	1 45%	2 57%
Wildlife	1 66%	2 30%	3 7.4%
Landscape	2 20%	3	1 19%
Art & Architecture	5	4	5
History & Archaeology	4	5	6
Marine	-	6	4 7.4%
Markets and Shopping	6	7	7

Table 6.2. Foreign Tourists Motivation for Travel, ranked and with % rating “most important”.

6.4 International Tour Operators⁸⁰

Jordan and Metcalfe asked the same set of questions to UK and German tour operators to explore their views about nature tourism and to see if there were notable differences between the two groups. Both groups of tour operators felt strongly that local people should not be excluded from national parks and both felt strongly that national parks are part of the world’s heritage and should be protected at all costs.⁸¹

When asked whether or not they agreed that national parks are important tourist attractions the mean scores were 3.7 for German tour operators and 4.5 for British tour operators. The operators were asked to express their views on a scale from 1 to 5 and the spread is different between the two groups. For the UK operators in the survey national parks are markedly more important as tourist attractions than they are for German operators.

⁸⁰ This section is based on work by Jordan (1996) and Metcalfe (1996)

⁸¹ Mean rankings on a 1 to 5 scale: UK 4.4; Germany 4.1.

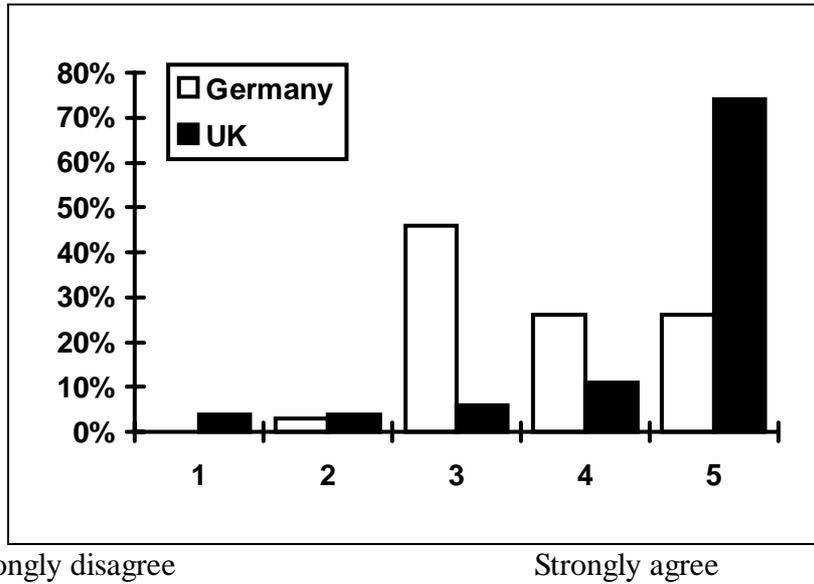


Figure 6.1. UK and German Tour Operators' Perceptions of the importance of national parks as tourist attractions.

When asked whether local people should be helped to earn money from tourism by establishing their own businesses there was strong support from British tour operators (mean score 4.3) and support from the German operators (mean score 3.2). Over 60% of British tour operators strongly agreed that local people should be assisted to develop tourism related businesses.

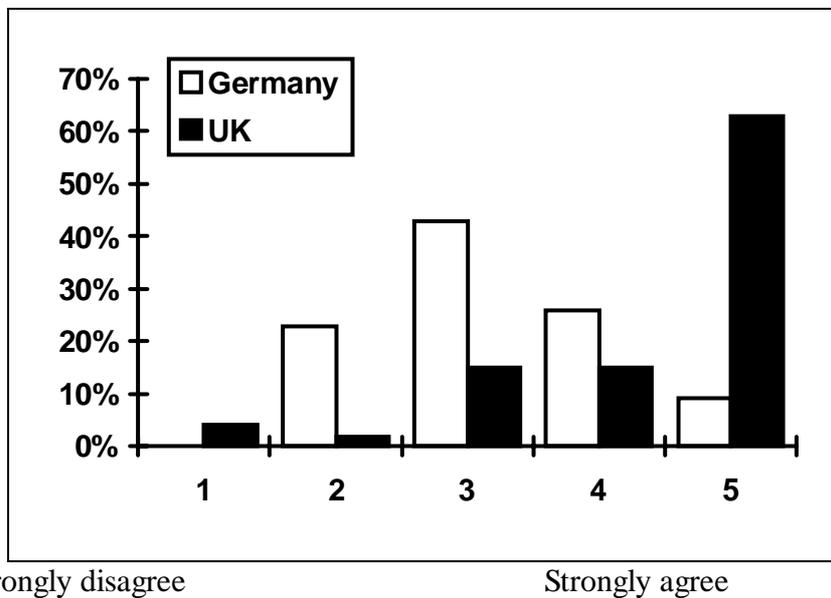


Figure 6.2. UK and German Tour Operators' support for local people establishing tourism enterprises.

