

TOURISM, CONSERVATION & SUSTAINABLE DEVELOPMENT

VOLUME II

KEOLADEO NATIONAL PARK, INDIA

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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The collaborating institution in India was the Bharatpur World Nature Conservation Society (WNCS). Research in Keoladeo National Park was overseen by the Park Directors, Shri A.S. Brar and Smt. Shruti Sharma. Field research was conducted by I. Kent, (DICE), in collaboration with Vishnu Sinsinwar, Tirath Singh and Saravjit Singh (WNCS), with additional help from H.J. Goodwin (DICE) and K.T. Parker (IMS). M. Walpole and K.Ward (DICE).

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TABLE OF CONTENTS

1. INTRODUCTION.....	1
1.1 PROJECT OVERVIEW	1
1.2 NATIONAL PERSPECTIVE	3
1.2.1 Wildlife.....	3
1.2.2 Tourism.....	3
1.2.3 Wildlife Tourism.....	4
1.3 LOCAL PERSPECTIVE.....	5
1.3.1 Economy	5
1.3.2 Site Profile	7
1.3.2.1 Location	7
1.3.2.2 Physical Features.....	7
1.3.2.3 Climate.....	7
1.3.2.4 Vegetation.....	7
1.3.2.5 Fauna.....	8
1.3.3 Protected Area Status.....	8
1.3.3.1 History	8
1.3.3.2 Rationale	8
1.3.3.3 Management	9
2. VISITOR PATTERNS.....	10
2.1 INTRODUCTION	10
2.2 DATA SOURCES.....	10
2.3 TOURIST CATEGORIES	11
2.4 VOLUME OF TOURISM TO KEOLADEO NATIONAL PARK	13
2.4.1 Longitudinal Trends.....	13
2.4.1.1 All visitors.....	13
2.4.1.2 Foreign visitors.....	16
2.4.1.3 Domestic visitors - adults	19
2.4.1.4 Domestic visitors - students.....	20
2.4.2 Seasonality.....	21
2.4.2.1 All visitors.....	21
2.4.2.2 Foreign visitors.....	21
2.4.2.3	24
2.4.2.3 Domestic visitors - adults	26
2.4.2.4 Domestic visitors - students.....	26
2.5 LENGTH OF STAY AND NUMBER OF VISITS	29
2.5.1 Number of visits to Keoladeo National Park.....	29
2.5.1.1 All foreign tourists	29
2.5.1.2 Foreign package tourists.....	30
2.5.1.3 Non-package tourists	31
2.5.2 Length of stay in Bharatpur (foreign tourists).....	33
2.6 MODE OF TRANSPORT (FOREIGN VISITORS).....	35
2.7 NATIONALITY (FOREIGN VISITORS)	37
3. VISITOR IMPACTS AND MANAGEMENT	39
3.1 INTRODUCTION	39
3.2 DATA SOURCES	39
3.3 THE FUNCTIONS OF KEOLADEO NATIONAL PARK	40
3.4 MANAGEMENT PRIORITIES OF KEOLADEO NATIONAL PARK	41
3.5 BIODIVERSITY VALUE.....	41
3.6 VISITOR ACTIVITIES	42
3.6.1 Tourist Facilities.....	42
3.6.2 Distribution throughout the park: Types of foreign tourist.....	44
3.6.3 Distribution throughout the park: Foreigners and Indians.....	45
3.7 THE ENVIRONMENTAL IMPACTS OF TOURISM	47
3.7.1 Bird Disturbance.....	47
3.7.2 Python Disturbance.....	47
3.7.3 Scavenging and Habituation.....	48

3.7.4 Litter and Pollution.....	48
3.8 SUGGESTIONS FOR TOURISM MANAGEMENT.....	50
4. CONTRIBUTION OF TOURISM TO PARK FINANCES.....	52
4.1 INTRODUCTION.....	52
4.1.1 Data Sources.....	52
4.2 KEOLADEO NATIONAL PARK: REVENUES AND EXPENDITURE.....	52
4.2.1 Expenditure.....	54
4.2.2 Revenue.....	54
4.3 FINANCING TOURISM: REVENUE VS EXPENDITURE.....	55
4.3.1 Perspective (a): Tourism as the principal management objective.....	55
4.3.2 Perspective (b): Tourism as a supplementary management objective.....	56
4.3.3 Discussion.....	58
4.4 INCREASING REVENUES FROM TOURISM.....	59
4.4.1 Introduction.....	59
4.4.2 Sources of Tourism Revenue.....	59
4.4.3 Raising Foreign Entrance Fees.....	61
4.4.4 Foreign Tourist Attitudes to Price Increases.....	61
4.4.4.1 Willingness-to-Pay.....	61
4.4.4.2 Differences between tourist types.....	62
4.4.4.3 Further impacts of raising the foreign entrance fee on park revenues.....	66
4.4.4.4 Further impacts on guiding, hotel and other local businesses.....	70
4.4.4.5 Conclusions.....	72
4.4.5 Alternative options for increasing park revenues from tourism.....	73
4.4.5.1 Raising the price of additional tourist facilities.....	73
4.4.5.2 Providing additional facilities.....	73
4.4.5.3 Additional Items for Purchase.....	75
4.4.5.4 Direct appeals for contributions from tourists and the tourist industry.....	75
4.5 DISCUSSION.....	76
5. TOURISM AND LOCAL DEVELOPMENT.....	77
5.1 INTRODUCTION.....	77
5.2 DATA SOURCES.....	77
5.3 INTRODUCTION TO THE LOCAL ECONOMY AND SOCIETY.....	78
5.3.1 Local Populations.....	78
5.3.2 Caste and Jati.....	78
5.4 HISTORY OF TOURISM DEVELOPMENT AT KEOLADEO NATIONAL PARK.....	80
5.4.1 Early economic uses.....	80
5.4.2 Ascendance of tourism.....	80
5.4.3 Tourism infrastructural development.....	81
5.4.4 Hotel types.....	84
5.5 THE LOCAL TOURISM ECONOMY.....	85
5.5.1 Introduction.....	85
5.5.2 Keoladeo National Park.....	85
5.5.2.1 Size of the labour force and incomes.....	86
5.5.2.2 Residence and 'home' of employees.....	86
5.5.2.3 Employment recruitment among <i>jati</i> communities.....	88
5.5.3 Hotels.....	89
5.5.3.1 Revenue (scale of operations).....	89
5.5.3.2 Seasonality of operations.....	90
5.5.3.3 Ownership of Private Hotels.....	93
5.5.3.4 Hotel Employment.....	93
5.5.3.5 Discussion.....	97
5.5.4 Local Transport, Guiding and Peripheral Tourist services.....	99
5.5.4.1 Introduction.....	99
5.5.4.2 Rickshaw pullers.....	99
5.5.4.3 Nature Guides.....	100
5.5.5 Peripheral Tourist Services.....	102
5.5.5.1 Book shop.....	102
5.5.5.2 Enterprises at the <i>Circle</i>	102
5.5.5.3 Enterprises at the Entrance to the Park.....	102
5.6 DISCUSSION.....	103

5.7 RAISING LOCAL BENEFITS	104
6. INTEGRATION INTO THE INTERNATIONAL MARKET	106
6.1 INTRODUCTION	106
6.2 KEOLADEO NATIONAL PARK: A TOURIST ‘MIDWAY’	106
6.3 THE ROLE OF NATIONAL TOURISM POLICIES	107
6.3.1 <i>Economic Vulnerability</i>	108
6.3.1.1 The International Market.....	108
6.3.1.2 Tourist Confidence	108
6.4 TOUR OPERATOR PERSPECTIVES	110
6.4.1 <i>Indian Tour Operators</i>	110
6.4.2 <i>International Tour Operators</i>	110
6.5 TOURIST PERSPECTIVES	111
6.5.1 <i>Motivation for Travel</i>	111
6.5.1.1 Domestic Tourists	111
6.5.1.2 Foreign Tourists	111
6.5.2 <i>Visitor Satisfaction</i>	112
6.5.3 <i>Discussion</i>	112
7. NATURE TOURISM AND VISITOR EDUCATION.	113
THIS CHAPTER WAS RESEARCHED AND WRITTEN BY IAN BRIDE	
7.1 INTRODUCTION	113
7.2 METHODOLOGY	114
7.3 RESULTS	116
7.3.1 <i>Characteristics of the respondent group</i>	116
7.3.2 <i>General wildlife related activities</i>	116
7.3.3 <i>General knowledge of biodiversity</i>	117
7.3.4 <i>Keoladeo-related activities</i>	119
7.3.5 <i>Keoladeo Knowledge Scores</i>	121
7.3.6 <i>Variable correlations</i>	122
7.3.6.1 Socio-economic data.....	122
7.3.6.2 Biodiversity knowledge score correlations with other variables.....	126
7.3.6.3 Keoladeo Knowledge Score: correlations with other variables	127
7.3.6.4 Sources of learning	130
7.4 DISCUSSION.....	132
7.4.1 <i>The context</i>	132
7.4.2 <i>The respondent sample</i>	132
7.4.3 <i>Knowledge Scores: general</i>	133
7.4.4 <i>Learning at Keoladeo National Park</i>	134
7.4.5 <i>Visitor education: conclusion</i>	135

MAPS

MAP 1: KEOLADEO NATIONAL PARK: location of Bharatpur city, villages and hotel development.....6

MAP 2: KEOLADEO NATIONAL PARK: principal tourist routes.....46

EXCHANGE RATES

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

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

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

1. INTRODUCTION¹

1.1 Project Overview

This report forms part of the three year, ODA funded, Tourism, Conservation and Sustainable Development Project undertaken by the Durrell Institute of Conservation and Ecology (DICE), University of Kent. It is the final report of one of three case studies carried out by DICE for the ODA. Two further case studies refer to Komodo National Park, Indonesia, and the south east Lowveld of Zimbabwe. This report focuses on Keoladeo National Park, India. All three have been written as detailed individual case study reports, with a fourth volume comprising a comparison of the three and a synthesis of the main findings.

This report examines the nature of tourism in Keoladeo National Park (KNP), India, and the impact of tourism on the park environment and the magnitude of tourism employment and revenue which accrues to local populations. It briefly examines the development of tourism at the site, and attempts to identify ways of increasing the net benefit of tourism to conservation and local development.

The principal objectives of the project were as follows:

- 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 comparative work on the compatibility of tourism development and conservation to be undertaken in other developing countries.*

The scientific/technical objectives of the project were as follows;

The project will determine and measure, using a standardised survey of comparative sites, the ecological, economic and social relationships between tourism development and conservation and the regulatory framework within which they take place. It will;

- a) *quantify the visitor numbers and assess the forms of tourist visit which are consistent with sustainability.*
- b) *identify the local people's incomes from the sites and identify 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 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.*

¹ A more detailed presentation of the national context may be found in the first-year interim report (Goodwin et al., 1995).

- e) *identify and quantify the benefits and problems created by integration into the international market.*

Project objectives are addressed throughout the report. An introduction to the study site is presented in this chapter. Chapter 2 examines the nature of tourism to KNP, focusing on spatial and temporal trends. Visitor arrivals are disaggregated in order to illustrate the different types of tourist visiting the park. This typology is used in subsequent chapters to examine the different impacts that each form of tourism has on the park and the local community.

Chapter 3 examines the physical impacts of tourism, and the monitoring and management of these impacts within Keoladeo National Park . It attempts to assess the environmental implications of tourism within the context of the conservation priorities of the park and the additional environmental threats posed to the park by external factors. It includes a discussion of problem areas and potential strategies to improve the environmental performance of tourism, based on adaptive management.

Chapter 4 deals with the finances of Keoladeo National Park, and the contribution which tourism makes to the running costs of the park. It briefly discusses ways in which the net financial contribution of tourism to the park can be increased. Chapter 5 discusses the development of tourism at Keoladeo National Park and determines the magnitude of the local tourism economy in terms of revenue and employment generation. The chapter also attempts to evaluate the extent to which different sections of the local population participate in the tourism economy. Chapter 6 considers some of the implications of integration into the international tourism market, through the findings of earlier chapters and a survey of UK and German tour operators. The educational dimensions of nature tourism to Keoladeo National Park are discussed in chapter 7.

1.2 National Perspective

1.2.1 Wildlife

India ranks 11th in the world for higher vertebrate endemism, 10th for mammal species richness and 10th for flowering plant richness.² See Table 1.1 and Table 1.2 for comparisons with Indonesia and Zimbabwe.

Country	Flowering Plants	Gymno-Sperms	Ferns	No. of Endemics	% Endemics
Indonesia	20,000	-	2,500	15,000	66.7
India	15,000	-	1,000	5,000	31.3
Zimbabwe	4,200	6	234	95	2.1

Table 1.1 Higher Plant Species Richness and Endemism

Source: WCMC 1992

Country	Mammals		Birds		Reptiles		Amphibians	
	Spp.	Endemic	Spp.	Endemic	Spp.	Endemic	Spp.	Endemic
Indonesia	515	165	1519	258	511	150	270	100
India	317	38	969	69	389	156	206	110
Zimbabwe	196	2	635	0	153	2	120	3

Table 1.2 Higher Vertebrate Species Richness and Number of Endemics

Source: WCMC 1992

1.2.2 Tourism

The Indian tourism industry draws primarily on the sub-continent's 5,000 year-old cultural heritage. Surveys conducted by the Department of Tourism in 1968-69 and in 1972-3 placed 'curiosity' (42%) and 'Indian Art and Civilisation' (34%) as the major factors influencing travel to India. Indian monumental heritage may be divided into four principal subject groups, each attracting its own particular market: (a) Buddhist monuments; (b) Hindu monuments; (c) Indo-Islamic monuments; and (d) monuments of European and especially British association with India. Each of these attractions have to some degree attracted tourists from different countries, but the higher spending power of tourists from Europe has especially encouraged the development of tourist circuits which include the symbols of the British colonial period. Proximity to the major gateway of Delhi and the relatively high concentration of cultural attractions in the North, has especially favoured the development of tour circuits along the Delhi-Agra-Jaipur route known as the 'Golden Triangle'.

Tourism received a low priority in India's early Five Year Plans, with investments in tourism accounting for scarcely more than 0.25 per cent of aggregate Plan expenditures.³ However, since the 1970s, the proportion of state investment in tourism has steadily increased. By the end of the 1980s, the Department of Tourism was promoting tourism as a mechanism for economic development on regional and local scales. This represented a marked departure from the industry's more established association with foreign exchange earnings and was symptomatic of wider changes in national economic and political strategies. The Report of the 1988 National Committee on Tourism stated that..

² data from WCMC 1992.

³ Government of India (1982) p.1

'direct grants should be given as part of the anti-poverty/area development programmes to local people in areas which have high tourism potential for the development of tourism facilities.'⁴

Tourism's position as a target industry of economic liberalisation was further reflected in its representation from a branch within the Ministry of Transport to an independent department within the Ministry of Civil Aviation and Tourism. Following the enduring popularity of the 'Golden Triangle' cultural circuit of the 1960s, both state and private operators have diversified their operations both geographically and thematically with a recent concentration on the wildlife and adventure tourism sectors. However, the industry has also been beset by difficulties following localised health scares and organised opposition to tourism development, regional political violence, and increasing international competition (see chapter 6 for a further discussion of these).

Following liberalisation, hotel building has increased considerably which has not been without opposition. New opportunities for tourist development provided by financial incentives have led to conflict between Central Government, State and *panchayat* officials. The conflict of interest between private hoteliers, Central and State governments, and local councils has been especially evident in the states of Orissa and Tamil Nadu. Plans to develop the Puri-Konarak-Bhubaneswar triangle in Orissa, which included a proposal for a 900 hectare, 50-hotel tourist complex, have run into opposition by the state's chief conservator of forests, the former state minister and the inhabitants of around 50 villagers who fear that the resulting destruction of the Balukhanda Black Buck Sanctuary, and its effect on their livelihood. In Tamil Nadu, plans for tourist development in the Madras-Muttakado Beach-Mamallapuram STA have been jeopardised by local opposition to the associated proposal of a six-lane super highway to take tourists from Madras to Mamallapuram via Muttakado, once again pitching *panchayat* councils and local activists against State and Central government officials.

1.2.3 Wildlife Tourism

Wildlife plays an increasing role in the international marketing of tourism in India⁵. In 1969 tourist infrastructural development emerged as a key recommendation of a government committee investigating the administration of National Parks and sanctuaries,⁶. *Forest Lodges*, proposed in the Fourth National Action Plan⁷, were later built in 5 wild life sanctuaries including Bharatpur (at that time a Bird Sanctuary). Although wildlife tourism is given little mention as a specific sector for development in the 1992 National Action Plan,⁸ wildlife is a prominent feature in marketing material produced by the GOI Tourist Office⁹. In 1993, the Office produced a list of foreign tour operators dealing specifically with wildlife attractions. Almost all national parks and sanctuaries are targeted in national and state investment programmes as tourist attractions, although tourist facilities vary considerably. Some parks offer modern-style guest houses, while in others only dak-style bungalows are available (operated by parks authorities, state or central tourist development corporations). State tourist development corporations now offer specialist tours for the wildlife market.

⁴ Government of India Planning Committee (1988) p.60

⁵ For example, the popular travel guide 'Lonely Planet' suggests that; 'a visit to one or more of [India's] wildlife refuges is a must on any traveller's itinerary' (Findlay, 1993, p.52)

⁶ Tewari, 1994, p.422

⁷ Government of India, 1969

⁸ Government of India, Ministry of Civil Aviation and Tourism, 1992

⁹ Government of India Tourist Office, 1993

1.3 Local Perspective

1.3.1 Economy

Keoladeo National Park lies on the southern edge of Bharatpur city which has an estimated population of 200,000.¹⁰ As the district capital, Bharatpur is a major commercial centre. Tourism development has largely taken place in the 1km stretch between the entrance of the national park and the suburbs of the city. The national park itself is surrounded on its remaining three sides by 18 villages (see Map 1.) Although there are considerable links between the urban and rural areas, the contrast between suburban Bharatpur and its agricultural hinterland is distinct.

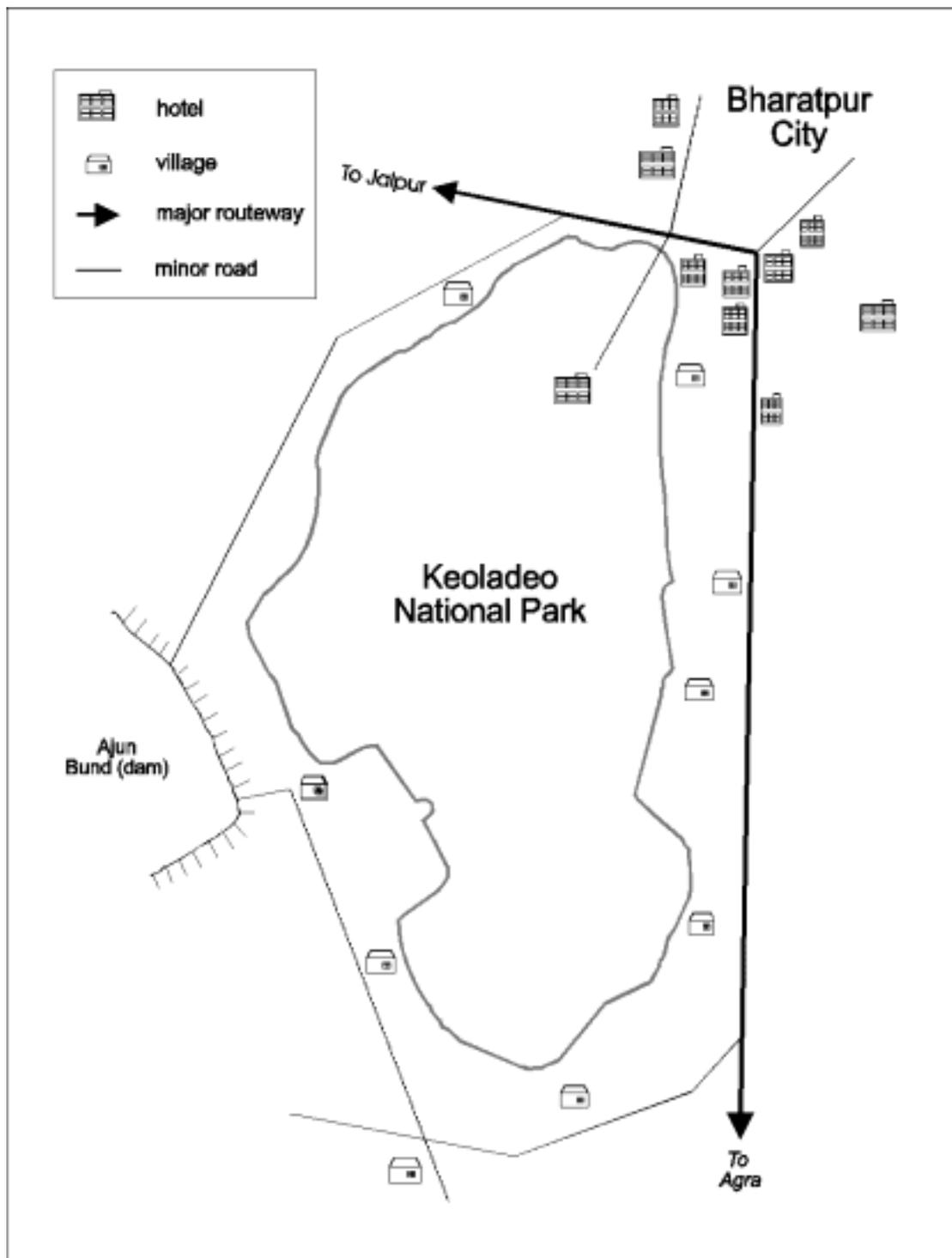
Settlements to the south, east and west of the park are predominantly agricultural, with dairying playing a large part in the rural economy (see chapter 5). Although most of the rural area is cultivated, agriculture is not the exclusive source of income. While a few individuals hold government posts (especially within the police, army and forest department), many work as casual labourers. For most, livelihoods are comprised of a combination of seasonal agricultural work, informal employment in Bharatpur city and periodic migration to urban centres throughout India. Incomes from these activities are supplemented in the household from a range of natural resources (fodder, woodfuel, non-timber forest produce etc.) collected from the national park.

The population of the district is predominantly Hindu. In rural villages, residential areas are divided on the basis of castelines and communities may be identified which roughly correspond to *jati* (a compound of 'traditional' occupation and caste identity). The urban/rural dichotomy has associated implications for caste composition. *Gujjars* and *Jatavs* make up the majority of the rural population adjacent to the national park, while most of the land on the north (urban) side of the national park is owned by *Jats*, the erstwhile rulers of the district. However, caste composition also varies considerably between villages - there are villages dominated by *Jats* (e.g. Barso) and others where there is not a single *Jat* household (e.g. Jatoli). Some villages contain less than five caste communities while others contain 15 or more.

The position of Keoladeo National Park between rural and urban districts also has implications for local administration. The land surrounding Keoladeo National Park falls under the jurisdiction of five *panchayats*¹¹ on the south, east and west sides, and Bharatpur municipal council to the north. Before national park status was conferred on the wetland, an arterial access road ran from the south side of the city through the park to the rural hinterland. While tourism has developed on the urban side of Keoladeo National Park, economies in the rural hinterland have declined due to the change in the function of the wetland and the closure of the access road. These issues are discussed to a greater extent in chapter 5.

¹⁰According to the Government of India Census, the population of Bharatpur city in 1981 was 157,776 persons. (Census of India, 1981, Series 18, Rajasthan, Parts XIII A&B)

¹¹The *panchayat* is the basic unit of rural political administration and is elected by a group of villages. Usually this election also produces a *panchayat sarpanch* (president). The *sarpanches* of all village *panchayats* within the development bloc meet together with bloc development officers as a *Panchayat samiti* (committee). In most states, *panchayat samitis* are the institution in *panchayati raj* structures with the most immediate effect on rural development.



Map 1: Keoladeo National Park: location of Bharatpur City, principal villages and hotel development (not to scale)

1.3.2 Site Profile¹²

1.3.2.1 Location

Keoladeo National Park is situated in eastern Rajasthan, 2km south-east of Bharatpur town and 50km west of Agra. It lies in the Indus-Ganges Monsoon Forest Biogeographical Province, 27°07' -27°12'N, 77°29' -77°33'E. The total area of the park is 2,873ha .

1.3.2.2 Physical Features

The park is an artificially created and maintained wetland site, a flat patchwork of marshes in the upper reaches of India's Indo-Gangetic plains. Normally, water is fed into the marshes twice a year from inundations of the Gambira and Banganga rivers, which are impounded on arable land by means of an artificial dam called Ajan Bund, to the south of the park. A series of dykes divide the area into 10 units, each with a system of sluice gates to control the water level. The first inundation is made in mid-July, soon after the onset of the monsoon. The second takes place in late September/October when Ajan Bund is drained ready for cultivation in winter. Thus, the area is flooded to a depth of 1-2m throughout the monsoon (July - September). From October to January the water level gradually lowers and from February onwards the land begins to dry out so that by June very little water remains. During the peak tourist season, the area of inundated wetland is usually 1,000ha.

1.3.2.3 Climate

June temperatures average between 25°C and 30°C but can rise in daytime to above 50° C. In the winter months temperatures can drop to 0°C. Winter humidity is over 80%, compared with 60% in March (1988 figures). The monsoon is the main source of precipitation, with the major rainfall occurring in July, August and September. Mean annual rainfall is 662mm.

1.3.2.4 Vegetation

Situated in a semi-arid biotype, the park has a locally exceptional high density of vegetation, hence its local name 'Ghana' meaning thicket. The principal vegetation types are tropical dry deciduous forest, intermixed with dry grassland. Apart from the artificially managed marshes, much of the area is covered by medium-sized trees and shrubs.

Forests, mostly in the north-east of the park, are dominated by *kadam* *Mitragyna parvifolia*, *babul* *Acacia nilotica* and *jamum* *Syzygium cuminii*. The open woodland is mostly *babul* with a small amount of *kandi* *Prosopis spicigera* and *ber* *Zizyphus mauritiana*.

Scrublands are dominated by *ber* and *kair* *Capparis decidua*. *Piloo* *Salvadora oleoides* and *S.persica* also occur in scrublands and are virtually the only woody plants found in areas of saline soil.

Khus grass *Vetiveria zizanoides* is the ruling gramineae of the reserve.

The aquatic vegetation is rich. *Paspalum distichum*, a perennial amphibious grass, constitutes a major portion of the total biomass. Other species include water lillies *Nymphaea nouchatia*, *N.stellata* and *N.cristata*, the true lotus *Nilumbium* sp., duckweeds *Lemna* sp. and water fern *Azola* sp. Sedges *Cyperus* sp., reedmace *Typhea angustata* and *Ipomia* sp. dominate in some areas. Submerged plants include *Vallesneria* sp., *Hydrilla* sp., *Naga* sp. and *Chara* sp.. Wild rice also grows.

Altogether 282 species of flowering plants have been identified in the park, of which 91 are wetland species.

¹² compiled from IUCN/WCMC unpublished material.

1.3.2.5 Fauna

Some 364 species of birds have been recorded in Keoladeo National Park. It is the major wintering ground of the western population of the endangered Siberian crane *Grus leucogeranus*, although few numbers have visited the park in recent years. The park is an unrivalled breeding site for herons, storks and cormorants and an important wintering ground for large numbers of migrant ducks. The most common waterfowl are gadwall, shoveller, common teal, cotton teal, tufted duck, comb duck, little cormorant, great cormorant, Indian shag, ruff (probably the most abundant wader), painted stork, Sarus Crane white spoonbill, Asian open-billed stork, oriental ibis, darter, common sandpiper, wood sandpiper and green sandpiper.

A rich assortment of land birds consist of warblers, bee-eaters, bulbuls, buntings, chats, partridges and quails. Grey hornbill and Marshall's iora are also present. Birds of prey include the osprey, peregrine, Pallas' fish eagle, short-toed eagle, tawny eagle, imperial eagle, spotted eagle and crested serpent eagle. Greater and Lesser spotted eagles have both bred in the National Park in recent years.

Resident mammals include 2 primate species, a number of ungulates (nilgai, sambar cheetal, black buck, and feral cattle) and several small carnivores. The leopard *Panthera pardus*, was exterminated from the area in 1964. Porcupine and hare also exist, as well as wild boar, and a few hog deer. In all there are 27 species of mammals found in the park.

The herpetofauna of the park is rich considering its small size. Out of the ten turtle species found in Rajasthan, seven occur in Keoladeo. There are five lizard species, including the Indian monitor. The thirteen snake species include the Indian Python, green rat snake and three poisonous varieties, the banded krait, cobra and Russell's viper. Some 50 species of fish have been identified.¹³

1.3.3 Protected Area Status

1.3.3.1 History

Prior to protection the park had been the private duck shooting preserve of the Maharaja of Bharatpur since the 1850s. The last big shoot was in 1964, but the Maharaja retained shooting rights until 1972.

The park was designated as a bird sanctuary on 13 March 1956, under the State Wild Animals and Birds Protection Act, 1951. In 1967 it was declared a protected forest under the provisions of the Rajasthan Forest Act, 1953.

In October 1981 the wetland was designated as a Ramsar site under the Ramsar Convention ('Convention on Wetlands of International Importance especially as waterfowl habitat', Ramsar, 1971). It became a National Park on 10 March 1982 under the Wildlife (Protection) Act, 1972.

In 1984 the Indian government submitted a nomination for the park to be designated a World Heritage Site. This was eventually accepted and the park was inscribed on the UNESCO World Heritage list in 1987.

The park is IUCN Management Category II (National Park) and X (World Heritage Site).

1.3.3.2 Rationale

The variety of protective measures bestowed upon Keoladeo National Park all pertain to its value as a waterfowl habitat. The presence of the Siberian crane has lended especial international significance. However, as an artificially created and maintained site, some objection was raised to its nomination for inclusion on the Ramsar and World Heritage lists.

The designation of Keoladeo on the Ramsar List is based on its role as a habitat for a large number and variety of waterfowl. Similarly, it is included on the World Heritage List under category b(iv) (Habitats of rare and endangered species).

¹³ Ajith Kumar and Vijayan 1987

1.3.3.3 Management

A five year management plan (1991/91-1995/6) has been prepared for the park. The following are prescribed management objectives¹⁴.

1. To maintain the seral stage of the aquatic ecosystem by arresting the process of plant succession at the stage suited for bird life (both resident and migratory).
2. To protect and maintain ideal habitat to cater to the needs of various types of birds and wild animals.
3. To closely monitor the changes taking place in the ecosystem and take action accordingly.
4. Giving priority to the above factors, managing the place for entertainment and education of visitors without disturbing the system.

Availability of water is a significant and growing problem for the park. During a succession of dry years in the 1980's, the park became increasingly reliant on pumped water from boreholes. The area of open water was drastically reduced, thereby attracting less birds. The Ghana canal has suffered from heavy silting, delivering less water to the park. There is a proposal to obtain water from the Chambal river by pipeline, although a canal link would allow the influx of fish to the park too. This scheme has yet to receive government sanction. Pending this and another proposed scheme to bring Yamuna water to the park, it needs to be determined whether an existing deep aquifer of sweet water has adequate capacity and recharge rates to supplement the water supply for the park during exceptional drought years.¹⁵

Water quality is also a major problem. The Bombay Natural History Society have conducted a study that indicates a high and growing level of pesticides within the park water, as well as in bird tissues, which are suspected to come from run-off into the Ajan bund from surrounding agricultural fields. These pollutants are believed to be responsible for the increasing number of piscivorous birds seen in a dazed state and unable to fly. Between 1987 and 1990 18 Sarus Crane and 52 Ring Dove were found dead within the park. The mortality occurred during the winter in all the years which coincided with the application of Aldrin in the wheat fields surrounding the park. Apart from aldrin, several other pesticides are being used in the catchment area of the river Gambhir from where the park receives water and also in Ajan bund which becomes a crop field after the water is released into the park.¹⁶

After the designation of Keoladeo Ghana as a national park in 1982, grazing and firewood and thatch collection were made illegal¹⁷. The absence of grazing has caused the clogging of open waterways by *Paspalum distichum*, a perennial aquatic grass. At present the grass is being controlled by periodic bulldozing. A further consequence of the cessation of grazing is a reduction of insects supported by nutrients recycled in dung, which could have implications for fish and bird numbers.

¹⁴ Brar 1991.

¹⁵ Singh 1995.

¹⁶ Vijayan 1990.

¹⁷ A comprehensive survey of local attitudes towards the park may be found in WWF (1996)

2. VISITOR PATTERNS

2.1 Introduction

Many people living close to the Keoladeo National Park continue to enter the bird sanctuary in order to procure fodder and fuelwood. However, following national park status in 1981, the legal function of the former duck-shoot and common grazing area has been in favour of tourism¹ (chapter 5). The local population is on occasion permitted to enter the bird sanctuary without charge in order to make temple visits. Those that do so are mostly from the suburban residential colonies that lie adjacent to the main gate of the national park. However, apart from those on official business, or those holding a valid grass-cutting permit, visitors to Keoladeo National Park are required to purchase an entrance ticket.

Unlike many other rural sites which have been given over to nature tourism, Keoladeo National Park attracts a greater number of domestic tourists than it does foreigners. Each year the ratio of domestic to foreign ticket sales is between 2:1 and 3:1 in favour of domestic tourism (see section 2.5, below).

The following section describes some broad characteristics of tourist visits to Keoladeo National Park. After discussing the general types of tourists which enter the park, the chapter goes on to discuss the visiting patterns of both foreign and domestic tourists. Tourist visiting patterns and trends have implications for the organisation of the local economy and the spatial and temporal patterns of associated environmental impact.

2.2 Data Sources

KNP Barrier Office

Park entrance figures are the principal indicator of the number of visitors to Keoladeo National Park. Entrance figures are collected according to the volume of ticket sales. They are grouped into three categories - foreigners, domestic adults and domestic students (students are generally Indian school groups). The figures represent the number of visits rather than the number of visitors since some tourists make more than one entrance to the park during their stay at Bharatpur. In addition, some of the local population are occasionally granted access without charge². Figures for domestic visits therefore represent those made exclusively by fee-paying tourists.

Hotel Occupancy Surveys³

Between May 1995 and April 1996 the research project undertook a weekly survey of the occupancy rates from a sample of 18 Bharatpur hotels. Figures are taken from the 1995/6 season only, and comparisons with trends in previous years are therefore not possible.

Tourist Questionnaires⁴

Between August 1995 and March 1996, a questionnaire was administered amongst foreign visitors to Keoladeo National Park. Most package tourists spend a relatively short time in Bharatpur, the sample of 816 visitors may therefore show a bias towards non-package tourists.

Field Monitoring and Gate Surveys

During the peak tourist season, local researchers recorded the volume of tourist traffic at different locations within the national park. Monitoring was not carried out during the low season.

¹ Grass cutting (for cattle-feed) is currently undertaken via a permit system - see chapter 5

² This is especially the case on the mornings of Tuesdays and Saturdays (known locally as *Hanuman* days) for visiting the temple within the park.

³ For hotel occupancy survey methodology see Goodwin et al (1996)

⁴ For tourist questionnaire methodology see Goodwin et al (1996)

2.3 Tourist Categories

There are many ways to categorise tourists visiting Keoladeo National Park. Figures kept at the park barrier office divide tourists into foreigners, domestic adults and domestic students (Table 2.1 [I]). This categorisation forms the basis of this chapter. Questionnaires and interviews conducted during the course of the research further divide foreign visitors into package, independent and backpacker tourists according to responses given by interviewees. Non-package tourists form a diverse group and include (often young) low budget ‘backpackers’ (typically using public transport) as well as relatively high budget tourists travelling by hired car. Some of the *general* characteristics of these three types are illustrated in (Table 2.1 [II]) below.

Package tourists may be further divided into two groups, those on a day trip (from Agra or travelling between Jaipur and Agra), and those staying overnight. Package tourists which stay more than one night in Bharatpur are usually doing so as part of a longer wildlife tour which will typically include the Ranthambhore and Corbett National Parks (Table 2.1 [III]).

I. All Visitors (Keoladeo National Park entrance gate figures)

	Entrance Fee 1995/96	Number of visits 1995/96
Foreigners	Rs 25/-	38,026
Domestic Adults	Rs 5/-	62,357
Domestic Students	Rs 1/-	24,739

II. Foreign Visitors (as given responses to questionnaire)

	length of stay in india ⁵	age of tourists ⁶	hotel type ⁷	mode of transport ⁸ to Bharatpur
package tourists	1-2 weeks	older	high tariff	coach
independent	1 month	young to middle	all types	hired car
backpackers	3 months	young	low tariff	public bus

III. Foreign Package visitors⁹ (derived from responses to questionnaire)

	Number of visits to the park ¹⁰	Number of nights in Bharatpur ¹¹
Day visitors	1	0
Packages using accommodation	2-3	1-3

Table 2.1 (I-III) Categorisation schemes for tourists visiting Keoladeo National Park

⁵ package tourists: n=265, mean=15.9 days, mode=7 days

'independents': n=314, mean=54.7 days, mode=30 days

'backpackers': n= 203, mean=68.2 days, mode=60 days

⁶ from a sample of 251 package tourists 45% were 55+ years of age, 24.7% were 45-55 years of age

from a sample of 328 'independent' tourists, 39% were 25-35, and 25.6% were 35-45 years of age

from a sample of 200 'backpackers', 52% were under 25 years and 32% were 25-35 years of age

⁷ 76.7% of a sample of 99 over-night package tourists were staying in one of the two most expensive hotels in Bharatpur

19% of a sample of over-night 'backpacker' tourists were staying in one of the two most expensive hotels in Bharatpur

⁸ modes of transport were made from interviews and field observations

⁹ although most package tourists visit Keoladeo National Park as part of a general tour to India, some specialist packages also visit Bharatpur. Wildlife and Birdwatching tours spend considerably more nights in Bharatpur than general package tourists and also make more visits to the park. For example, Cygnus tours were operating a package during the 1995/96 season of which 4 nights were spent at Bharatpur and 8 visits were made to the national park.

It is suspected that wildlife tours are over-represented in the questionnaire sample for two reasons. First, package tourists making several visits are more likely to be selected by the sampling procedure, and second, researchers administering the questionnaire had contacts within the wildlife tour business.

¹⁰ package over-night visitors: n=104, mean=2.89 visits, mode=2 visits

¹¹ package over-night visitors: n=108, mean=2.7visits, mode=3 visits

2.4 Volume of tourism to Keoladeo National Park

As a purely export-led industry, the scale of foreign tourism in Bharatpur is affected by factors which lie beyond the control and influence of national park authorities, the tourist industry or indeed State and Central Governments. From 1988 to 1996, the general trend has been towards an increase in the total number of visits to the park - by both domestic and foreign tourists. However, considerable variation exists between visitor types. During the 8 year period, domestic tourism has been affected by local concerns (such as changes to the entrance fee) and also by national political events. In contrast, foreign tourism has been severely affected by national events (such as the kidnapping of Kashmiri tourists in November 1994) and particularly the treatment of such events by the international media (eg. Surat pneumonic plague in October 1994). Tourism to Keoladeo National Park is highly seasonal although a degree of variation is again discernible between categories of visitor. Due to the popularity of the park with domestic visitors during the Christmas and New Year period, visits by Indians show an even more marked seasonality than do those by foreigners.

2.4.1 Longitudinal Trends

2.4.1.1 All visitors

Admission figures for Keoladeo National park are available from April 1988 (Table 2.2 and Figure 2.1 [I & II]). During the past eight years approximately 100,000 entrance tickets have been bought annually (mean annual ticket sales 1988/89 - 1995/95 = 98,022). Total admissions were significantly reduced in the 1990/91 season - possibly due to impact of increased entrance fees on domestic visitors - and were higher than average during the 1995/6 season due to the passage of a total solar eclipse. Rajasthan Tourism Development Corporation has kept records of the number of visitor arrivals in Bharatpur (i.e. not necessarily visiting the park) from 1984. These indicate that around 120,000 domestic visitors and 12,000 foreigners were visiting annually until 1991. From 1991, tourist numbers (both domestic and foreign) appear to rise until the 'plague' event of 1994/5.