When asked whether tourists visiting national parks should be charged a levy for a rural development fund the British operators were supportive (mean score 3.7), the German operators were less so (mean score 2.9). Of the British operators 65% agreed, compared with 36% of German operators.

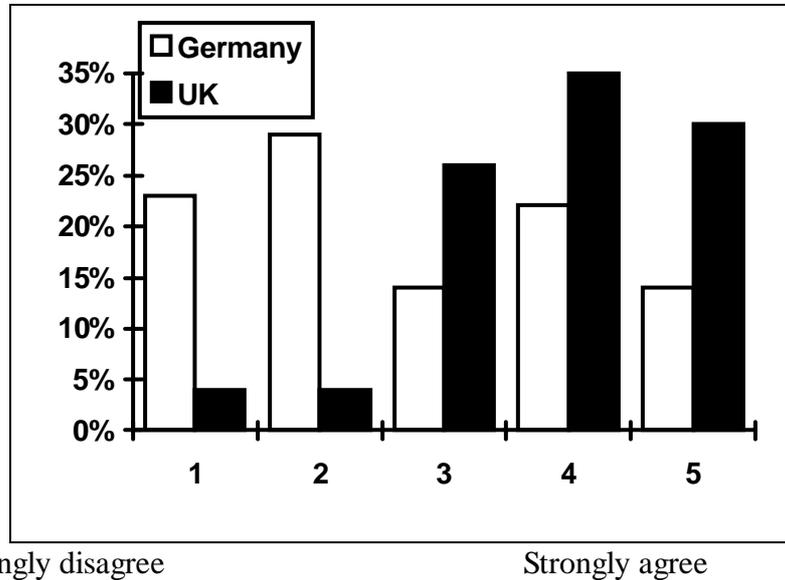


Figure 6.3. UK and German Tour Operators' support for a national parks entrance charge levy for a rural development fund.

The tour operators were asked how important each of the countries was to their business. The UK companies responding to this survey had relatively low proportions (all < 20%) of their total business committed to the three destination countries. This is reflected in mean scores, with only Zimbabwe scoring above the neutral 3 at 3.7. The German operators had larger proportions of their business committed to the destination countries, but their mean scores were all below 3. The survey evidence supports the view that tour operators are fluid in their commitment to particular destinations.

	UK			Germany		
	Operate to Destination	Mean Score	Average % of business to destination	Operate to Destination	Mean Score	Average % of business to destination
India	26	2.8	12.1%	8	1.9	75.38%
Indonesia	13	1.8	1.8%	20	2.0	25.7%
Zimbabwe	33	3.7	16.9%	10	1.7	35.74%

Table 6.3. Importance of countries to UK and German tour operators.

When asked about their clients' motivation to travel, UK operators to Zimbabwe attributed most importance to wildlife, landscape, and culture. For India they ranked their clients' interests as culture, followed by landscape; art and architecture, history and archaeology and wildlife had very similar values. The operators were being asked for their views about the country. By contrast the tourists were being interviewed in a national park. For Indonesia, wildlife was ranked last, with culture and people, landscape and marine as the top three.

UK	Zimbabwe	India	Indonesia
Wildlife	4.8	3.7	3.0
History & Archaeology	2.7	3.6	3.1
Markets and Shopping	2.3	2.6	3.1
Art & Architecture	2.1	3.7	3.2
Marine		-	3.6
Landscape	4.1	3.9	3.7
Culture	3.5	4.0	4.0

Table 6.4. UK Tour Operators views of their clients motivation to travel.

For Zimbabwe, the German tour operators attached most importance to culture, landscape and wildlife which is significantly different from the British operators. For India they similarly attached most importance to its cultural tourist values, with wildlife scoring the same as shopping. For Indonesia the German operators rate the cultural interest markedly lower, placing the greatest, importance on markets and wildlife.

German	Zimbabwe	India	Indonesia
Art & Architecture	3.3	3.0	2.7
Culture	3.9	3.7	3.3
History & Archaeology	3.1	2.2	2.8
Landscape	3.9	3.1	3.0
Marine	-	-	3.4
Markets and Shopping	2.9	2.7	3.6
Wildlife	3.5	2.7	3.6

Table 6.5. German Tour Operators views of their clients motivation to travel

German and UK tour operators were asked to rate the tourist interest and marketing value⁸² of each of the parks on a scale of 1 to 5. The tourist interest of the parks is consistently rated higher than the marketing value. This reflects the generic nature of much marketing of wildlife and culture.