	Foreigners	Domestic Adults	Domestic Students	Total
Apr 88- Mar 89	22,884	51,232	25,336	99,452
Apr 89- Mar 90	31,501	59,561	14,417	105,479
Apr 90- Mar 91	28,025	36,433	7,841	72,299
Apr 91- Mar 92	27,432	48,908	17,674	94,014
Apr 92- Mar 93	31,407	48,496	18,396	92,596
Apr 93- Mar 94	29,747	57,071	17,827	98,045
Apr 94- Mar 95	25,466	52,326	19,210	97,002
Apr 95- Mar 96	38,026	62,357	24,739	125,292

Table 2.2 Keoladeo National Park Annual Admissions (entrance ticket sales)

Source: KNP Barrier Office

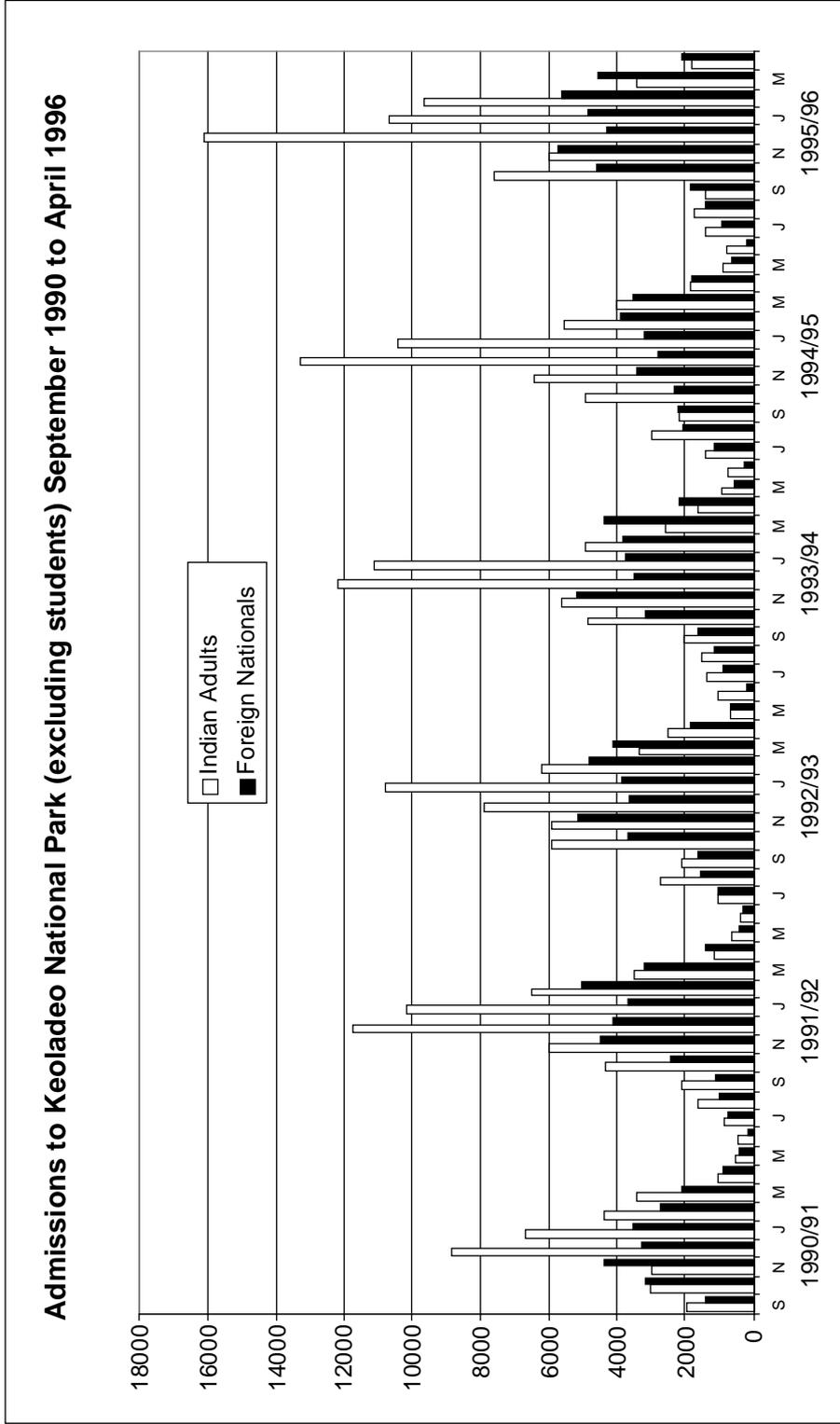


Figure 2.2 (I) Keoladeo National Park monthly admissions - figures September 1990 to April 1996 (excluding students)
 Source: KNP Barrier Office

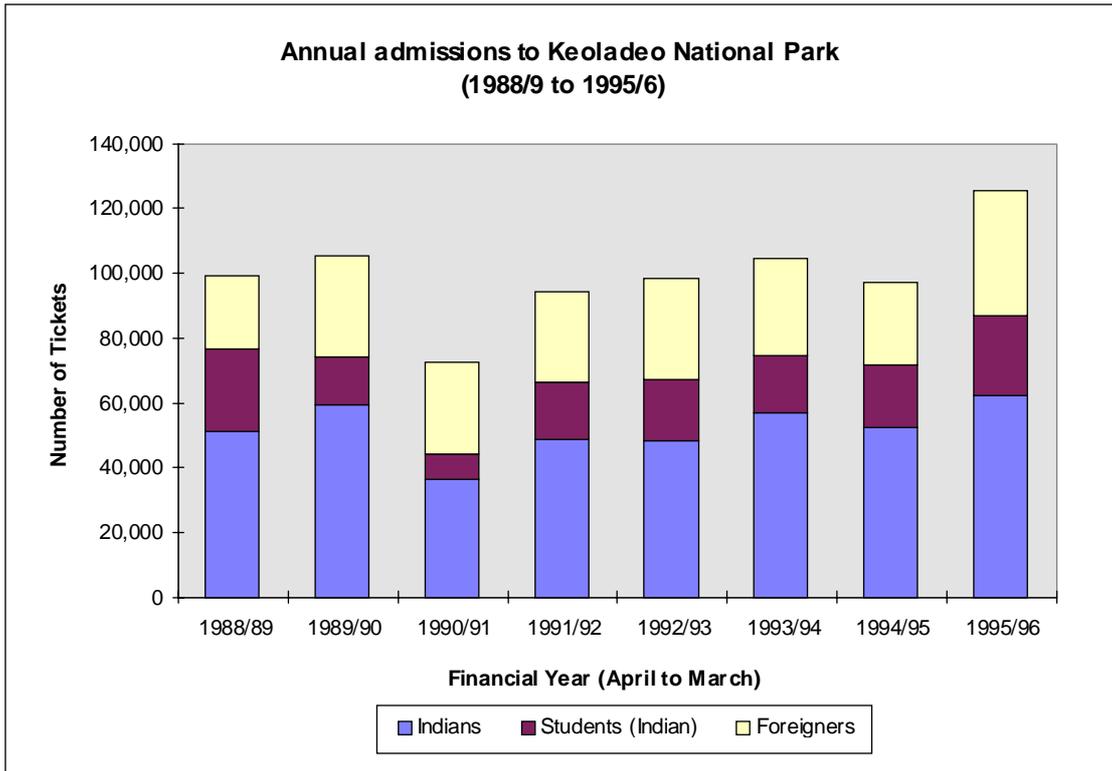


Figure 2.1 (II) Keoladeo National Park annual admissions - all visitors
 Source: KNP Barrier Office

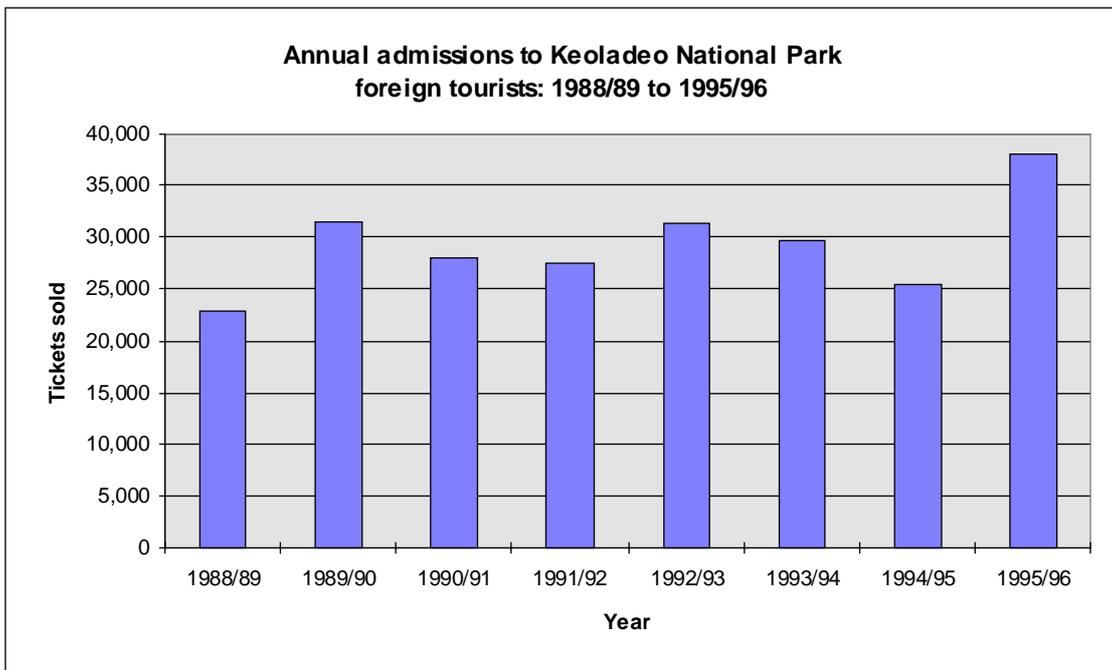


Figure 2.2 Keoladeo National Park Annual Admissions: Foreign Visitors
 Source: KNP Barrier Office

2.4.1.2 Foreign visitors

Between the 1989/90 season and the 1995/96 season, an average 29,000 entrance tickets were sold each year to foreign tourists (Table 2.2 and Figure 2.2). In terms of a general trend, the number of entrances by foreign visitors shows an increase from around 23,000 in the 1988/89 season to 38,000 in the 1995/96 season. This trend was interrupted by a series of adverse events beginning with the outbreak of pneumonic plague in Surat in October 1994 (see chapter 6). During August and September 1994, the number of entrances to the park made by foreigners was higher than in previous years. In October 1994 foreigners made only 60 per cent of the expected number of visits¹² (Table 2.3 and Figure 2.3). Foreign tourist arrivals were also affected by international media coverage of malaria outbreaks in Rajasthan and kidnapping by Kashmiri separatists. In the following months, the level of foreign tourist visits recovered slowly to 84 per cent of that usually expected for April.

The depressed 1994/5 season was followed in 1995/6 by an exceptionally good year for the Bharatpur tourist industry, due to the rare occurrence of a total solar eclipse in the region for October 1995. As a result, the number of entrance tickets bought by foreign tourists during October 1995 was double that of the previous year. Numbers also continued to be higher than expected throughout the season due to the operation of low-price package holidays made available for the first time, and the return of visitors who had been discouraged the previous year¹³ (Table 2.4 and Figure 2.4).

¹² calculated by taking the mean of corresponding months of the preceding two years.

¹³ see chapter 6 for further discussion of recent trends in foreign tourist arrivals.

	Foreign Admissions		
	1992/93	1993/94	1994/95
April	1419	1845	2171
May	415	672	573
June	318	228	240
July	1049	900	1146
August	1558	1186	2078
September	1640	1643	2208
October	3725	3184	2347
November	5159	5173	3437
December	3645	3511	2811
January	3849	3769	3218
February	4810	3817	3913
March	4117	4419	3525

Table 2.3 The impact of plague and malaria reports in October 1994 on foreign tourist admissions to Keoladeo National Park.

Source: KNP Barrier Office

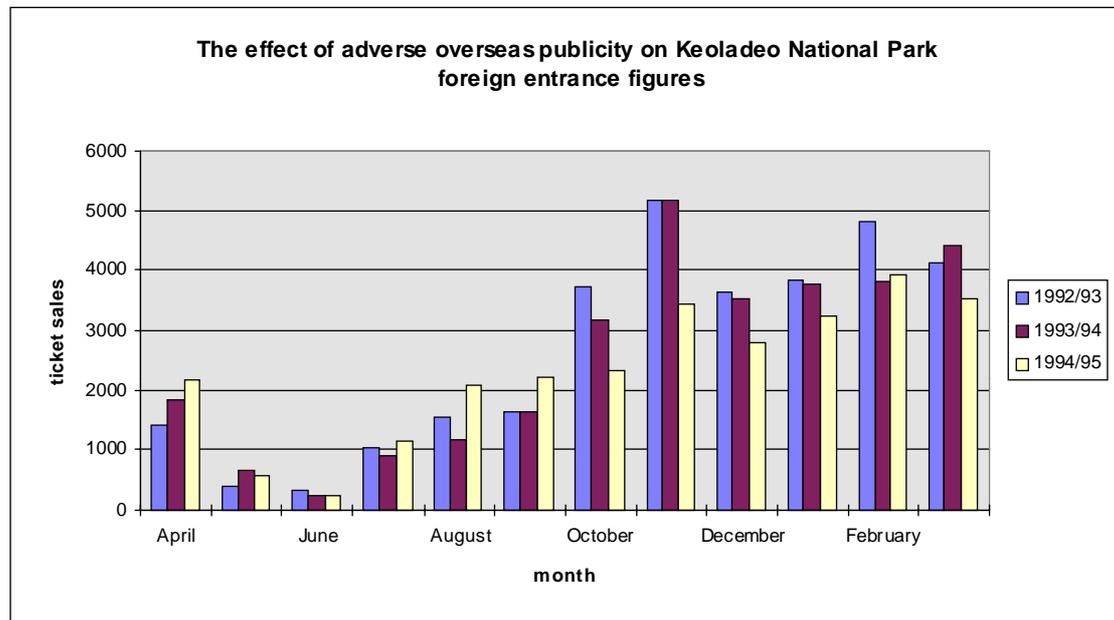


Figure 2.3 The impact of reports concerning plague and malaria outbreaks on foreign tourist admissions to Keoladeo National Park.

Source: KNP Barrier Office

	Foreign Admissions		
	1992/93	1993/94	1995/96
April	1419	1845	1797
May	415	672	658
June	318	228	186
July	1049	900	947
August	1558	1186	1434
September	1640	1643	1860
October	3725	3184	4630
November	5159	5173	5703
December	3645	3511	4288
January	3849	3769	4858
February	4810	3817	5603
March	4117	4419	4564

Table 2.4 The impact of the total solar eclipse (October 1995), and low-price tourist packages on foreign tourist admissions to Keoladeo National Park.

Source: KNP Barrier Office

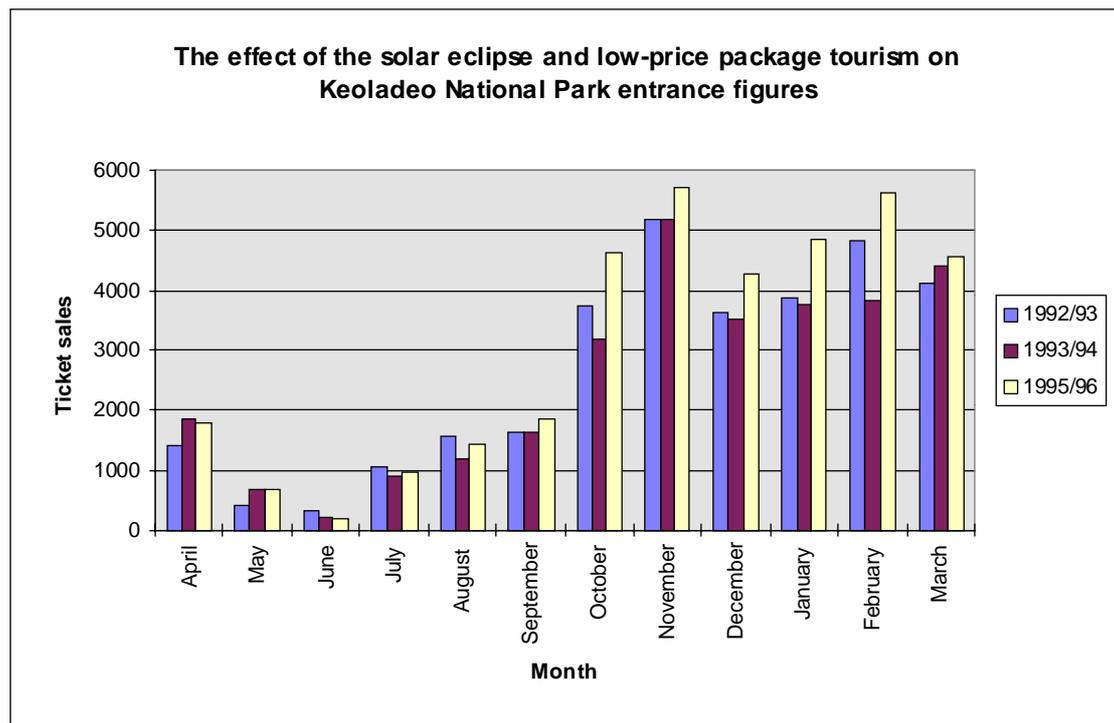


Figure 2.4 The impact of the total solar eclipse (October 1995), and low-price tourist packages on foreign tourist admissions to Keoladeo National Park.

Source: KNP Barrier Office

2.4.1.3 Domestic visitors - adults

Local visitors to Keoladeo National Park are sometimes granted free access to the park on *Hanuman* days in order to make temple visits. On occasion, a small amount of local foot and cycle traffic also use roads within the park to transport fodder. None of these visitors show up on the entrance records for Keoladeo National Park and entrance records therefore represent non-local tourist visits only.

Between the 1989/90 season and the 1995/96 season, an average of over 52,000 entrance tickets were sold annually to domestic adult visitors (Table 2.2 and Figure 2.5). The annual figure has varied from 36,000 during 1990/91 to 62,000 during the eclipse year of 1995/96. Low entrance figures in 1990/91 are due to a combination of two factors. Domestic visitors were deterred by the increase in entrance fees from Rs 2 to Rs 5 in September 1990 (a state-wide policy). The sectarian unrest marked by the destruction of the Babri Masjid in Ayodhya may have also deterred domestic tourists from making excursions. Since the introduction of higher fees in 1990/91, the number of entrance tickets bought by Indian nationals has shown a steady recovery.

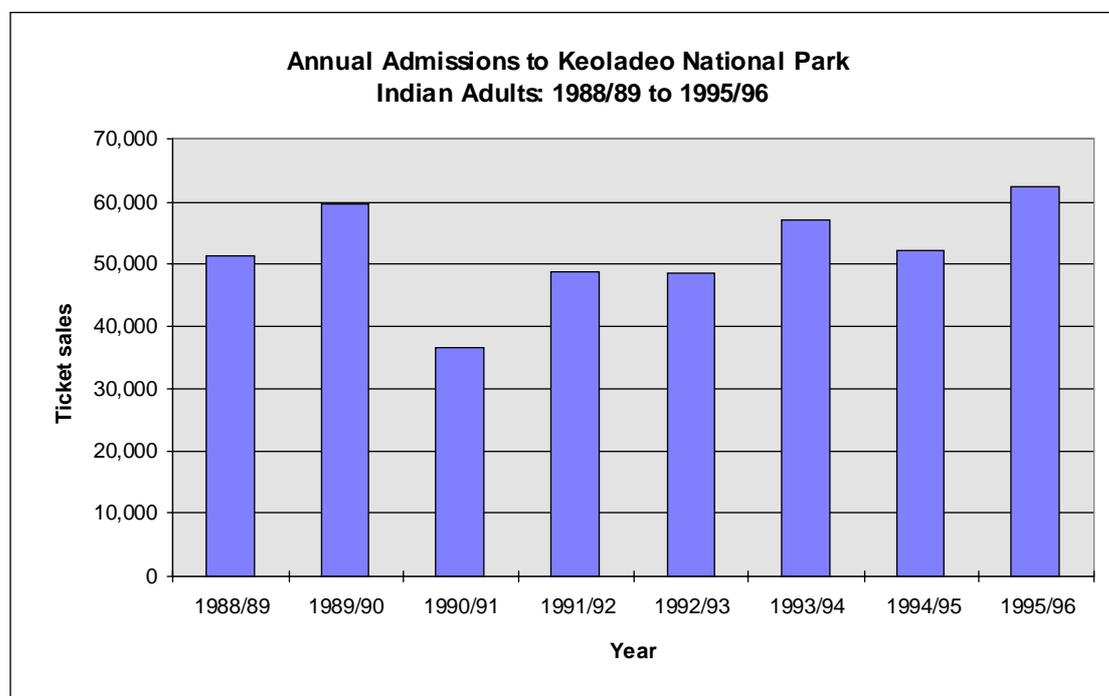


Figure 2.5 Keoladeo National Park Annual Admissions by Domestic Adult Visitors

Source: KNP Barrier Office

2.4.1.4 Domestic visitors - students

A discount rate is offered at the entrance gate for students. Although this is, in theory, available to visitors of all nationalities, in practice the offer is taken up only by Indian school children, and minors accompanying Indian adults. Between the 1989/90 season and the 1995/96 season, an average of about 18,000 entrance tickets were sold annually to Indian students. Only the 1989/90 and the 1990/91 seasons show a marked deviation from this figure - probably due to the introduction of charges for students (Rs 1) which began in 1990 (Table 2.2 and Figure 2.6).