⁸² Tour operators were asked "How important is the park to your marketing of the country? Answer recorded on a scale from not very important (1) to very important (5).

	Tour Operators	Tourist Interest	Marketing Value
Keoladeo	German	3.6	2.3
	UK	4.1	2.9
Gonarezhou	German	3.7	1.6
	UK	3.6	1.8
Komodo	German	3.8	2.2
	UK	3.4	1.6

Table 6.6. German and UK Operators Opinions on the Parks' Tourist and Marketing Value

6.5 Policy Implications

1. As parks and the local economy adapt to incorporate tourism as a significant source of income, their dependency on the international tourism market increases. The international tourism market is a competitive and volatile one. This makes parks and the local economy vulnerable to changes in the international market and to loss of confidence by tour operators and individual travellers.
2. The decisions which determine the volume and character of tourism to a particular site are not made locally. These decisions are made in the tourist originating countries and by the domestic tour operators based in the tourism centres remote from the parks.
3. Foreign tour operators generally have a low level of commitment to particular destinations.
4. The local destination remains relatively isolated from the international market, receiving tourists but not understanding or playing any part in controlling the terms on which, and the processes by which, they arrive.
5. International tourists choose to visit countries for many reasons but experiencing the culture and seeing the wildlife are prominent.
6. There is evidence that some tour operators are sympathetic to ideas of local community involvement in tourism and a levy on park admissions for local development.

7. Visitor Education and Awareness

7.1 Introduction

This chapter addresses scientific/technical objective c), to

“identify and assess the qualitative contribution of tourism to conservation through visitor education and increased awareness.”

In the debate about nature tourism, considerable emphasis has been placed on the importance of the educational and interpretive components of the protected area experience. It is assumed that during their visit, tourists “will almost always learn something” about the protected area system, conservation or “humankind’s role in the environment”. Optimism has been expressed that protected area managers “are in a unique position to influence and shape this learning process” and that the “visitors’ understanding and appreciation of what they are experiencing” can be increased. Educational and interpretive components can also enable visitors of protected areas “to increase their commitment to the preservation of natural resources.”⁸³

National protected area policies frequently contain mention of the importance of visitor information and education. For example, in Zimbabwe the *Policy for Wildlife* (1992)⁸⁴ refers to “.. public education and the advancement of scientific knowledge” and to encouraging “public use related to the enjoyment and appreciation of these areas.” The DNPWLM is expected to provide “.. interpretive and educational material”.

Visitor education and awareness is in the interest of the parks, and is an essential part of creating a national constituency of support for national parks and protected areas.

This research did not address what a carefully planned and resourced visitor education and interpretation programme could achieve. None of the sites at which research was carried out had sufficient staff or facilities to undertake such a programme of work.

- Gonarezhou had no interpretation centre. There are two illustrated sketch maps which contained some very limited information about the park. Individual visitors to the park are not required to have a guide. Tour groups are required to use licensed guides.
- Komodo has basic interpretive material displayed in a shelter on both Komodo and Rinca and there is some basic information at Labuan Bajo. Visitors do have a guide, but their ability to communicate with each other is usually very limited by language difficulties.

⁸³ Ceballos-Lascurain (1996).

⁸⁴ Ministry of the Environment and Tourism

- Keoladeo had a small interpretation room at the gate, and now has a much larger room, purchased by WWF and currently being developed as a visitor centre. The guiding is provided by a group of guides and by the rickshaw wallahs.

The survey work undertaken for the project addressed two sets of questions:

- What facilities would international tourists like to see in the parks?

This data is drawn from the tourist surveys conducted in each of the parks and from other parts of the research.

- What learning can be identified as having resulted from a visit to a protected area?

A detailed postal survey of people who had visited Keoladeo National Park was undertaken, full details of which are in chapter 7 of the Keoladeo report. The more salient results are reported here.

This research project was concerned with the relationship between international tourists and the parks. Some of what follows may be relevant also to domestic visitors. Komodo National Park has a significant extension programme of work with villages in and around the park and Keoladeo has also undertaken such work at different times. No attempt is made here to assess the value or impact of that work.

7.2 Interpretation and Education Services

7.2.1 Guides

The survey of UK and German tour operators conducted by Jordan (1996) and Metcalfe (1996) asked whether their clients were willing to pay extra for a “fully trained local guide around the park”. The tour operator sample was asked for a response at each of the parks which the company featured in its programmes⁸⁵, thus the results are for different sub-samples.