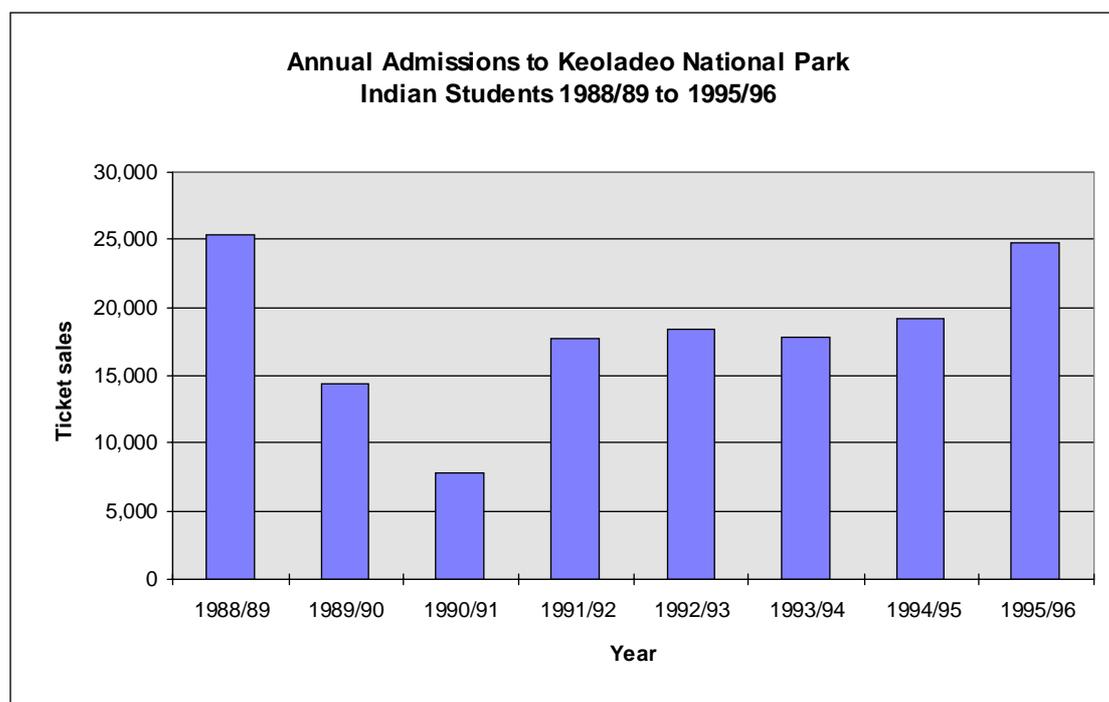


Figure 2.6 Keoladeo National Park Annual Admissions by Domestic Students

Source: KNP Barrier Office

2.4.2 Seasonality

2.4.2.1 All visitors

Entrance figures for Keoladeo National Park show a highly seasonal pattern. Indians, foreigners and students make many more visits in the winter season, when temperatures are comfortable, and when the diversity and number of bird species is greatest. During the last three seasons (1993/4, 1994/5, 1995/6) December has been the busiest month with more than 27,000 entrances made in December 1995. June consistently attracts the least number of entrances - little more than 1,000 were made in June 1995. Between September 1990 and April 1996, the average number of visits made to the park in December months (19,465) was more than 17 times that of the average number of visits made in June (1094, see Table 2.5 and Figure 2.7). Seasonality depends principally on a combination of climatic factors (travelling in winter is more comfortable, and travel during the monsoon or hot dry summer months is particularly difficult), the occurrence of public holidays, and finally, the seasonality of the attractions in national park itself. However, different visitors exhibit different seasonal characteristics. The average degree of seasonality and volume of visits exhibited by the basic visitor categories are compared in Figure 2.8.

2.4.2.2 Foreign visitors

The number of entrances made by foreigners are fewer than those made by Indians although the number of visits made by both categories are similar during the very low season. Foreign visits show a strong seasonal pattern, but unlike that of domestic visitors, numbers peak significantly in November and February and are at a minimum in May and June (Table 2.6 and Figure 2.9). The foreign tourist peak season is longer than that of domestic visitors. The annual pattern is clearly divided into six low-season months (April to September) and six high-season months (extending from October until March). In contrast to the effect upon domestic visitors, public holidays in December and January tend to reduce the numbers of foreigners visiting Keoladeo National Park. Between September 1990 and April 1996, the average number of entrance tickets purchased by foreign visitors to the park in November months (4,722) was more than 20 times that of the average number of tickets bought in June (227, see Table 2.6 and Figure 2.9), but less than 9 times higher than the corresponding figure for May. Foreign visits show some variation according to the day of the week and the occurrence of public holidays. Fewer entrance tickets are purchased at weekends - possibly in order to avoid the increased number of domestic tourists at these times. Fewer visits are also made during the Christmas weekend for the additional reason that many foreigners prefer to not to travel overseas during this period (Table 2.7).

The ratio of package to non-package tourist varies throughout the season. During the very low season, there are fewer foreign package groups visiting India. This is mainly due to high outside temperatures, but wildlife groups are additionally affected due to the seasonal closure of many national parks. During the high season however, foreign tourists in package groups, either staying overnight, or for lunch, outnumber their foreign non-package counterparts. For example, on a typical high-season day, Tuesday, 10 December 1996, 105 entrance tickets were sold to package tourists and only 52 were sold to non-package tourists.

Month (1990-1996)	Average Ticket Sales (All visitors)
April	3836
May	1449
June	1094
July	2388
August	4133
September	4447
October	10531
November	12162
December	19465
January	17651
February	12787
March	8372

Table 2.5 Average total ticket sales per month at Keoladeo National Park

Source: KNP Barrier Office

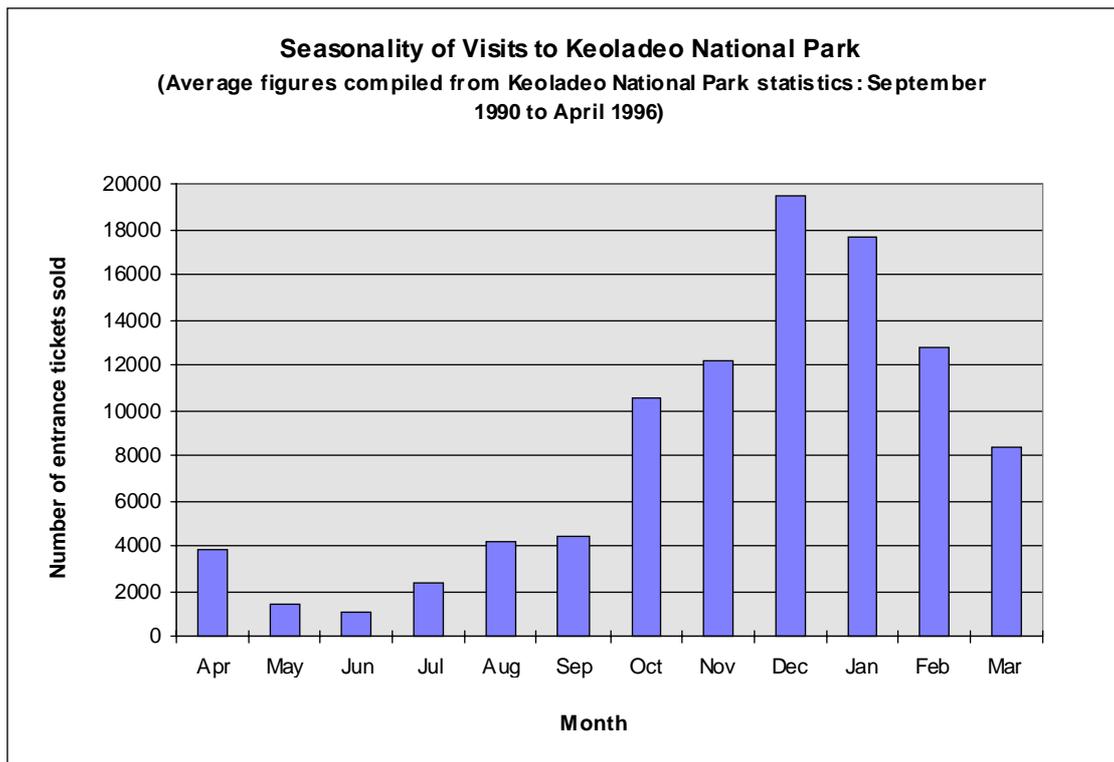


Figure 2.7 Average total ticket sales per month at Keoladeo National Park

Source: KNP Barrier Office

Seasonality of admissions to Keoladeo National Park
 (Average figures compiled from Keoladeo National Park statistics:
 September 1990 to April 1996)

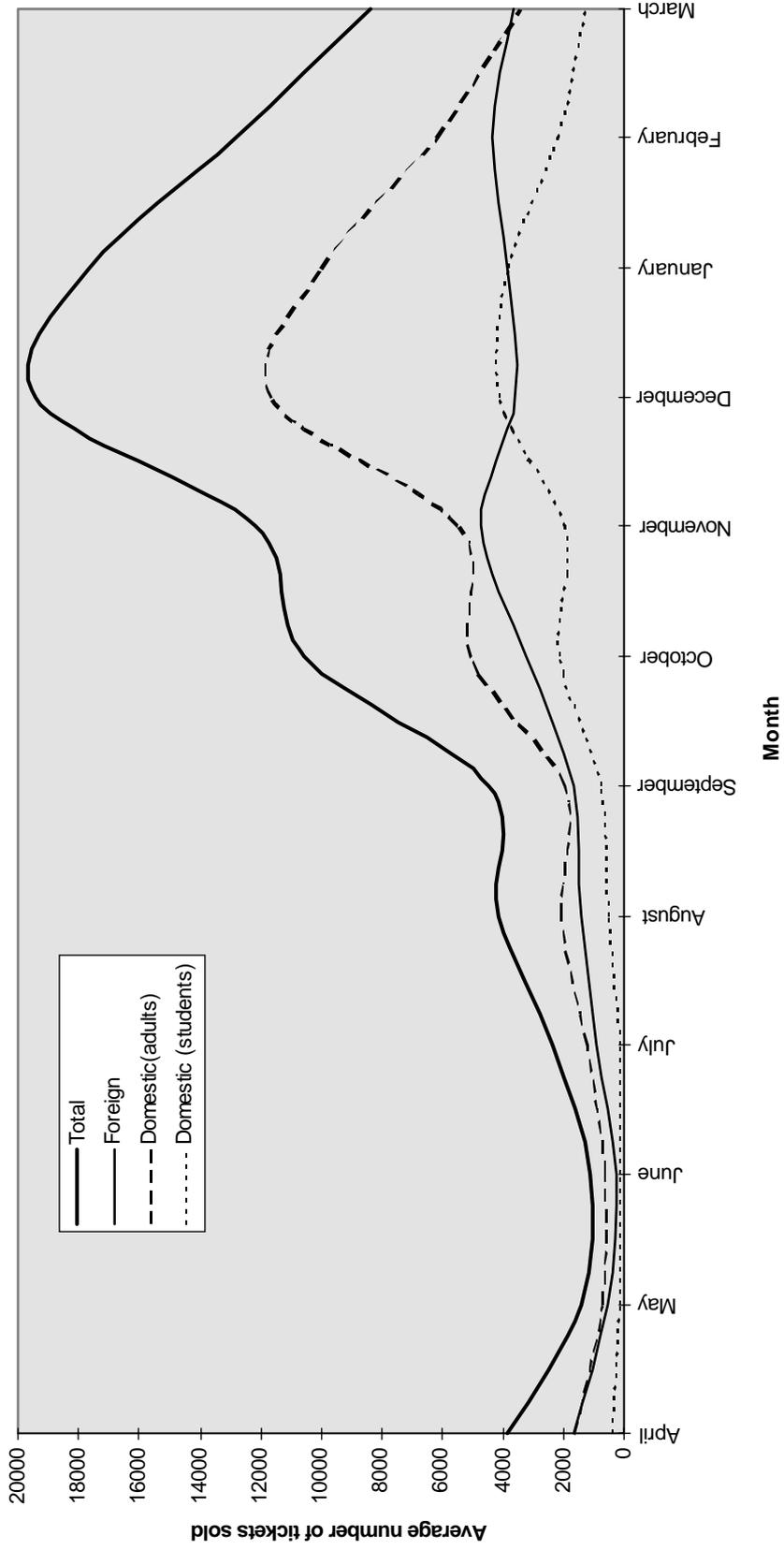


Figure 2.8 Seasonality of admissions to Keoladeo National Park: all visitor types compared

Month (1990-1996)	Average Ticket Sales (Foreign visitors)
April	1706
May	545
June	227
July	958
August	1453
September	1652
October	3249
November	4722
December	3608
January	3823
February	4324
March	3666

Table 2.6 Average ticket sales per month to foreign visitors at Keoladeo National Park

Source: KNP Barrier Office

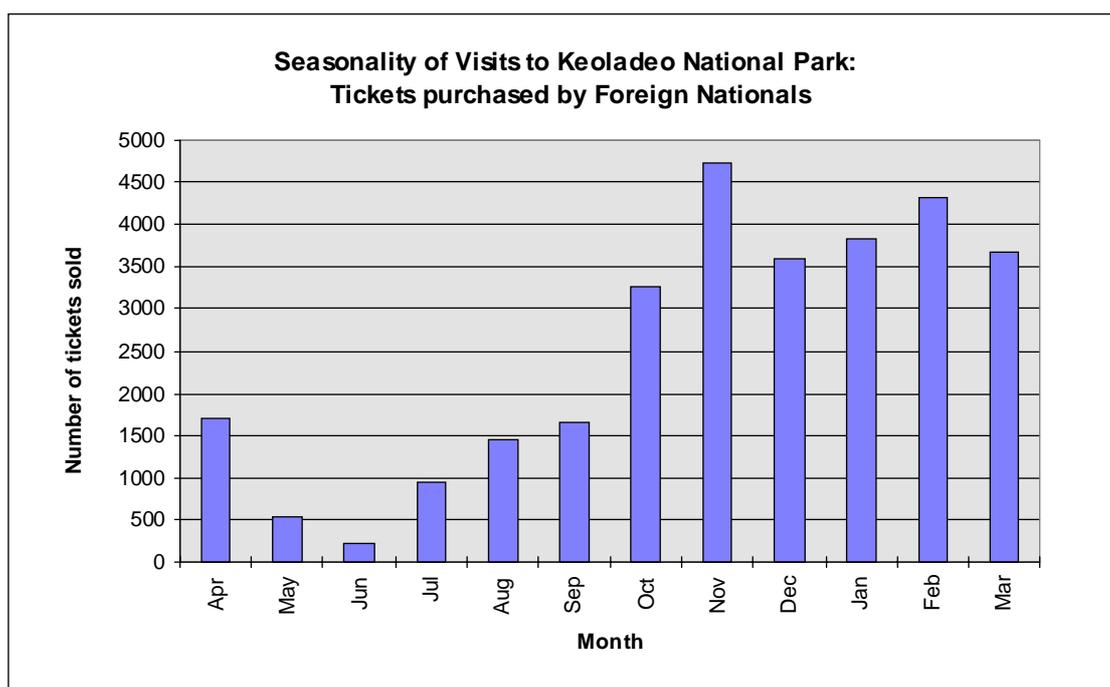


Figure 2.9 Average ticket sales per month to foreign visitors at Keoladeo National Park (compiled from Keoladeo National Park statistics September 1990 to April 1996)

Source: KNP Barrier Office

Date	mid-week/weekend high/low season	Number of Visits by Foreign Nationals	Number of Visits by Indian Adults	Number of Visits by Indian students
Wednesday, 6 December 1995	mid-week high season	163	224	115
Saturday, 9 December 1995	week-end high season	101	431	165
Saturday, 24 December 1995	public holiday high season	105	1415	510
Thursday, 18 April 1996	mid-week low season	56	22	7
Sunday, 21 April 1996	weekend low season	27	57	8

Table 2.7 Admissions to Keoladeo National Park by foreign, Indian adult and Indian student visitors on selected days

Source: KNP Barrier Office

2.4.2.3 Domestic visitors - adults

The seasonality of visits by domestic adult tourists is especially marked with high numbers in December and January and low numbers in May and June. Each year shows a division into three seasons - low, medium and high. The low season extends for 6 months from the beginning of April until the end of September. June is usually the leanest month. Between September 1990 and April 1996, the average number of entrance tickets purchased by Indian visitors to the park in December months (11,672) was more than 16 times that of the average number of tickets bought in June (697, see Table 2.8 and Figure 2.10). During 1995, 16,113 Indian entrances were made in December and only 887 in May. Broad seasonal trends conceal considerable variation in visiting patterns on a weekly basis, and according to national holidays. Not only are visits by Indian Nationals seasonal, but also vary during the week (many more at weekends). Visits by Indian adults are also especially high during public holidays (Table 2.7).

2.4.2.4 Domestic visitors - students

Entrances to the park by students (in practice all domestic) show a seasonal pattern similar to that of other domestic visitors (see section *iii.* above) with peaks in December and January (see Table 2.9 and Figure 2.11). However, additional numbers visit Keoladeo National Park in October due to the annual wildlife week. Weekly variations also show a similar pattern to that exhibited by ticket sales to domestic adult visitors although there is less of a bias towards very high numbers at weekends due to school trips during the week (Table 2.7).