	Gonarezhou	Keoladeo	Komodo
UK Operators	55	73	54.5
German Operators	100	77.8	91

Table 7.1. UK and German Tour Operators’ perception of clients’ willingness to pay for a trained local guide (%)

It should be noted that at Komodo all tourists are accompanied by a local guide at the site. The figures probably reflect the number of companies employing local guides in addition to the park guide.

⁸⁵ Those who did not respond, but who did send tourists to the park, are counted as not thinking that their clients would be willing to pay extra for a local guide.

The definition of “local” guide is problematical - it may mean a national or local to the park. This is demonstrated by the responses for Gonarezhou. All tour groups in Zimbabwe in the national parks have to be accompanied by a licensed professional guide who will be a national. The UK operators are using a more local definition when answering the question. There is some pressure from the industry in Zimbabwe to abolish the rules requiring a licensed professional hunter/guide on private and communal land in favour of the quality of guides being entirely a matter for the operator. Some operators are arguing that the very high qualification for guides in Zimbabwe is unrealistic because it results in a shortage of guides and inflated wages. The point is also made that local people are precluded from undertaking guiding because of the licensing requirements.

In Keoladeo, where guides are optional, nearly half of the package tourists, one third of the independent travellers and a fifth of the backpackers use the services of a guide. Anecdotal evidence suggests that the quality of the guiding provided by the guide or the rickshaw operator is very important to the tourist’s perception of the park.

In both Komodo and Keoladeo National Parks there is a case for improving the quality of guiding in the parks. The training requirement is for

- language skills, particularly English
- natural history and interpretive skills
- visitor management and public relations skills

7.2.2 Facilities

The visitor surveys asked tourists what facilities would enhance their visit

	Gonarezhou	Keoladeo	Komodo
Information Boards	44.8	35	59.7
Labels for Trees	70.9	39	42.6
Hides	62.8	25	27.7
Interpretation/Visitor Information Centre	28.9	20	21.6

Table 7.2. Educational and Interpretive Facilities to enhance the visitor experience (%)

The visitor responses reflect the different visitor motivations and experiences at each park. At Gonarezhou the facilities which would be most appreciated are labelling of trees, and to a slightly lesser extent, hides for game viewing and bird watching.

Information boards and labelling of trees are the two most frequently cited facilities for visitors to both Keoladeo and Komodo. Both facilities would help to counter the language difficulties which may be experienced. A quarter of respondents cited hides at Keoladeo, which are facilities also frequently suggested by tour operators.

In all three parks, an interpretation/visitor centre was viewed as the least important of the suggested facilities. It is worth noting that visitors' experiences would be significantly enhanced by relatively small investments of resources in labels, hides and boards. These facilities would not require expensive equipment and could be made with local renewable resources and by employing local people.

7.2.3 Books and Information

Written information, in the form of books and leaflets, can enhance considerably the immediate visitor experience, as well as providing a broad awareness of the parks and conservation.

Keoladeo was the only park in the study with a bookshop. Just over 20% of the independent travellers and backpackers purchased from the bookshop, while the number of package tourists doing so was half of this figure. (Many of the package tourists are present only for a limited time, and often in the middle of the day, when the bookshop is often closed.)

Of the visitors surveyed at Komodo about what they were unable to purchase, the greatest number (20 people) cited books and similar information.

7.3 The Keoladeo Survey of Biodiversity Awareness and Learning

This section summarises work done by Ian Bride and presented as Chapter 7 of the India Report.

Of the three sites covered by the ODA project, Keoladeo National Park, Bharatpur, India was chosen as the most suitable for the detailed research required to address the question of biodiversity awareness and learning. Komodo was rejected on the grounds that for the great majority of visitors, the visit involved a short trip to see a single species, and there was difficulty in collecting complete names and addresses in the park. In Zimbabwe there were relatively few foreign tourists and the surveying was taking place very late in the cycle of the project.

Before the trip, the reading of tour materials and materials from book shops and libraries were by far the most frequent activities. 65% (42) of respondents who went with organised tours (N=64) read the tour materials, and the same proportion (84) of all visitors (N=128) read materials from shops and libraries.

Source	No. of respondents	%
Read materials from shops/libraries	84	66%
Read tour materials	42	66% (of those with a tour)
Watch relevant films/TV	17	13%
Go to meetings/talks	12	9%

Table 7.3. Sources of learning prior to the Keoladeo trip.

At Keoladeo, park guides (62%) and personal observation (32%) were identified as the primary sources of learning by respondents and, perhaps surprisingly, only 19% of those with organised tours identified the tour guide as a primary source. However, the data for this question need to be considered with some caution because they are compromised by the fact that respondents were asked to indicate the single most important source. Some did this, but many ticked more than one category, and in the event all categories were recorded in the data set.

Source	No. of respondents	%
Park guide	80	62%
Observation	41	32%
Tour guide	12	19% (of those with a tour)
Own books	15	12%
Fellow travellers	14	11%
Visitor centre	3	2%

Table 7.4. Primary sources of learning during the trip to Keoladeo.

Post-trip activities were mainly those of "giving money to wildlife organisations" (52%), "birdwatching" (45%) and "bought a bird book" (41%)⁸⁶. It should be noted however, that none of the post-trip activities were necessarily dependent upon the individual having visited Keoladeo.

The overall Keoladeo knowledge scores (KKS)⁸⁷, formed by aggregating those for the individual questions, were generally quite poor⁸⁸, with an overall mean of 15, just one point above the mid-way mark of 14, which, since the each question was of a yes/no format, is the mark which might have been expected to have been achieved by guesswork alone. The scores were spread between 10 and 22 inclusive, and 77% (90) lay between 12 and 18. The individual questions on which the visitors performed best were those concerning the origin and management of the park, and the mammal species present therein. But 42% (51) of respondents failed to identify the site as

⁸⁶ See Table 6.5 in the Keoladeo Report.

⁸⁷ KKS Keoladeo Knowledge Scores represent an index constructed from responses to questions about the national park.

⁸⁸ See Figure 6.4 in the Keoladeo Report

having been artificially created, and the mean number of correct answers for mammal species was just under 3 out of a possible maximum score of 5.

Only 31% (39) of respondents correctly identified Keoladeo as a World Heritage Site, just 18% as a Ramsar site and a mere 6% were right in allocating it to the Man and Biosphere Reserve category. Knowledge of threats to the park was also rather limited, averaging less than 6 correct answers from 12. Most notable of these were the 95% (115) of respondents who failed to identify *Juliflora* as a threat, the 89% (108) who did the same for amphibious grasses, and the 65% (42) who did the same both for the water hyacinth and feral cattle. Finally, just 33% (40) identified tourism as a threat to the park.

The Keoladeo knowledge scores (KKS) were disappointing in that they had an overall mean (15.3), which was not much higher than that which might have been expected to have occurred by chance (i.e. 14.0). The obvious immediate inference to draw is that amongst the respondent group, very little learning had occurred at the park. A closer examination of the data relating to sources of learning about wildlife, about Keoladeo, and of the relationship between variables, leads to some rather more optimistic conclusions.

The correlation between "reading materials from books and libraries" and higher scores for the overall KKS, points to the importance of preparation in relation to learning about Keoladeo. This is a finding which may seem to be rather obvious, but it helps explain the relatively better KKS performance of some respondents. Similarly, the relationship suggested between higher Keoladeo knowledge scores and the utilisation of park guides, points to some learning occurring at the park in association with the activities of these guides. The picture becomes clearer when the relationships between the "sources of learning" are considered. The positive correlations they present suggest that those individuals who prepared most for the trip were those who tended to be the most active bird enthusiasts afterwards. It might be tempting to assume that the Keoladeo trip had such a profound effect on visitors as to turn many of them in to avid birders. However, it seems rather more likely that those involved in post-Keoladeo birding activities were committed birders to begin with. This contention is strongly supported by the fact that 93% (28) of the visitors who went with "birder/wildlifer" tour operators declared having been a member of the RSPB during the past 5 years, as opposed to about 20% of the rest of the respondents. Although some of these memberships may have been taken up after the trip, this seems generally unlikely, given the highly specialist nature of the operators concerned. A reasonably strong correlation was also found between RSPB membership and the pre-departure reading both of relevant materials from libraries/book shops

This survey revealed low levels of general knowledge about biodiversity and did not produce much evidence in support of the view that Keoladeo in itself provides a powerful educational experience. However, in regard to the latter point, it should be remembered that the questionnaire did not include any questions about birds. Perhaps if it had done so, the results would have been much better and the conclusions as to the educational value of the park, rather more optimistic. Because of the strong ornithological focus of many of those visiting the site, the measures of non-bird related knowledge might be misleading. Put simply, "birders" may be very much more

interested in birds than anything else. This group did however, perform significantly better than the "generalist" and "independent" visitors on the Keoladeo knowledge questions, which suggests that those more interested specifically tended to know more generally.

Although the findings are inconclusive, the learning which seems to have taken place in connection with the respondents' trips to Keoladeo, appeared to be associated with the context of preparatory study by the visitors prior to the trip. It may also have been influenced by the activities of park guides during the trip and, was perhaps complemented by subsequent study. This observation reveals nothing new, in that countless educational studies have found that the learning experience during a visit of some kind (e.g. to zoos and museums) is more effective when contextualised within some sort of educational programme. The question is, how much of the learning which goes on is influenced by each source? Clearly, a much more intensive investigation is needed if an answer to this question is to be found, perhaps one which compares visitor cohorts which are exposed to different educational programmes at the park.