Month (1990-1996)	Average Ticket Sales (domestic visitors - adults)
April	1668
May	735
June	697
July	1220
August	2118
September	1971
October	5113
November	5482
December	11672
January	9982
February	6221
March	3393

Table 2.8 Average ticket sales per month to Domestic Adult visitors at Keoladeo National Park

Source: KNP Barrier Office

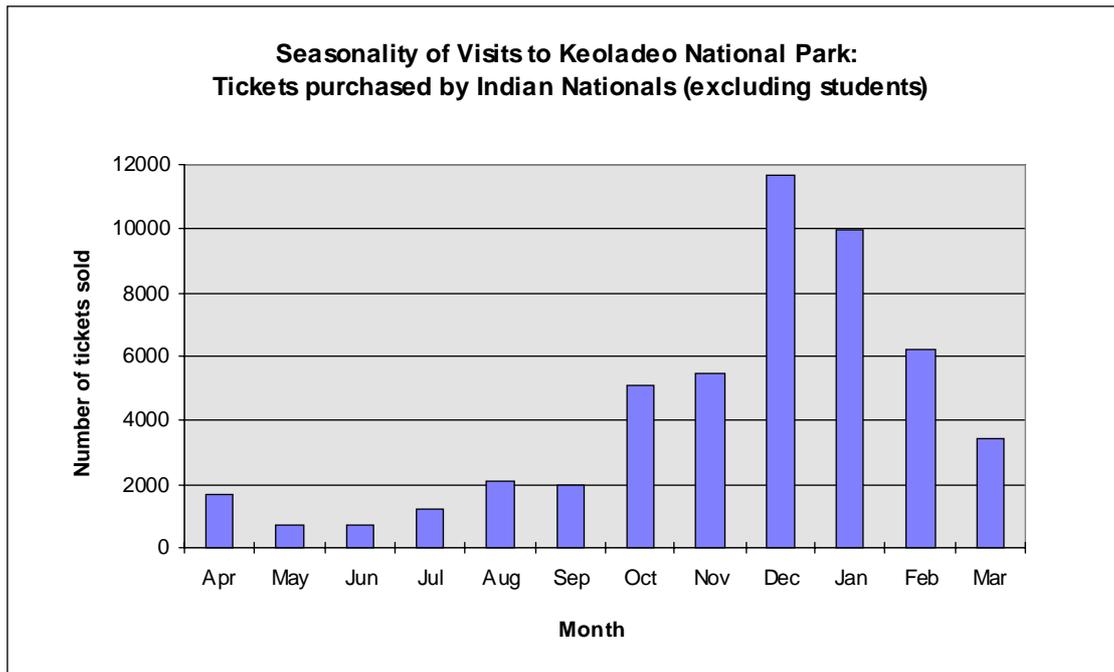


Figure 2.10 Average ticket sales per month to Domestic Adult visitors to Keoladeo National Park

Source: KNP Barrier Office

Month (1990-1996)	Average Ticket Sales (Students)
April	462
May	168
June	170
July	211
August	561
September	824
October	2168
November	1959
December	4186
January	3846
February	2242
March	1313

Table 2.9 Average ticket sales per month to domestic students at Keoladeo National Park

Source: KNP Barrier Office

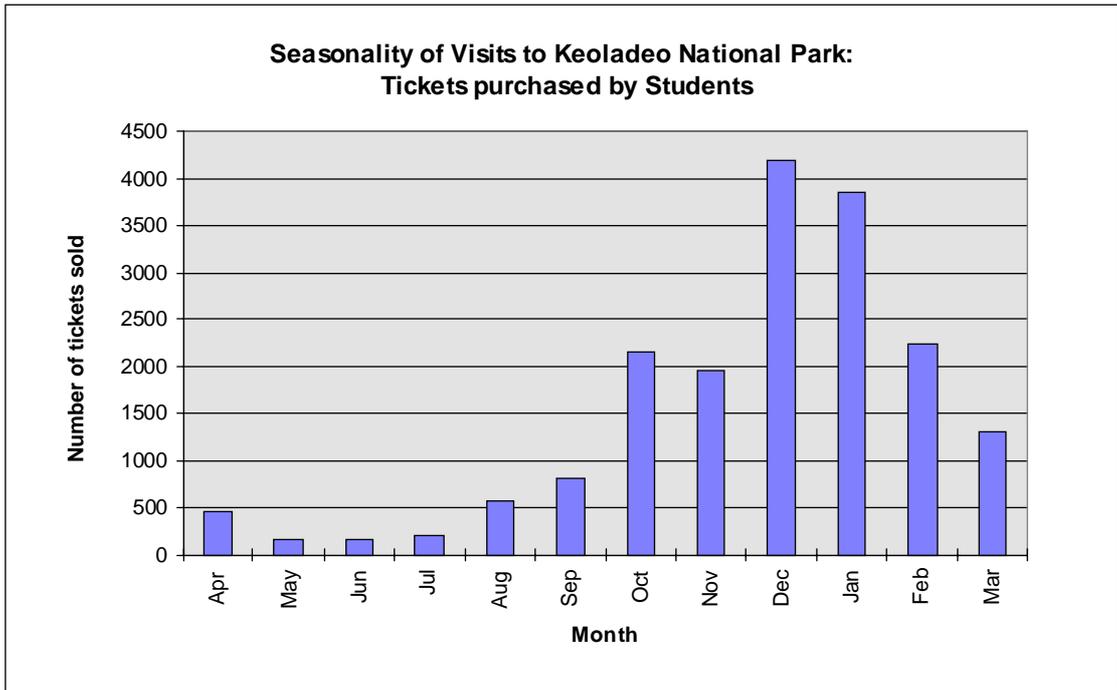


Figure 2.11 Average ticket sales per month to domestic students at Keoladeo National Park

Source: KNP Barrier Office

2.5 Length of Stay and Number of Visits

Domestic tourists generally make only one visit to the national park during their stay in Bharatpur for the reasons given in section 2.4, above. The following sections describe the visiting characteristics of foreign tourists.

2.5.1 Number of visits to Keoladeo National Park

2.5.1.1 All foreign tourists

Some foreign tourists make multiple entrances to Keoladeo National Park during their visit to Bharatpur, but most make only one entrance to the park. This is especially the case with package tourists, many of whom stop for lunch and a 1-2 hour visit. During the high season, approximately twice as many package tourists visit the park as do non-package tourists. Most tourists who enter Keoladeo National Park therefore make only one visit. An estimate for the number of visits to the park by all categories of foreign tourist is shown in Figure 2.12.

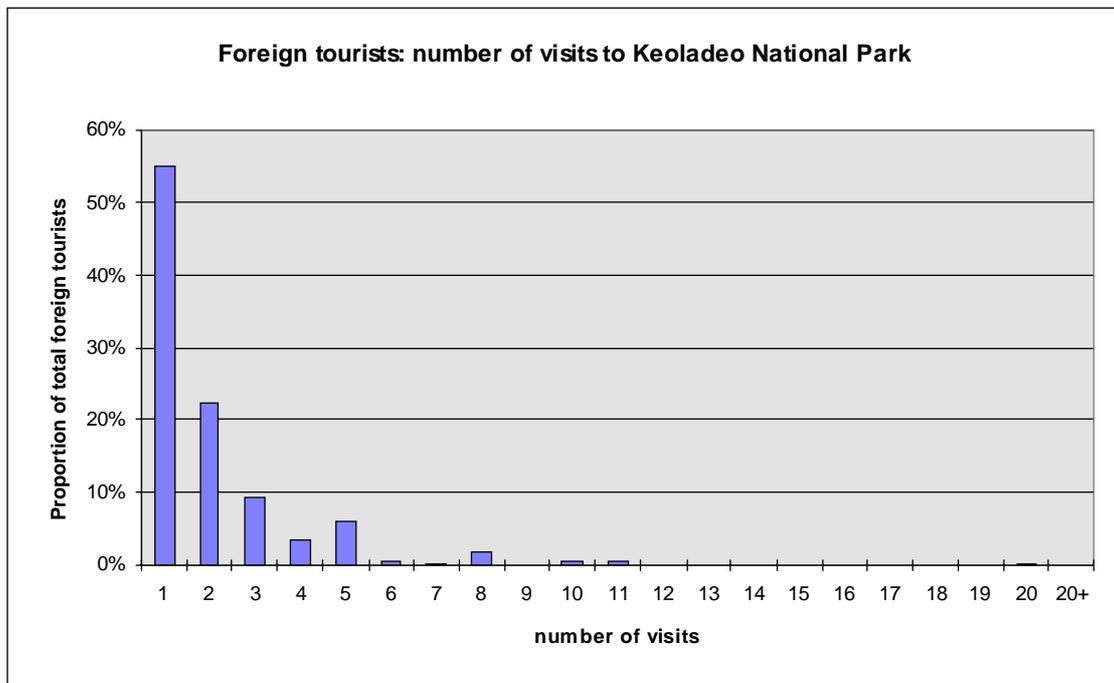


Figure 2.12 Number of visits to Keoladeo National Park: frequency chart

Source: Tourist Questionnaire (sample of 816 and Gate Survey)

2.5.1.2 Foreign package tourists

Because most package tourists visiting Keoladeo National Park are stopping for lunch, they only make one visit to the park. However, those staying overnight are likely to make two visits and those on wildlife tours will make several. More than 58% of package tourists who responded to a questionnaire survey undertaken during the 1995/96 season made only one entrance to Keoladeo National Park, and only 11% were making 4 or more entrances (see figure 2.14).

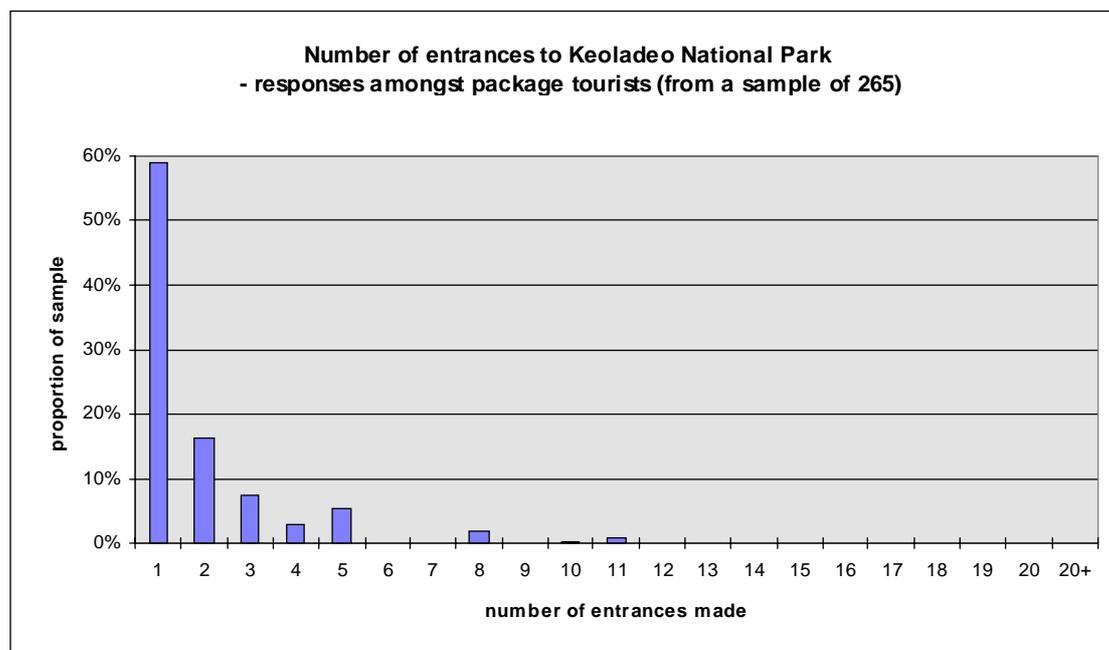


Figure 2.13 Number of entrances to Keoladeo National Park: foreign package tourists

Source: Tourist Questionnaire (sub-sample of 265)

2.5.1.3 Non-package tourists

Non-package tourists appear to make more visits to Keoladeo National Park during their stay. According to the same questionnaire, less than 40% non-package make only one entrance to the park, and more than 17% make 4 or more visits (figure 2.15). Non-package tourists also display more variation in the number of visits they make. If non-package tourists are divided into those that profess to be ‘independent’ (usually travelling by hired car or taxi), and those that profess to be ‘backpackers’ (usually young tourists travelling by public bus), further differences become apparent. Backpackers are, for example, more likely to be making two visits to the park (figures 2.16 and 2.17).

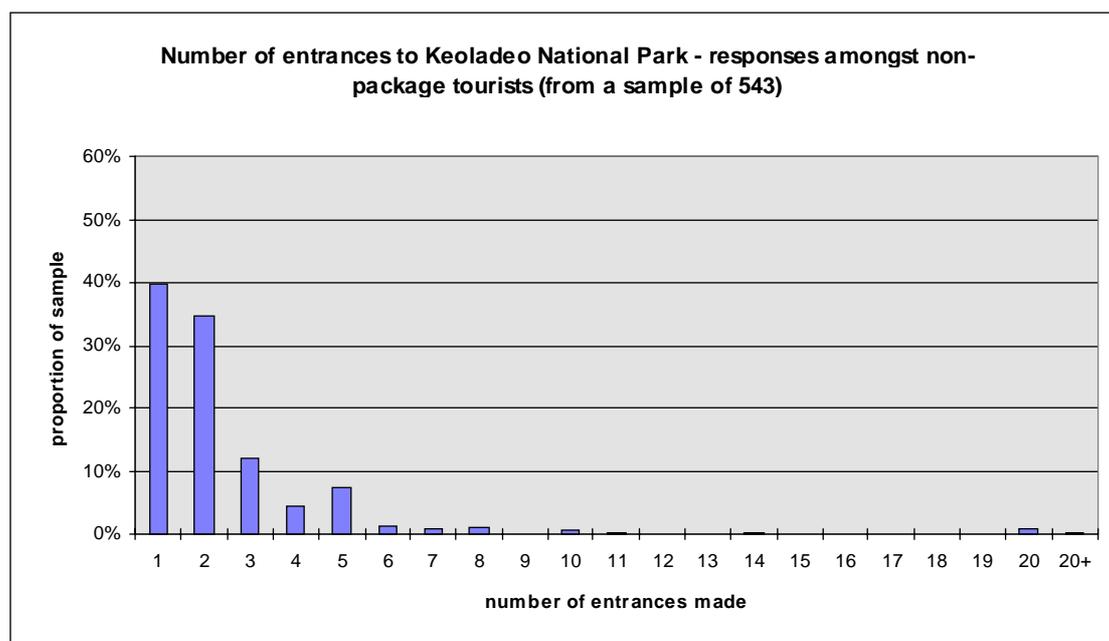


Figure 2.14 Number of entrances to Keoladeo National Park: foreign non-package tourists

Source: Tourist Questionnaire (Sample of 543)

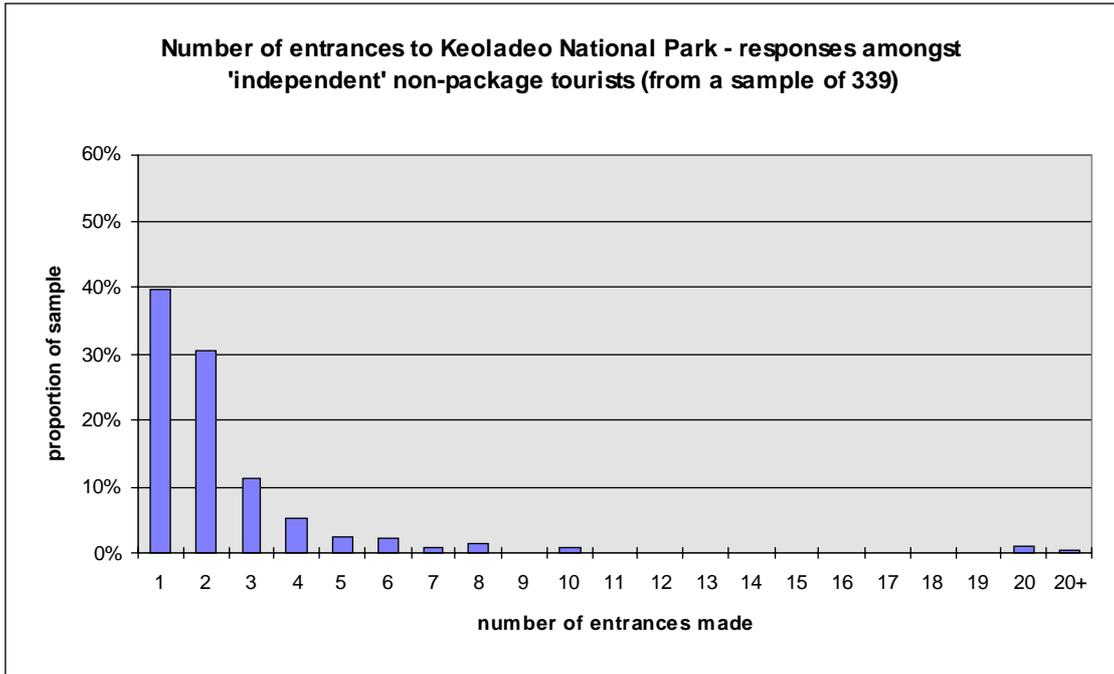


Figure 2.15 Number of entrances to Keoladeo National Park: foreign non-package 'independent' tourists

Source: Tourist Questionnaire (sub-sample of 339)

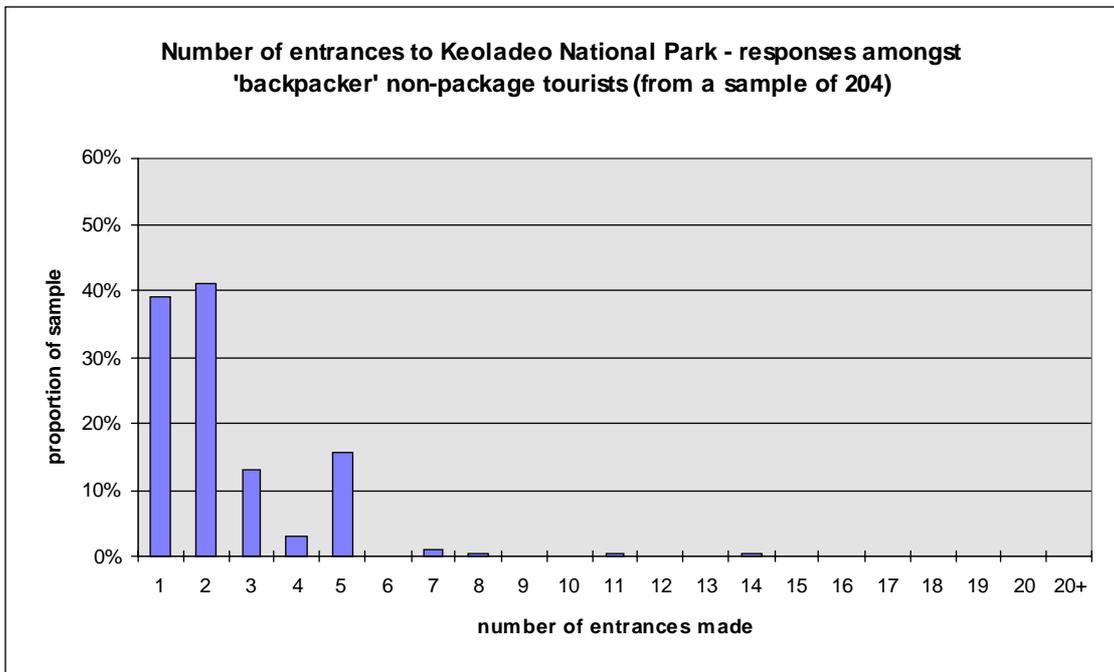


Figure 2.16 Number of entrances to Keoladeo National Park: foreign non-package 'backpacker' tourists

Source: Tourist Questionnaire (sub-sample of 204)

2.5.2 Length of stay in Bharatpur (foreign tourists)

During the high season, up to 70 per cent of all foreign visitors to Keoladeo National Park are package tourists. Most package tourists visit for only a couple of hours and do not stay the night in Bharatpur. Non-package tourists are more likely to stay a night and on average stay longer than package tourists. According to a questionnaire, of those package tourists that stay overnight, 77 per cent stay one or two nights in Bharatpur (those that stay longer are arranged by the relatively few specialist wildlife tour operators). In contrast, less than 65 per cent of non-package tourists using accommodation stay for just one or two nights (figure 2.18 and 2.19). 'Backpackers' stay relatively longer than all other foreign tourists types.