It should also be stressed that any learning found to be associated with Keoladeo does not necessarily imply a connection between this learning and participation in wildlife-friendly behaviour. Indeed, Finger (1994) has found that environmental knowledge and awareness predict little of the variability in most forms of environmental behaviour, and that the main factors are experiences in and with the environment. This bodes well for nature tourism, and 45% of questionnaire respondents did indeed return the enclosed form expressing interest in becoming a "Friend of Keoladeo". However, receiving newsletters and/or giving money do not constitute very high levels of ecological activism. In fact, nearly all of the wildlife-related activities recorded in this survey could be carried out with scant regard to the interests of any wildlife concerned. The only exception was "practical conservation work", and it is worth remembering that respondents who most frequently participated in such activities tended to be less well formally educated, a group also under-represented in the respondent sample.

7.4 Policy Implications

1. Tourists expressed more interest in information boards, vegetation labels and hides than in relatively expensive visitor interpretation centres.
2. There is potential for more sales of literature (books, maps and postcards) in national parks.
3. Significant numbers of tourists at Keoladeo choose to engage a guide. The park guide is an important part of the experience and the primary source of learning at Keoladeo.

4. Systems of guide training which establish high quality standards may be inappropriate for the needs and interests of many tourists and the regulations may function to prevent local people earning a living by guiding.
5. Conversely, where there is no regulation of guides, standards may be so low as to cause dissatisfaction.
6. It is necessary to train guides in languages, natural history, interpretive skills and visitor management.

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9. APPENDIX 1: Research and Scientific/Technical Objectives

Research Objectives

Over a three year period the project will provide comparative case studies of sites, in three developing countries, in order to:

- a) identify methods of providing sustainable revenues from tourism for conservation and development.
- b) examine means of improved site management providing increased revenues whilst conserving the local ecology.
- c) identify means of improved visitor management in order to decrease the adverse ecological effects of tourism.
- d) raise the income and related benefits which local people gain from tourism based on biodiversity.
- e) provide a methodology which will enable local researchers to continue to monitor the survey sites, and to provide research reports, which will enable similar and comparable work on the compatibility of tourism development and conservation to be undertaken in other developing countries.

Scientific/technical objectives

The project will develop and test a methodology for assessing the relationships between tourism development and conservation which can be applied by local institutions in developing countries.

The project will determine and measure, using a standardised survey of comparative sites, the ecological, economic and social relationships, including gender, between tourism development and conservation and the regulatory framework within which they take place, in order to:

- a) quantify the visitor numbers and assess the forms of tourist visits which are consistent with sustainability.
- b) identify the local indigenous people's incomes from the sites and identify the additional economic benefit which could accrue to them from tourism and biodiversity.
- c) identify the net contribution of tourism development to conservation and restoration, and to assess the commercial and regulatory conditions necessary for increasing the contribution.
- d) identify and assess the qualitative contribution of tourism to conservation through visitor education and increased awareness.
- e) identify and quantify the benefits and problems created by integration into the international market.

10. APPENDIX 2: Data Requirements For Future Monitoring

Introduction

Research objective (e) is

to provide a methodology which will enable local researchers to continue to monitor the survey sites, and to provide research reports, which will enable similar and comparable work on the compatibility of tourism development and conservation to be undertaken in other developing countries.

In this appendix we shall consider some of the issues that this raises. The main emphasis will be on what data it is practicable to collect, together with discussion on the sources of information and what methods might be used to collect such data.

Firstly, it must be emphasised that data collection and monitoring must be carried out for clearly defined reasons. The collection of data for its own sake will not only use scarce resources, but may also demoralise the surveyors. In such circumstances, sustained effort is very difficult to maintain. Each chapter of this report relates to particular analyses that we have performed and explains why it was necessary to obtain certain information. Since it would be difficult for such thorough analyses to be continued on a permanent basis, in this appendix a more manageable data-collection task is described, on a chapter by chapter basis. Once this has been done, it will be possible to summarise the recommendations in terms of who will be surveyed and how the survey might be performed.

Data required, by area of analysis

Chapter 2: Visitor Patterns

Almost any aspect of park management will require a knowledge of how many tourists are visiting the site. As we have seen, this information is collected, but in varying detail (particularly in terms of country of origin). With dual pricing already in existence, or as a possible policy option, the very minimum information required is whether each visitor is a national of the country or from abroad. However, it will in future be relatively straightforward to continue analyses such as those in Chapter 2 since most of the necessary data are already collected. In summary, the following information is required.