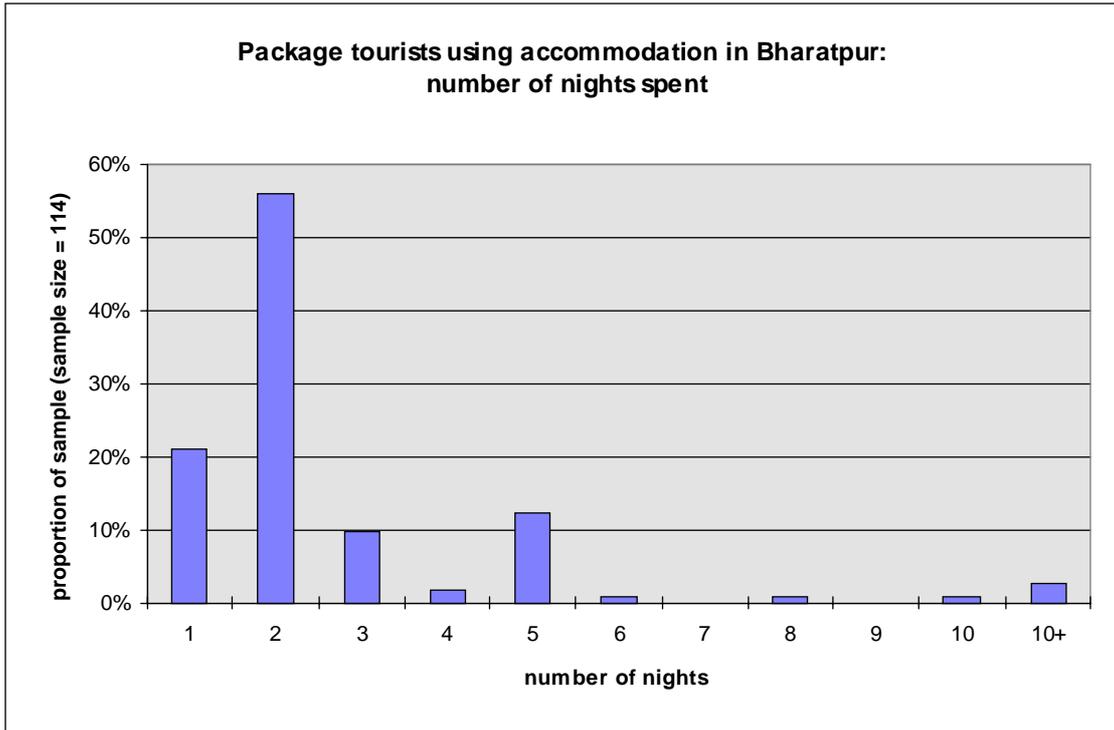


Figure 2.17 Number of nights spent in Bharatpur: package tourists that use Bharatpur accommodation

Source: Tourist Questionnaire (sub-sample of 114)

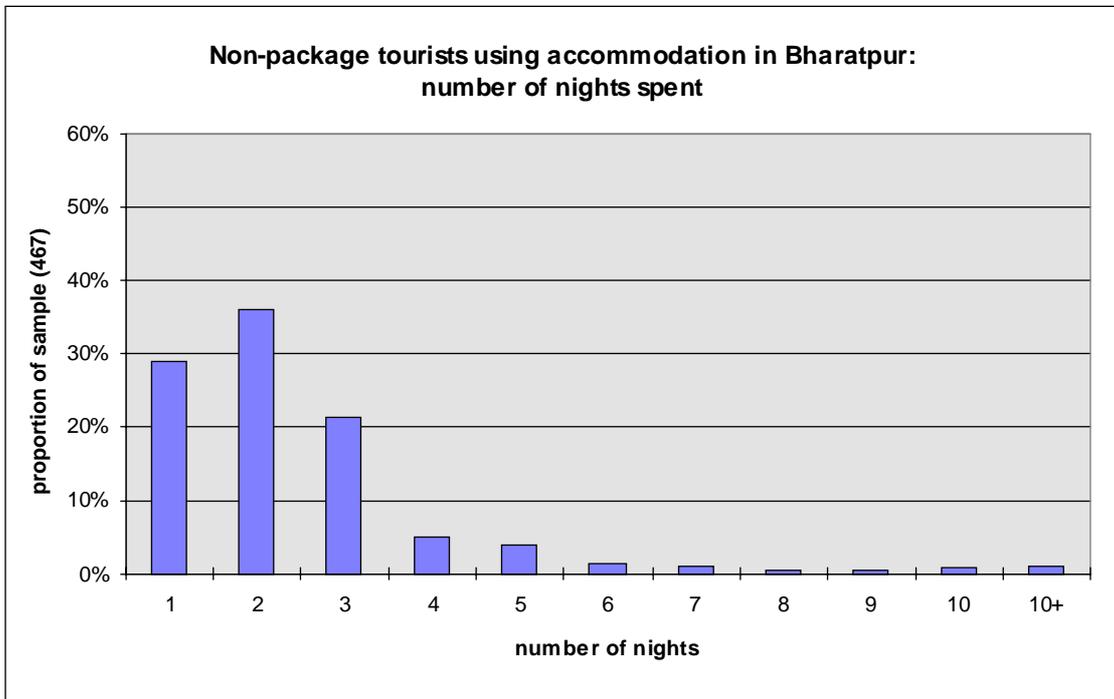


Figure 2.18 Number of nights spent in Bharatpur: non-package tourists that use Bharatpur accommodation

Source: Tourist Questionnaire (sub-sample of 467)

2.6 Mode of Transport (foreign visitors)

A number of transport options are open to visitors descending on Bharatpur. The city is situated on a main railway line between Delhi and Bombay, and the main Agra-Jaipur trunk road also lies nearby. The mode of transport used by visitors in order to reach the city has considerable implications for the amount of revenue which is spent within the local economy. Although these issues are covered in more detail in chapter 5, it is worth a note here that those arriving by bus and rail are obliged to take further transport across the city in order to reach the national park and the hotels which lie close by. In comparison, coaches and private cars are able to reach the entrance of Keoladeo National Park and may (at cost) drive as far as the barrier and *Forest Lodge* hotel inside. There would appear to be a close association between foreign tourist types and their mode of arrival to the park. Those calling themselves 'package tourists' generally arrive by coach. Those calling themselves 'independent' tourists arrive by private car or rail, and those calling themselves 'backpackers' make more use of public transport than any other (Table 2.10 and figures Figure 2.19, Figure 2.20 and Figure 2.21).

	mode of transport (as a proportion (%) of sample)				
	car	public bus	private coach	train	unknown
package tourists	14	0	80	5	1
'independent' tourists	27	2	0	26	45
'backpackers'	17	48	0	33	2

Table 2.10 Mode of transport (arrival to, and departure from Bharatpur)
Source: Tourist Questionnaire (sample of 816)

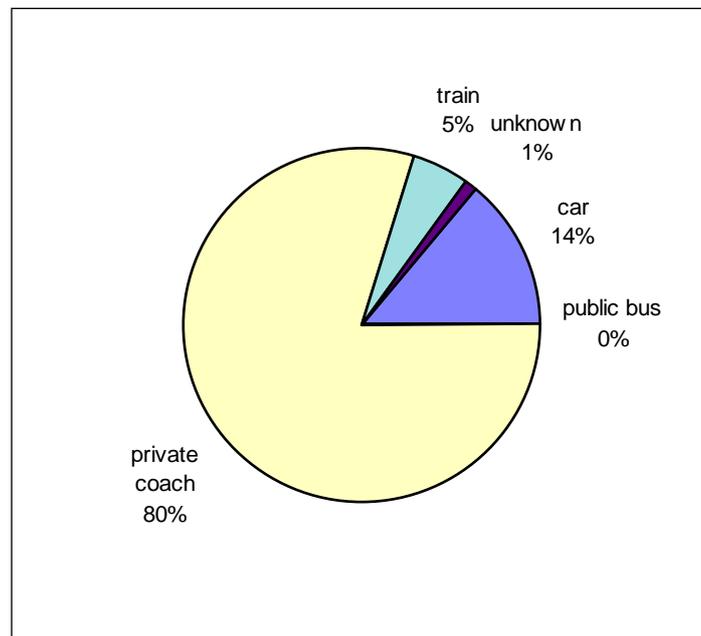


Figure 2.19 Foreign Package Tourists' mode of transport (arrival to, and departure from Bharatpur)
Source: Tourist Questionnaire (sub-sample of 265)

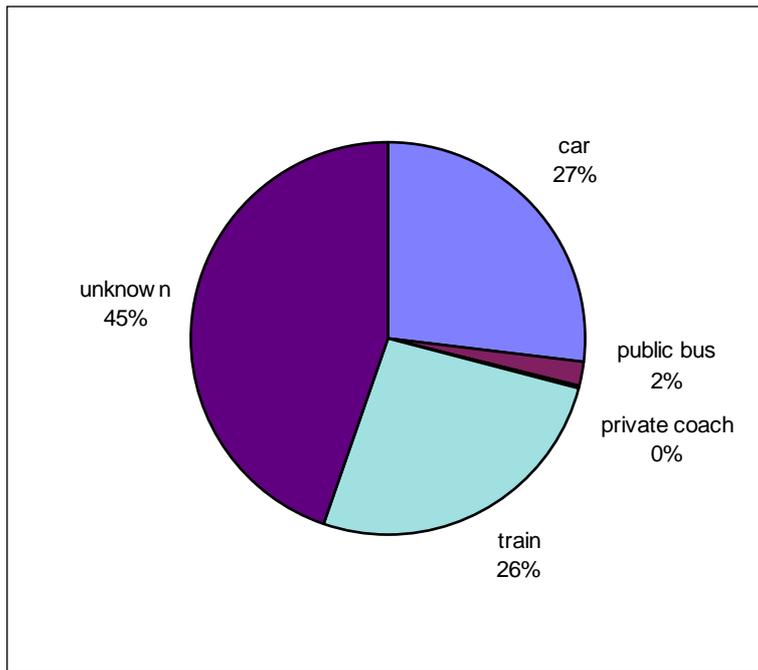


Figure 2.20 Foreign independent' tourists' mode of transport (arrival to, and departure from Bharatpur)
 Source: Tourist Questionnaire (sub-sample of 339)

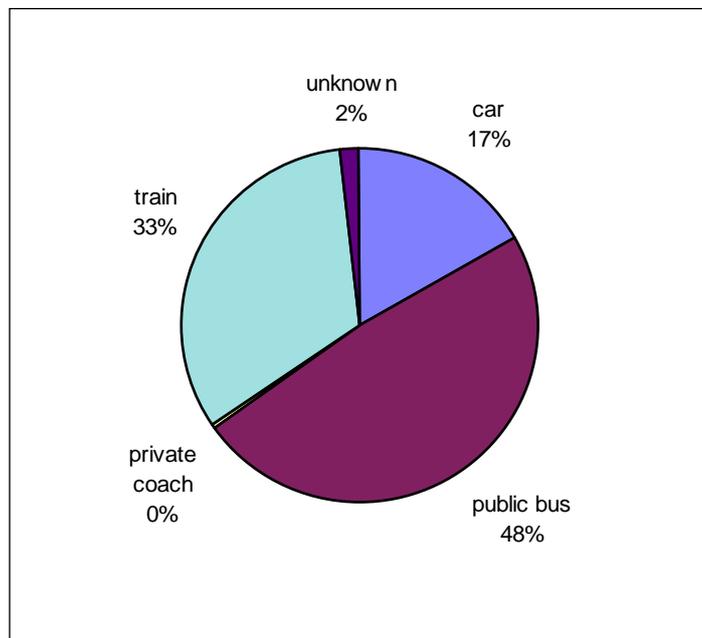


Figure 2.21 Foreign 'backpacker' tourists' mode of transport (arrival to, and departure from Bharatpur)
 Source: Tourist Questionnaire (sub-sample of 204)

2.7 Nationality (foreign visitors)

British and Americans are the most common foreign visitors to Keoladeo National Park. These are followed in number by French, German, Canadian and Australian tourists. Spaniards and Israelis, although lower in number than those of other nationalities, continue to visit in the off-season, especially as non-package, low budget tourists. Figure 2.22 and Figure 2.23 illustrate the number of foreign tourist arrivals at the Saras Hotel (popular with ‘backpackers’) and the number of lunch groups (package tourists) at the Forest Lodge. British tourists dominate the package tourist market, and are also the most common ‘backpackers’ (along with Americans). South Africans are not well represented among low budget tourists, but significant numbers travel as package tourists. Conversely, few Israeli tourists visit as package tourists, but many arrive as ‘backpackers’.

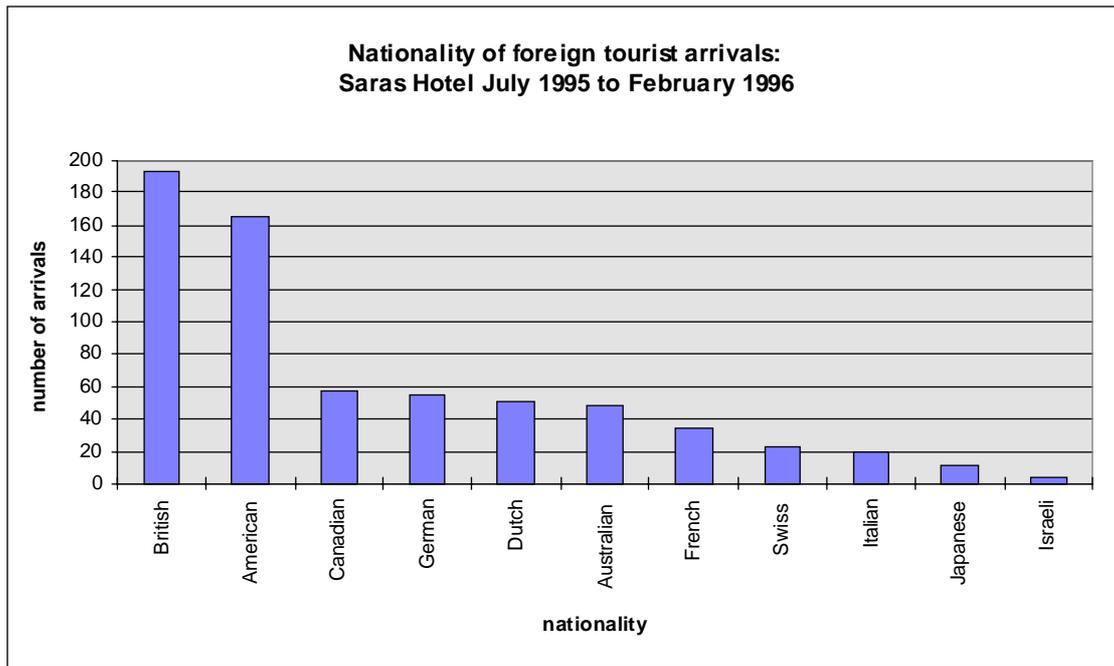


Figure 2.22 Foreign tourist arrivals in the *Saras Hotel*¹⁴ July 1995 to February 1996: arranged by nationality (top 11)
Source: Hotel Occupancy Survey

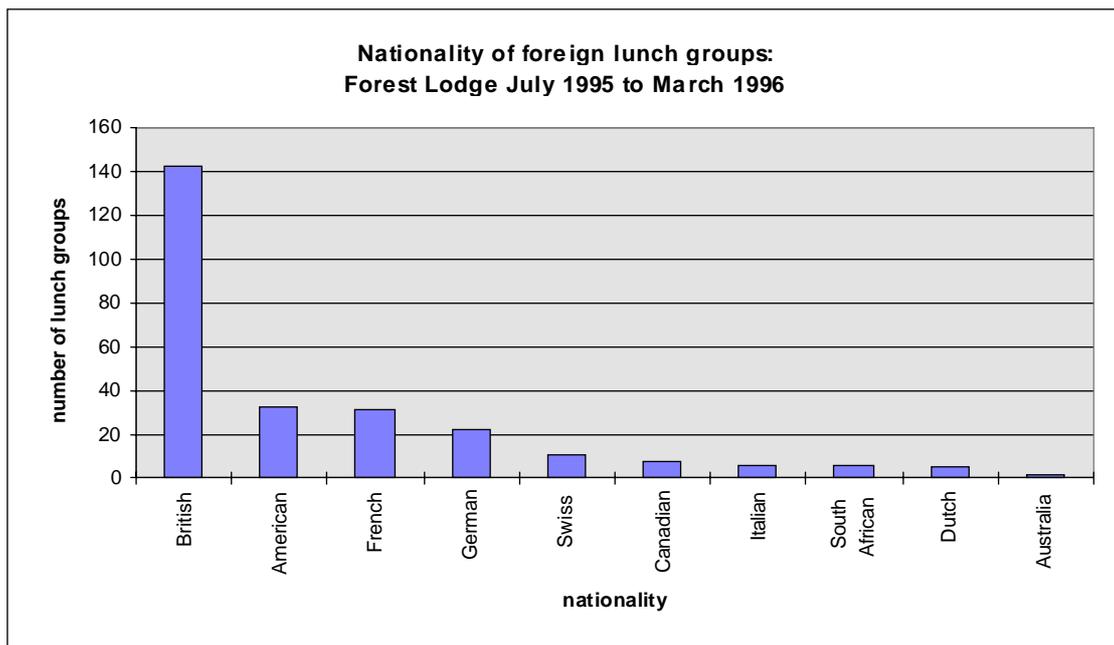


Figure 2.23 Nationality of foreign lunch groups visiting the *Forest Lodge*¹⁵ July 1995 to February 1996: arranged by nationality (top 10).
Source: Hotel Occupancy Survey

¹⁴ Foreign tourists staying at the *Saras Hotel* are generally non-package types

¹⁵ Foreign tourists visiting the *Forest Lodge* are generally on a package tour

3. VISITOR IMPACTS AND MANAGEMENT

3.1 Introduction

The purpose of this chapter is to illustrate the pattern of visitor activity within Keoladeo National Park and to discuss some of the environmental implications of increasing tourist numbers. Principally, the chapter aims to address the following two objectives of the research project:

- examine means of improved site management providing increased revenues whilst conserving the local ecology
- identify means of improved visitor management in order to decrease the adverse ecological effects of tourism

During the following discussion, it is useful to recognise that the wetland performs a wide variety of functions. The principal functions of Keoladeo National Park are discussed in the first section of the chapter. The second section briefly describes the attractions available to tourists within Keoladeo National Park and the activities of different types of visitor. Environmental implications of tourist activities are dealt with in relation to the species and habitat conservation objectives of the park. These are discussed in the final section together with a discussion of recommendations, many of which emerged during a workshop which took place in Bharatpur on 24 September 1996.

3.2 Data sources

Although there are many different local perspectives on the environmental implications of tourism in Keoladeo National Park¹, this study confines itself to the immediate impact of visitor activities on species and habitats. Visitor activities were monitored through field observations. Information regarding visitor activities, impacts, monitoring and management was collected using a questionnaire, administered as semi-structured interviews with key personnel, i.e. foresters, naturalist guides and managers. The format was adapted from the instrument used by Giongo et al (1993) to examine visitor management in protected areas. In addition, a rapid environmental appraisal of site and visitor management was carried out. This was conducted as a form of field transect whereby a park ranger or other key personnel travelled around a site with an interviewer and relayed details regarding management, impacts and mitigation in response to the visual prompts of his surroundings. Personal observations by the interviewer were also made possible by this method.

Besides the collection of information on the management and monitoring of visitor activities and impacts, it was deemed necessary to place tourism within the context of conservation priorities of key park personnel. To this end, interviews focused on the following series of questions.

- What are the conservation priorities of the park?
- What environmental problems does tourism present for the conservation priorities of the park managers and staff?
- What environmental problems does tourism present for the experience of tourists themselves?
- 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?

In addition to interviews, information was gathered from published and unpublished documents and reports about the park, many of which were made available by park staff and independent guides. Where such sources are used, they are referred to in the text.

¹ see WWF, 1996 for a discussion of perspectives held by local villagers regarding Keoladeo National Park management.

3.3 The Functions of Keoladeo National Park

According to the Indian Board for Wild Life, a National Park is

“an area dedicated by statute for all time to conserve the scenery, natural and historical objects, to conserve the wildlife therein and to provide for enjoyment of the same in such manner and by such means, that will leave them unimpaired for the enjoyment of future generations with such modification as local conditions may demand.”²

This definition makes a clear mention of both the wildlife conservation and tourism functions of national parks. It also suggests that active visitor management is necessary in order to prevent tourism reducing both the wildlife conservation and tourism functions of national parks. The following section discusses the relationship between tourism and wildlife conservation in Keoladeo National Park. Although some aspects of tourism are leading to a deterioration of the tourism experience itself, the current impact on wildlife is relatively small. Environmental problems arise largely as a result of conflict resulting from the effort to maintain a particular *presentation* of biodiversity which is geared towards tourism in preference to other functions of the wetland (see Figure 3.1). Historically, flood defence, fuel and fodder provision and even hunting have played a significant role in the maintenance of biodiversity.

The prioritisation of functions is a political issue, and as such produces a conflict of interests between a number of potential user groups. The current management of Keoladeo National Park largely depends upon the prioritisation of wetland functions which are held by those empowered to make decisions regarding the control and exploitation of the resource. These currently manifest themselves through the promotion of tourism in preference to alternative functions

Figure 3.1- **Wetland functions** (*adapted from Gopal, 1995*)

The following functions are provided by Keoladeo National Park

- Biodiversity maintenance (habitats and species)
- Socio-economic functions (dependence of traditional/local communities, tourism revenue)
- Socio-cultural and recreational functions (eg. recreation and research).
- Hydrological functions (e.g., flood control, groundwater recharge, source of water, silt trapping).
- Biogeochemical functions (e.g., regulation of water quality, global cycles of gases).

² Trivedi and Sudarshan 1994., p.97.

3.4 Management Priorities of Keoladeo National Park

A five year management plan (1991/92-1995/6) has been prepared for the park. This recognises that the park is a dynamic and fragile ecosystem, that it has been artificially created and as such is required to be artificially managed. The following are the prescribed management objectives for the park (Brar, 1991:11):

1. To maintain this seral stage of this aquatic ecosystem by arresting the process of plant succession at the stage suited for bird life (both resident and migratory).
2. To protect and maintain ideal habitat to cater to the needs of various types of birds and wild animals.
3. To closely monitor the changes taking place in the ecosystem and take action accordingly.
4. Giving priority to the above factors, managing the place for entertainment and education of visitors without disturbing the system.

These objectives closely follow the Indian Board for Wild Life's definition of a national park given in section 3.3 above. Again, tourism is a stated feature of the national park, but is subordinate to the priority of wildlife conservation. The biodiversity value of Keoladeo National Park depends upon the maintenance of particular species and habitats. These are outlined in the section below.

3.5 Biodiversity Value

In terms of habitat diversity, one third of the area of Keoladeo National Park is wetland with a variety of micro-habitats including trees, mounds, dykes and open water with or without aquatic vegetation. The drier areas include areas of tall grass with varying densities of trees and shrubs, and similar areas of short grass, as well as seasonally flooded woodland and thickets. Flowering plant species richness is remarkable, with 379 species recorded, including a new record for Rajasthan, *Neptunia oleracea*, and one very rare species *Centrostachys aquatica*.

Considering its small size, Keoladeo is very rich in terms of its fish, herpetofauna and mammal species. Its real value lies, however, in its bird diversity, with 364 species observed in the park. The park is a refuge for many resident and migratory birds, including the endangered Siberian crane. Because of its strategic location, Bharatpur is a staging ground for migratory waterfowl arriving in India before dispersing to other regions. It is also a place where waterfowl converge before departing to breeding grounds in the western Palaearctic region and the wintering area for massive populations of waterfowl (Vijayan, 1994).

The presence of the Siberian crane is the major cause of the international fame and attention which Keoladeo receives. The species is believed to have two populations; it is the western population, which breeds in Western Siberia and winters in India and Iran, that comes to Keoladeo. Whilst the eastern population of around 2000 is facing problems because of droughts and development in its wintering grounds in China, the western population is even more precarious. The wintering population at Keoladeo has declined in the last two decades from 200 to 5 in 1992-93, although a few individuals have returned in the last two seasons. The species is facing extinction because of its low recruitment rate, an arduous migration, persecution during its migration and highly specialised feeding requirements (Vijayan, 1994).

As a wetland ecosystem Keoladeo National Park is highly productive. As a processing system it plays a vital role in maintaining adjacent terrestrial ecosystems. Hydrologically it is essential for flood control and groundwater recharge and discharge, as well as water filtration. It is also important climatologically, raising humidity and stabilising temperature (Vijayan, 1994).

3.6 Visitor Activities

3.6.1 Tourist Facilities

Despite the significance of Keoladeo National Park as a major over-wintering ground for migratory birds, the majority of visitors to Keoladeo National Park are not keen ornithologists (see chapter 2 for a discussion of the motivations of domestic and foreign visitors). The variety of tourist facilities in Keoladeo National Park to some extent reflect the mix of visitor types although much of the available information and guiding facilities are geared towards the birdwatcher (in a clear minority) rather than the more 'casual' tourist. Current facilities are presented in Figure 3.2, below.

Figure 3.2 - Tourist Facilities in Keoladeo National Park

- **Visitor centre** with interpretation and exhibits, at the main gate.
- **Accommodation**, at the Forest Lodge hotel within the park, which has 17 double rooms.
- **Picnic areas**, with benches and drinking water, at Keoladeo temple, Sita Ram Baba temple, and at the barrier.
- **Food services**, at the Shanti Kutir park headquarters, the Forest Lodge, a small cafeteria at the Keoladeo temple picnic site, and a new cafeteria at the barrier picnic site.
- **Restroom facilities**, at the Keoladeo temple site, the barrier, and at the main gate.
- **A boating platform**, for poled trips in flooded Block L.
- **Bicycle and rickshaw hire**, and **electravan rides** from the main gate.

Many of the tourist attractions are situated towards the northern end of the national park along the main road which bisects the main water bodies during the winter season. Most of the charismatic avifauna may be seen along the stretch of road between the barrier and Keoladeo temple. This road is accessible by electric van and rickshaw, and is visited by almost all tourists. However, despite its relatively small size, the national park also contains many other habitats (chapter 1). For example, the savannah grassland of Koladahar in the southern end of the park is an important habitat in terms of conservation value - and features some of the more elusive bird species (including pipits, buntings and weavers). Few visitors reach this area. It is not accessible by rickshaw and even cycling is difficult - but those on specialist wildlife tours and those who have chosen to hire bicycles with the intention of seeking remoteness are likely to reach it. Visitor activities and distribution throughout the park are therefore linked in part to the motivation for the visit. Questionnaires, interviews and field observations have produced a simple tourist typology based on motivations and associated activities within the national park.

Figure 3.3 - Keoladeo National Park tourist typology (based on visitor motivations and activities)

Picnicker - perhaps the majority of visitors to Keoladeo National Park, but predominantly 'domestic' tourists. Typically staying close to the main road and picnic areas - sometimes only getting as far as the barrier. Many travel by rickshaw, tonga or electric van, but some even visit on foot. Casual picnickers are in especially large numbers at weekends and public holidays.

Casual tourist - also in large numbers and using the main road only. This category also includes foreign tourists who are visiting India on a general or cultural tour. Those with a limited amount of time (eg. foreign lunch groups) will take a guide or rickshaw along the main road.

Adventure tourist - relatively few in number and often of a young age, this category is comprised largely of non-package foreign tourists. They are unlikely to take the services of guide or rickshaw and with the mobility afforded by a bicycle they typically venture into the savanna areas of the park, perhaps more interested in the scenery than specific birds. They are more likely to visit local villages.

Ornithologists and photographers - also few in number, but visiting all habitats of the park, sometimes walking around remote areas by foot. This group includes professional photographers on a wildlife package tour of India and those travelling independently and staying in Bharatpur for extensive periods.

3.6.2 Distribution throughout the park: Types of foreign tourist

The motivations of visitors are not the only determinants of visitor activity within the park. Many visitors take an escort; package tourists are almost always accompanied by a tour guide and some non-package tourists employ local nature guides and rickshaw wallahs for the duration of their visit. Local nature guides usually begin their tour by entering the visitor centre in order to explain the features within the park. However, package tourists generally enter by coach and are therefore bypass the visitor centre at the main gate. Both guides and rickshaw wallahs have their preferred routes (rickshaws are not permitted off the tarmac roads) and it is these that are most heavily visited. Wealthier tourists are, of course, more likely to take part in those activities which incur additional cost (eg. guided tours, and transport by boat or electric van). This also affects the spatial distribution of tourists throughout the park - a higher proportion of foreign visitors visit the more remote areas of the park (a bicycle and/or guide is generally necessary in order to make a visit to Kolodahar and Kadam Kunj). See Figure 3.4 and Map 2.

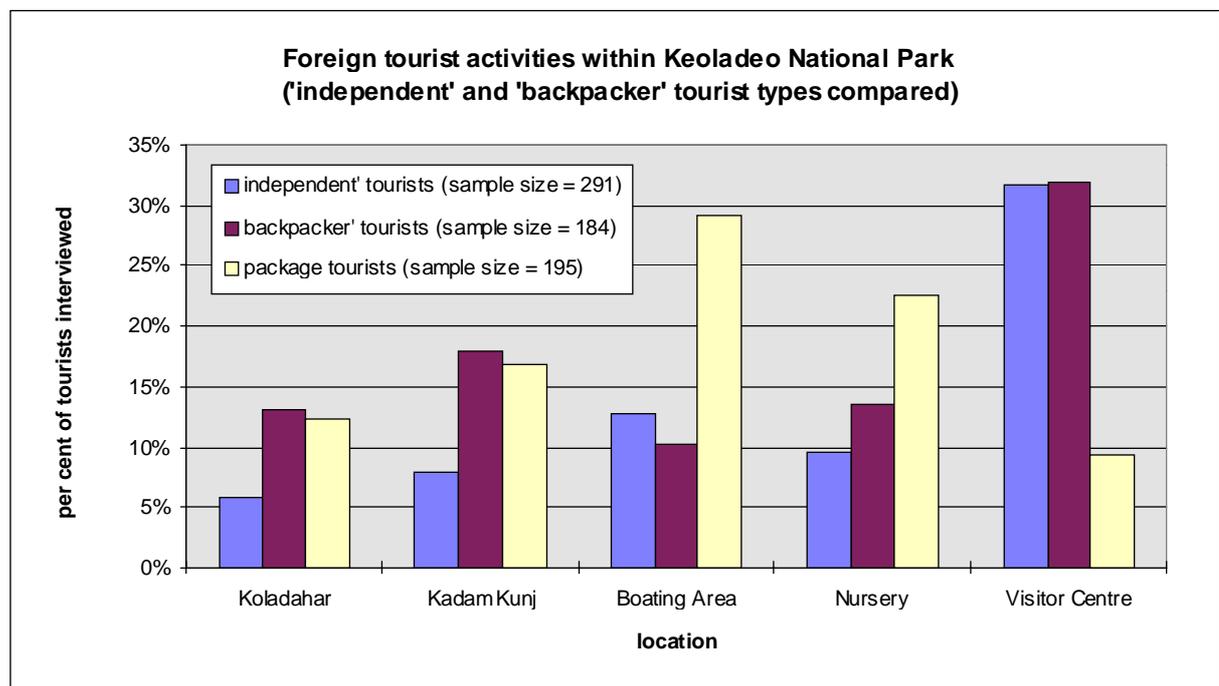


Figure 3.4 Distribution of tourists throughout the park: (a comparison of foreign tourist types)

Source: Tourist Questionnaire

The tree nursery, while close to the barrier and therefore fairly accessible, attracts birdwatchers only and is not advertised within the park. Estimates (derived from field observations, interviews and questionnaires) of the relative spatial distribution of foreign tourist activity during the high season are presented in Figure 3.4 above.

3.6.3 Distribution throughout the park: Foreigners and Indians

In general, a higher proportion of foreigners visit the more remote areas of the park and Indian tourists prefer to confine themselves to the main road, although Keoladeo Temple Cafeteria is more popular with them than with foreigners, and many take a look at Lala Pyara ka Kunda at Sapan Mori. All tourists, however, must travel along the main road to reach these areas, and it is here where most traffic is concentrated. Along with school groups, and groups of foreigners in rickshaws, there is a large amount of traffic along the main road going to Forest Lodge. This causes a number of problems, especially in the 10 days over 25 December and 1st January. Visitor numbers, especially those of the casual picnicker type are especially high over this period - 2066 visits were made to the park on 24 December 1995 alone - compared to 502 on 6 December. The number of foreign visits actually declines during this period because many westerners prefer to stay at home over the Christmas festival and serious birdwatchers may wish to avoid the crowds. Map 2 and Table 3.1 illustrate the distribution of tourists throughout different parts of the park. The surveys suggest, for example, that although similar numbers of foreign and domestic tourists visit the barrier (99% and 95% respectively), 35% of foreigners and 12% of domestic tourists visit the boating area.

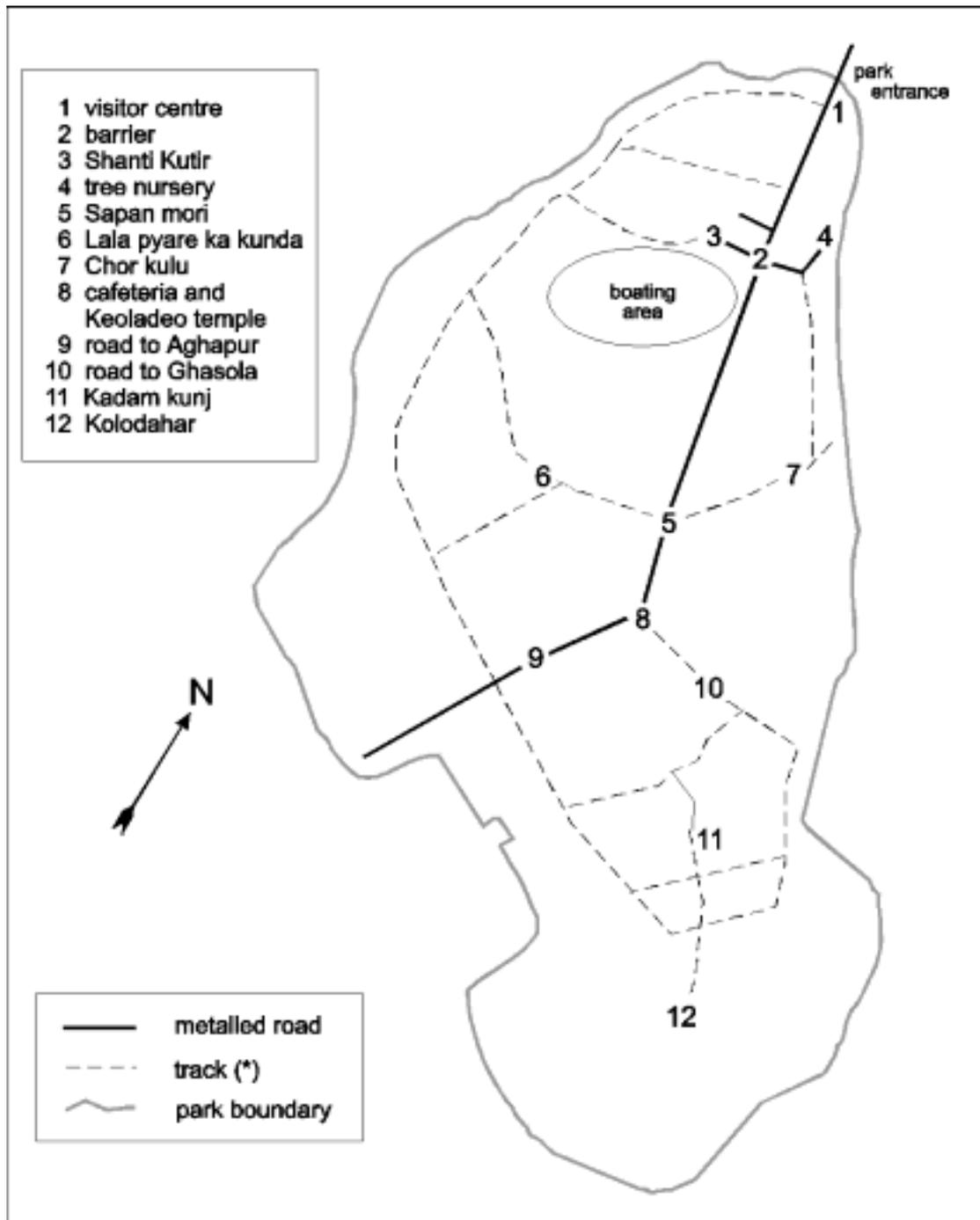
Location	proportion of sample visiting each location	
	Foreigners	Indians
1. Visitor Centre	70%	N.D.
2. Barrier	99%	95%
3. Road to Shanti Kutir	36%	23%
4. Tree Nursery	22%	8%
5-6 Track to Lala pyara ka kunda	28%	36%
5-7 Track to Chor kulu	18%	6%
8 Cafeteria (and Keoladeo Temple)	56%	70%
9 Road to Aghapur	39%	27%
10 Track to Ghasola	42%	20%
Boating Area	35%	12%
11 Kadam Kunj	36%	N.D.
12 Kolodahar	20%	N.D.

Table 3.1 Visitor distribution: foreign and Indian tourists

Numbers refer to locations shown in Map 2

(N.D. = No Data Available)

Source: Tourist Questionnaire and Field Surveys



Map 2: Keoladeo National Park: principal tourist routes

Refer to Table 3.1 for density of visits at each location marked.

Source: Interviews with rickshaw wallahs and nature guides.

* Further tracks exist throughout the park. The illustration above shows those commonly used by nature guides. The majority of tourist visits are confined to the metalled road between the visitor centre [1] and the cafeteria [8] (over 95% of all visitors use this route). Tracks such as the one between Sapan Mori [5] and Chor kulu [7] are used less often. Field surveys suggest that 18% of foreigners and 6% of Indian visitors follow this route (see sections 3.6.2 and 3.6.3).

3.7 The Environmental Impacts of Tourism

Wildlife may be directly affected in two ways by non-consumptive tourism. The presence of people may cause disturbance by interrupting feeding or breeding behaviour and altering ranging patterns. Alternatively, wildlife may become habituated to human presence, possibly becoming reliant on scavenging food from visitor areas. In addition, indirect effects of tourism on wildlife include impacts on habitat, water supply and prey species (Wall & Wright, 1977; Mathieson & Wall, 1982; Edington & Edington, 1986).

In Keoladeo National Park, the major disturbance of wildlife is considered to be of the pythons basking during the winter months. Water bird disturbance by tourists is not considered a problem, although villagers may contribute. The main bird disturbance is of owls and nightjars nesting along the main roads at this time of year (the latter particularly in the area known as 'the nursery'). There is also some concern about Siberian Crane disturbance. The problem of wildlife scavenging food is becoming more apparent.

3.7.1 Bird Disturbance

- **Tree-nesters - owls and nightjars**

An example of owl disturbance was cited by one informant. A barn owl (the first sighting of one this year) arrived to nest in a tree near Keoladeo Temple close to the refreshments and picnic area in the middle of the park. A great number of visitors were shown the bird and a considerable amount of flash photography took place. The owl abandoned the area the same day (L. Mudgal, *pers comm.*). It was noticed during visits to the park that guides stop along the main roads at trees with nests in and point these out to visitors. On one visit, six groups were observed under different trees between Shanti Kutir and Keoladeo Temple, trying to get close enough to take the best photographs. This form of unrestricted observation will inevitably disturb nesting birds.

- **Siberian Cranes**

For three seasons there have been no migrating Siberian Cranes visiting the park. This year, four arrived in early February. They were here for a month/five weeks, before leaving. Three were radio-collared by the ICF, and on the same day they left the park.

Two incidents of visitor disturbance occurred during the time the birds were in the park. The first involved a fight between two tourists and a forester over the visitors getting too close to the birds in order to photograph them. It seems that the forester was taking photos close up and the tourists tried to do the same. The forester tried to prevent them, but had no proof of authority and a fight ensued in which the forester's companion was assaulted with a camera tripod. A written apology was received from the offending visitors upon threat of court action.

In a second incident, a rickshaw driver was discovered wading chest deep into the water in order to lead tourists close to the birds. He was caught and beaten by forest department staff as punishment for infringing regulations.

3.7.2 Python Disturbance

In the winter period, pythons use porcupine (and sometimes jackal) burrows to keep warm at night, often coexisting with the original residents, and bask outside these holes during the day. This coincides with the tourist season, and pythons are often disturbed from burrows by visitors that are led to the burrows by rickshaw drivers, guides and young boys. Some holes where several pythons were seen earlier in the season appear to have been vacated due to visitor disturbance. Of a sample of 195 package tourists, 41% had been taken to see a python. Evocative names in the park such as 'python point' encourage

tourists to seek pythons. Python viewing has become a source of income for 'informal guiding' at the park. Local youths will often take tourists to the same burrow, many times a day.

The mating season begins in late February or March, and can continue through until August (Bhupathy & Vijayan, 1989). Some disturbance and interruption of mating occurs when visitors come across copulating pairs at burrows. It is not known what effect this may have on the reproductive success of the python population within the park.

As summer approaches, pythons migrate to the wetter areas. They no longer need burrows, and the wetter areas offer a cooler environment for them. Eggs are laid near water, hidden in the undergrowth. There is apparently no real disturbance of eggs because nesting sites are not communal or regularly used (unlike burrows), they are not well known to guides, and nesting and egg-laying occurs outside the tourist season.

3.7.3 Scavenging and Habituation

If litter is allowed to accumulate in bins for any length of time, wildlife will learn to scavenge discarded food items from the bins. Similarly, wildlife can become habituated to regular feeding by visitors at picnic sites. These behaviours can be a health risk to the animal concerned, and can cause it to become a problem and a danger to visitors if it develops an aggressive begging tendency.

It has been noticed that monkeys in the park are scavenging from bins (as do squirrels, and babblers). It has reached the stage where, in some places, monkeys will approach visitors if they are carrying food, and hassle them. Babblers, sparrows, and crows wait around the picnic site at Keoladeo Temple for crumbs from visitors, much like seagulls in seaside towns in the UK, and these are beginning to disturb visitors.

3.7.4 Litter and Pollution

- **Litter**

The uncontrolled spread of litter in national parks has a variety of negative impacts. It pollutes the environment, it can be a fire hazard, and it poses a danger to wildlife.

Litter is perceived as a major problem associated with visitors. There is also some from the villagers, rickshaw drivers and forest guards, in the form of cigarette butts and packets, and liquor pouches. Most litter collects along the main road and around the temple/picnic area, but the dirtiest area is the Forest Lodge, which disposes of some of its waste on a nearby heap within the park. The visiting Chief Wildlife Warden of Rajasthan recently commented on this problem to the proprietors of the lodge (B.A. Khan, *pers comm.*).

For visitors in the park, concrete bins have been constructed at a number of locations. Only recently has litter collection from bins been carried out by forest department staff. This may have resulted in some wildlife species learning to scavenge from the bins (see above).

The park director perceives litter to be a real problem in the park. Rickshaw wallahs are now being encouraged to collect litter and bring it to the park entrance, and on certain days parties of children are allowed into the park to carry out clear-up operations. The director has also suggested the possibility of introducing fines for dropping litter (S. Sharma, *pers comm.*).