- Total visitor numbers, by month and by nationality (at least to the level of domestic/foreign).

Chapter 3: Visitor Impacts and Management

Impact does need to be measured since it is essential to identify any activity that could be deleterious to conservation. It is debatable whether such information has to be quantitative; in some cases it is useful to have numerical measures, but in others descriptive indicators would serve well. This is an area where park employees who

have intimate local knowledge would be the best informants. Data to be collected include the following.

- Visitor numbers by time of year (monthly).
- Identification of where tourists go within the park, and in what numbers at what time of year, and with what mode of transport.
- Identification of any events salient for conservation, for example destruction of habitat and disturbance of animals.
- Indicators of conservation, for example species counts.

Chapter 4: Contribution of Tourism to Park Finances

Much of the information necessary for the analysis of park finances has been defined with reference to Chapter 2. Knowing how many people are entering the park and how much they are paying does give an immediate figure for current revenues. However, planning is an essential part of management and future revenues are dependent on continued demand and on entrance fees that could be changed as part of park policy. It is necessary, therefore, to know the degree to which tourists are satisfied with the experience of visiting the parks, whether they feel they have obtained value for money, and whether they would be prepared to pay a higher entrance fee. The essential data to collect are

- Visitor numbers and fees paid, including any differential fees.
- Attitudes of visitors to the entrance fee they were charged and the quality of visit experienced. Additional questions on whether visitors would have been prepared to pay more could be included.

Chapter 5: Tourism and Local Development

It is a very difficult task to produce a comprehensive assessment of the impact of the parks on local development. Some income, such as wages paid to locally resident park employees, could be calculated from the park accounts. However, to account for all monetary flows into the local economy would, in practice, almost certainly be impossible. Counting the numbers of people employed in tourism-related activities could be done. However, there are many who do not work full-time on activities related to tourism. It would be very difficult to estimate the proportion of time dedicated exclusively to those activities which can unequivocally be classed as “tourist related”? Notwithstanding this problem, it should be possible to estimate the numbers of people whose activities are involved with tourism and tourists (and gender, age, occupation, wage and origin⁸⁹), perhaps in broad classes such as “definitely related”, “partially related” and “marginally related”.

Another desirable form of survey would be to monitor in a qualitative way changes in the provision of services connected with tourism. Questions that could be asked include the following.

⁸⁹ A key issue is the proportion of employment going to local people.

- Are village-made products now on sale that used not to be?
- Have any hotels opened, closed, expanded or changed the quality of accommodation offered?
- Are any new transport facilities available?
- Has the training and quality-control of guides changed in any way?

In addition, it would be sensible to monitor the opportunities for new services. This could be achieved through the visitor survey which would include questions such as:

- Are there any products they would like to buy that are unavailable?
- Would they take the opportunity to visit a “tourist village” if there were one in the vicinity?

This part of the survey could be modified on a regular basis to reflect changed conditions and new ideas.

Data also needs to be collected on visitor expenditure in the local economy.

Finally, it is clear that having a national park in the vicinity affects the lives of local people in many, complicated ways. There are undoubtedly both benefits and drawbacks and it is important that those responsible for policies affecting the park should be aware of the impacts such policies have on local people. It is therefore advisable that there is some form of continuing survey into local experiences and attitudes.

Chapter 6: Integration into the International Market

There are two aspects to monitoring integration into the international market: the foreign tourists themselves and the tour operators. As far as the tourists are concerned, much relates, as in other chapters, to their reasons for visiting the country and the national park, and their satisfaction with the visit. Such information can be obtained from a visitor survey. In particular this would have to elicit the following data

- nationality of visitor
- where visiting in the country
- length of stay in country
- reasons for visiting country
- reasons for visiting site
- assessment of satisfaction of visit to site

It is more difficult to monitor tour operators since these are located in many countries of the world. It may be possible to investigate what services their local agents are providing, but it is difficult to see how a comprehensive picture could be drawn and kept up to date. It would be preferable to approach the problem via the visitor survey. An essential question within the survey would be whether the visitor was a package tourist or not and, if he or she was travelling on a package deal, one could ask what

exactly was included in the package. (Asking who the operator was would probably be of limited use as interpretation would require a knowledge of all the world's tour operators and their full range of products.)

Chapter 7: Visitor Education and Awareness

Our research has shown that it is difficult to infer from a single visit to a national park how individuals become aware of conservation issues. Such a visit is just one on many lifetime experiences that contribute to people's knowledge and form their attitudes. It would, therefore, be unrealistic to expect any future monitoring exercise carried out at national parks to yield interesting and relevant results about people's education and awareness of conservation. It would be more effective to concentrate resources on other investigations.

Data required, by source of information

In the previous section, the data required has been described in terms of the purpose for which it is needed. When planning the acquisition of such data, it is essential to identify the source of the data. It is apparent that there are four such sources: park records, observations within the park (ecological and of tourist behaviour), the tourists themselves, and the local community (economic activity and people's attitudes).

The two-way classification by area of analysis and data source is summarised in Table A2.1.

Source Area of analysis	Park records	Observations in Park	Survey of tourists	Local community
Chapter 2: Visitor Patterns	·visitor numbers			
Chapter 3: Visitor Impacts & Management	·visitor numbers	·location of visitors within park ·disturbance/habitat destruction ·species counts etc.		
Chapter 4 Contribution of Tourism to Park Finances	·visitor numbers ·entrance fees		·satisfaction with visit ·willingness to pay different entrance fees ·willingness to pay for additional services	
Chapter 5 Tourism and Local Development	·revenues/expend itures which go to local community			·qualitative review of changes in provision of tourist services, and of opportunities for new services ·recording of broad categories of tourist- related employment ·survey of local people's attitudes
Chapter 6: Integration into the International Market			·country of origin ·where visiting ·length of stay ·reasons for visiting country and site ·satisfaction with visit	

Table A2.1 1 Data required classified by area of analysis and source.

Data collection

There is much that can be said about the methods of data collection. The principles of designing and implementing surveys are well covered in the literature⁹⁰. What will be considered here is a brief appraisal of the needs and practicalities of the required surveys. Each source will be considered in turn.

Obtaining information from the park records is straightforward since the data are already recorded. There could be issues of confidentiality, for example relating to wage costs, but the purpose of any future monitoring is to aid in the management of the park. Unless the park is closely involved and fully co-operating, the whole exercise would be fruitless.

The types of observation required within the park are covered in detail in Chapter 3. Again, it is assumed that the park management would be fully involved and so the expertise and co-operation of their staff would be available. Since local conditions vary greatly from one park to the next, it would not be wise to set down detailed procedures here.

The tourist survey is the source of information where some advance specification is possible. The sorts of questions to be asked have already been described, but discussion of how they should be asked would be valuable. There are two approaches that could be employed: interviewing and unsupervised questionnaires.⁹¹ It is not advisable to give an absolute recommendation since the group actually performing the survey would have to be involved in the decision. Practicability is the most important concern. It is difficult to maintain motivation in a long, drawn-out exercise. Those involved need to see the fruits of their labour, and if they do not, it is likely that other more pressing tasks will supplant the survey activities. Although one would like to have a sample that is representative of visitors over the whole year, for motivational reasons it would seem better to concentrate the surveying effort. In our experience it is possible to perform a short survey very productively by means of face-to-face interviews. One possibility would be to dedicate a few days once every quarter to an intensive series of visitor interviews. The effort would be concentrated, there would be a clear end, and, if data-processing facilities are available, results could be soon produced (the time required would decrease with training and experience).

The information that could be obtained from the local community has been discussed above. At this stage, it is not clear which agency would perform the survey and who would be their client. It would not be appropriate for park staff to be involved with this work as it is not related to their competencies. The work could be suitable for an NGO; for example, WWF have been involved with such surveys.

⁹⁰ See, for example, Moser C.A. and Kalton G., **Survey Methods in Social Investigation**, 2nd edition, Gower, Aldershot, 1971.

⁹¹ Discussion of their relative merits can be found in the interim report Goodwin *et al* (1996).

Conclusions

The data that it would be practicable to collect have been described both in terms of the area of analysis to which they are relevant, and of the sources of information. It is more difficult to make definitive recommendations about the best means of collecting the data since the precise nature of the local collaborators cannot be known. Nevertheless, some tentative suggestions and broad principles have been put forward.

11. APPENDIX 3: Exchange Rates

End of period (December) US\$ exchange rates as published by the IMF.

India

Year	1990	1991	1992	1993	1994	1995
Rs/\$	18.1	25.8	26.2	31.4	31.4	35.2

Indonesia

Year	1990	1991	1992	1993	1994	1995
Rp/\$	1901.0	1992.0	2062.0	2109.9	2199.9	2308.0

Zimbabwe

Year	1990	1991	1992	1993	1994	1995
Z\$/ \$	2.6	5.1	5.5	6.9	8.4	9.3

Real effective exchange rate indices (1990=100), based on relative wholesale prices.
IMF financial statistics, January 1997.

Year	1990	1991	1992	1993	1994	1995	1996 (first quarter)
US\$	100	98	95.4	98.6	96.7	90.4	94.9