- **Vehicle Pollution**

The location of the Forest Lodge and also the Forest Department offices within the park creates vehicular traffic, between the main gate and the Shanti Kutir barrier. This causes a problem of air and noise pollution. On a typical high season day³, 5 coaches, 38 scooters and 39 cars visited the Forest Lodge

³ Traffic survey conducted on 9 December 1996

between the hours of 6am and 6pm. During the same period there were 82 scooters, 51 cars and 3 coaches travelling up to the Barrier or Shanti Kutir. However, it was the opinion of park staff that the Forest Lodge was not a serious environmental problem despite being situated in the park, due to the fact that it is not close to the central wetland areas of the park where most of the important bird species are located.

- **Overcrowding**

Although overcrowding might not have significant effects on wildlife, the large numbers of tourists on the main road during the December months has been a cause of concern for some tourists. In general, overcrowding is not perceived to be a problem, but it is sufficient to deter some visitors during the busy weeks. A survey among 679 foreign tourists showed that 48% thought that no areas of the park were crowded. Although 38% suggested that overcrowding on the main road was significant (Figure 3.5).

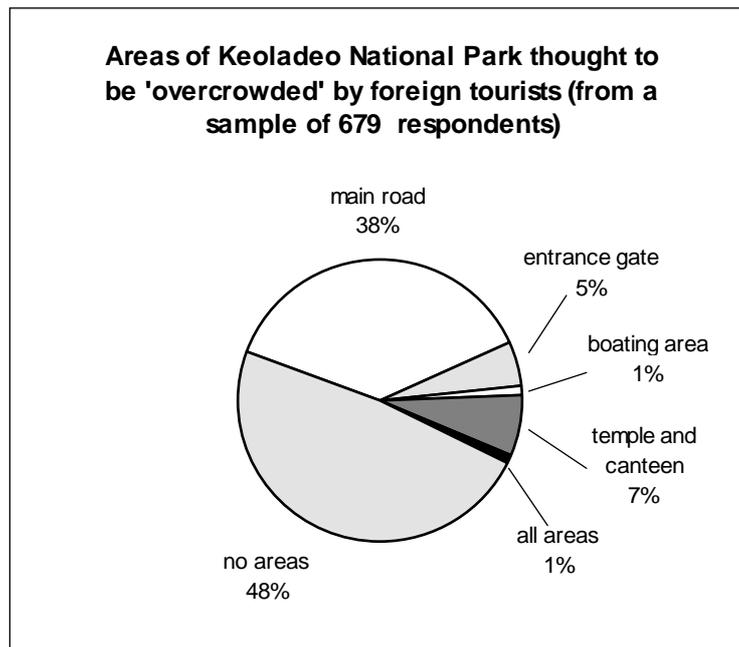


Figure 3.5 Foreign visitors' views concerning 'over-crowding'

Source: Tourist Questionnaire

3.8 Suggestions for Tourism Management

Tourism to Keoladeo National Park is currently managed principally by dividing the park into a 'tourist' zone and a 'birdwatching' zone. All of the facilities mentioned in Figure 3.2 are located in the 'tourism' zone, and all are accessible by the tarmac road. The 'birdwatching' zone is relatively undeveloped, apart from the provision of a few trails which are also used for patrolling the more remote regions. At the time of writing there are plans to create more signage within the park and deep water bodies and earthmounds are being constructed in the more remote areas of the park in order to control water weeds and provide viewing areas (see chapter 4). Management has recently put signs at sensitive points within the park to warn visitors about against getting too close to the Siberian Crane, driving too fast along the main road and throwing litter and plastic into the water areas. The husband of the park director has also drawn up a list of 'park ethics'. Initiatives such as these need are an important aspect of park management. The park could hold drawing competitions in order to produce such signs during the annual 'wildlife week' to raise awareness among local children about environmental damage.

The suggestions for tourism management which follow have been provided by a variety of informants including tourists, guides, rickshaw wallahs and local staff as well as project researchers during the study. The workshop provided a many of the following suggestions. There is no consensus about how to manage visitors in the park, but those upon which most informants agreed are listed below:

- Regulate the flow of visitors by tighter control on access to the park. By limiting ticket sales and specifying entrance times and length of stay on tickets, congestion at peak times could be avoided.
- Monitor the impact of tourist visits to sensitive species such as pythons. Rickshaw wallahs and guides sometimes overvisit nesting birds, keen to please the tourists. However, most tourists visiting Keoladeo National Park are not keen birders and seeing the painted storks and cranes is often enough. Many domestic tourists are in fact disappointed because they expect a zoo-like experience. These can be encouraged to visit the new interpretation centre so that they can learn about the function and management of the national park.
- Open an additional gate for tourist entry into the park on the west side of the park at the end of the Ghana canal. There is a currently unused gateway at this location, which if opened would spread out visitors more, and may stimulate economic growth in adjacent villages.
- Improve the signage inside the park to indicate the location of the various trails
- Consider relocating the Forest Lodge outside the park, since it is the biggest source of pollution in the park, and employees contribute significantly to the amount of vehicular traffic.
- If this is not possible, make all attempts to reduce vehicular traffic along the main road in the park. This might be done by preventing access by coaches in arrangement with the Forest Lodge, rickshaw wallahs and by using the electric van.
- Relocate the Forest Department offices to the main gate to reduce vehicular traffic along the main road.
- Encourage bicycle use within the park, since they allow visitors to travel quickly along the main road to more remote areas of the park and thereby reducing congestion.
- Provide each litter bin with a cover - and make sure they are emptied regularly - an arrangement could be made between the Forest Lodge and the Park to clear the Forest Lodge and Park waste on a regular basis. Staff may be employed to collect litter.
- Standardise guiding selection procedures and introduce an on-going training programme for guides and rickshaw pullers *with the co-operation of the naturalist guide association* in order to maintain high standards. This is a very widespread view amongst those working in the park. Clearly a

collaborative effort is required - perhaps current guides can help to maintain their reputation by helping to train the new ones. These sessions would provide an opportunity for guides and rickshaw wallahs to learn about the park.

- The nature guides that operate within the park should pay a fee in the same way as the operating tax levied on the licensed rickshaw pullers. Activities of the guides should be monitored - and the details of every naturalist operating inside the park should be kept.
- Binoculars and telescopes could be made available at particular points (at least two or three places) within the park and amongst the rickshaw pullers so that tourists, especially those on lower incomes, can better enjoy the park.
- Additional facilities such as improved toilets and a canteen can also act to meet the expectations of all visitors.
- Incentives for improving services within the park can be given by awarding prizes to guides, rickshaw pullers and Forest Staff who help to improve the park.

The monitoring of tourism impacts in Keoladeo National Park is not carried out at present. Much of the tourism is of relatively low impact, but the disturbance of a nesting birds and pythons could have serious implications for these species in the future. Solutions to this particular problem demand a high degree of co-operation from guides and rickshaw pullers. Tourism is currently the only industry permitted to make use of Keoladeo National Park, in that respect it receives special treatment.

4. CONTRIBUTION OF TOURISM TO PARK FINANCES

4.1 Introduction

This chapter considers the financial implications of tourism to Keoladeo National Park. It begins with a comparison of the direct costs and revenues of tourism which are borne by park funding bodies, according to two distinct perspectives¹. It also considers ways in which the financial contribution of tourism can be increased, with a particular emphasis on the likely impact of raising foreign entrance fees. This chapter addresses two objectives of the research project:

- identify the net contribution of tourism development to conservation and restoration
- identify methods of providing sustainable revenues from tourism for conservation

4.1.1 Data Sources²

The first part of the chapter draws upon park accounts for the financial year 1995/96, with additional interpretation from interviews with Keoladeo National Park staff. The second part is derived from a combination of visitor questionnaires, interviews and field observations. Willingness-to-pay responses were gathered via a single questionnaire administered to 816 foreign tourists. Further details concerning potential visitor behaviour were evaluated from interviews with approximately 60 non-package tourists. Interviews with hotel proprietors took place in March 1995. Responses from tour companies were obtained during the same period via postal questionnaire. Additional interviews were conducted with a sample of ground handlers in Delhi.

4.2 Keoladeo National Park: Revenues and Expenditure³

Keoladeo National Park is financed and administered by the Forest Department of Rajasthan State Government, with assistance from the Central Government of India. Revenue earned by Keoladeo National Park from tourism is therefore not directly available for spending by local park authorities. Revenue and expenditure are deposited and drawn from separate accounts. During the financial year of 1995/96, total revenues to Keoladeo National Park represented approximately one quarter of total expenditure. A conceptual diagram illustrating the relationship between sources of revenue and expenditure is presented in figure 4.1.

¹ A full consideration of the indirect and opportunity costs attributable to Keoladeo National Park is beyond the scope of the project - readers should refer to WWF (1996) for a consideration of local perspectives on indirect costs borne by the local rural population.

² Keoladeo National Park accounts are the principal source for all calculations. However, the estimates illustrated here serve as a guide only - they should not be taken as a summary of actual costs and revenues. Estimates are derived from available records and have been subject to interpretation by project researchers and interviewees.

³ All calculations are derived from Keoladeo National Park accounts for the year 1995/96

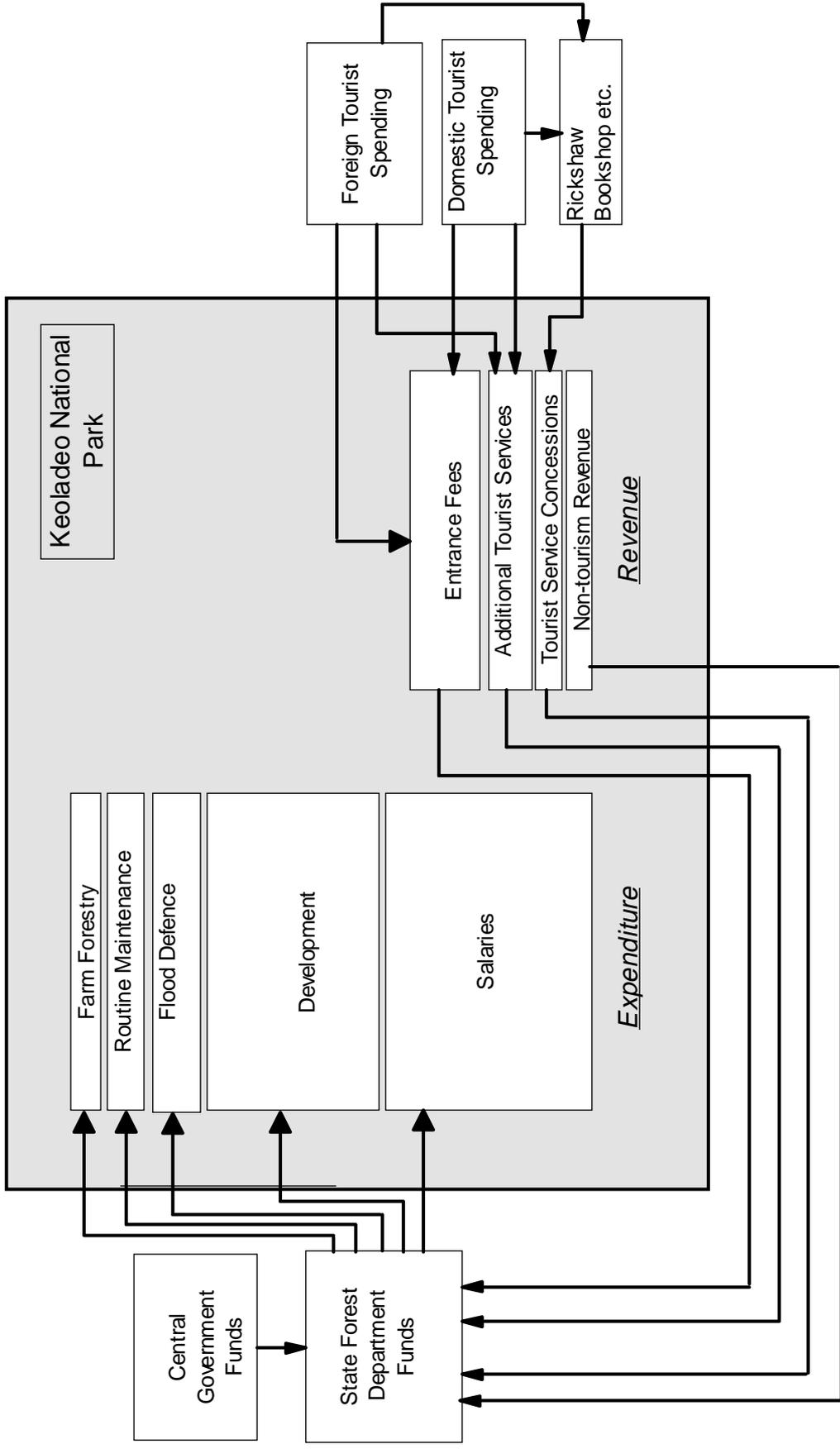


Figure 4.1 Simplified financial structure for Keoladeo National Park (not according to scale of revenue/expenditure).

4.2.1 Expenditure

The accounts for Keoladeo National Park are held by the Forest Department of Rajasthan State Government. Finance for the recurring costs of maintaining Keoladeo National Park (including salaries, materials etc.) is made available via the state in the form of plan and non-plan funds. For the financial year 1995/96 expenditure met from this source amounted to Rs 66.92 lakh⁴ (table 4.1). Additional support for the development of the park is available through the Central Sponsored Scheme (CSS). These funds are realised through application, by the park director, to the Central Government. The Central Government releases funds from the CSS via the State Government. In the financial year 1995/96, expenditure for the development of Keoladeo National Park through the Central Sponsored Scheme amounted to Rs 37.07 lakh⁵. Total expenditure on Keoladeo National Park for 1995/96 amounted to approximately Rs 103.99 lakh (US\$295,426⁶).

Source of Grant	Amount (Rs)	Proportion of Total
State Plan and Non-Plan funds	6692000	64.4%
Central Sponsored Scheme (CSS)	3707400	35.6%
Total	10399000	100%

Table 4.1 Keoladeo National Park: Grant sources and expenditure 1995/96

Source: KNP Accounts

4.2.2 Revenue

Revenue from activities within Keoladeo National Park is deposited with Rajasthan State Forest Department. The bulk of revenue is derived from tourist activities which amounted to Rs 24.52 lakh for the 1995/96 financial year (table 4.2). Most of this is collected in the form of entrance fees (Rs 11.86 lakh in 1995/96). In addition to revenue from tourism, the park earned Rs 0.5 lakh through the issue of grass permits (for fodder collection by local villagers) and the sale of seedlings from the nursery. A small revenue (Rs 0.3 lakh in 1995/96) from the levy of fines (from illegal hunting, wood collection etc.). The total revenue for the park in 1995/96 amounted to approximately Rs 27.35 lakh.

Source of revenue	Amount (Rs)	Proportion of total
tourist activities	2452000	89.7%
non-tourist activities	283000	10.3%
total	2735000	100%

Table 4.2 Keoladeo National Park: sources of revenue 1995/96

Source: KNP Accounts

⁴ which includes funding in the order of Rs 10 lakh for flood control.

⁵ This chapter uses the Indian term lakh, meaning 10⁵ (hundred thousand)

⁶ US\$ equivalents are at the December 1995 exchange rate of Rs 35.2 : US\$1 (See IMF, 1996)

4.3 Financing Tourism: Revenue Vs Expenditure

The following sections compare the expenditure (*direct costs*) on tourism to Keoladeo National Park⁷ with the revenue received for 1995/96. The aim is to provide an estimate of the level of subsidy or net income per visit⁸. Two separate methods of accounting are utilised in order to reflect contrasting perspectives regarding the present function and management priorities of Keoladeo National Park. The first perspective adopts the position (widely held among the local, rural population) that the national park is at present maintained solely for the benefit of tourists. All direct costs are therefore associated with tourism. The second position (held largely by managers and tourists) holds that tourist satisfaction is only one of the management priorities for national park (the first priority is often couched in terms of species and habitat conservation).

4.3.1 Perspective (a): Tourism as the principal management objective

Cost of tourism (all direct costs)	Rs 10,399,000	\$US 295,426
Revenues from tourism (all direct revenues)	Rs 2,735,000	\$US 77,699
Total Subsidy	Rs 7,664,000	\$US 217,727
Number of visitors	122,628	\$122,628
Subsidy per average visit	Rs 62.5	\$US 1.76

Table 4.3 Tourism direct costs and revenue in Keoladeo National Park compared according to perspective (a)

Source: KNP Accounts

Many local perspectives hold that in its present form, Keoladeo National Park is maintained for the benefit of tourists. This view holds that biodiversity management is designed with the needs and expectations of visiting tourists and the international community of technical conservation professionals in mind. According to this view, all objectives of the national park are at present accommodated within a framework of international (as opposed to local) ideas of wildlife management. These are inextricably bound to tourism. All direct costs and revenues must therefore be considered in order to assess the direct cost to of the park. During 1995/96, the cost to the Forest Department of running and developing Keoladeo National Park was approximately Rs 103.99 lakh. Revenue made available to the State Forest Department from maintaining the park was approximately Rs 27.35 lakh in the same year. According to this method, the total subsidy was therefore in the order of Rs 76.64 lakh. The level of subsidy represents the direct cost to the state and central governments of maintaining Keoladeo National Park in its present state. A total of 122,628 visits were made by tourists in 1995/96. If all visits were to make the same contribution to park revenue (same entrance fee and spending on park facilities), then in 1995/96, each visit to Keoladeo National Park received a subsidy of over Rs 62 (table 4.3).

⁷ All calculations are derived solely from park accounts. Additional costs met by other bodies (e.g. activities of DRDA in training and youth employment schemes around the park are not taken into account - more significantly the calculations in clude *direct costs only* - see section 4.3.3 below.

⁸ There are large variations between the activities of different visitors - the figure cannot, therefore be applied to any single tourist visit but suggests a measure of the total subsidy in proportion to the volume of tourists.

4.3.2 Perspective (b): Tourism as a supplementary management objective.

A second perspective holds that tourist satisfaction is but one objective of national park management. This perspective, widely held among tourists and managers asserts that in the absence of tourism, all non-tourism functions would be maintained as at present. Accounting by this method requires that the financial costs and revenues from tourism be separated from those which are attributed to other functions of the park. Approximately Rs 24.52 lakh of income may be attributed to tourism during the 1995/96 financial year (both directly and via tourist concessions and permits⁹). Accounting for tourism expenditure is more problematic. The management of tourism and biodiversity are not mutually exclusive activities. For example, roads provide for both staff and tourist access, and the costs of fire control may be due in part to the activities of tourists. A degree of subjective judgement is therefore required to estimate the costs which may be attributed to tourism on one hand and those attributed to biodiversity maintenance on the other.

Estimates of tourism related costs are presented in table 4.4 (met by State Plan and Non-plan funds) and table 4.6 (met by Central Sponsored Scheme funds). State Plan and Non-plan funds largely represent recurrent staff and maintenance costs. Staff costs are attributed to tourism on the basis of job descriptions. The ratio of tourism to non-tourism salary costs is then used as a basis for dividing other staff and maintenance costs. Funds for farm forestry and flood management are not attributed to tourism.

budget head	tourism direct costs (Rs)	non-tourism direct costs (Rs)	tourism plus non-tourism (Rs)
salaries	878400	3684296	4562696
travel allowance, supplies, routine maintenance etc.	182808	766753	949561
farm forestry		180000	180000
flood defence		1000000	1000000
total tourism costs	1061208		
total non-tourism costs		5631049	
total State costs			6692257

Table 4.4 Estimates of tourism and non-tourism *direct costs* met by State Plan and Non-Plan funds 1995/96.

Source: KNP Accounts

Central Sponsored Scheme funds are largely earmarked for development, although some recurrent costs are also met from this source. Interviews were conducted with park managers in order to determine the rationale for each item of expenditure¹⁰. The cost is attributed to tourism or non-tourism activities accordingly in table 4.5, below. Miscellaneous costs are further divided between tourism and non-tourism revenue in proportion to the ratio of tourism to non-tourism staffing costs (as with State expenditure, above). Many of the items met by the Central Sponsored Scheme are of high tourist interest - for example, the construction of mounds for nesting birds. Some of these have been purposefully constructed alongside tourist routes in order to provide enjoyment, and there is likely to be an additional cost of accommodating tourist satisfaction in the design of such structures.

According to perspective (b), the revenue from tourism to Keoladeo National Park was Rs 24.52 lakh in 1995/96 compared to direct costs of Rs 12.73 lakh. Total revenue minus direct costs is in the order of Rs 11.79 lakh. If all visits were to make the same contribution to park income (same entrance fee and spending on park facilities), then each visit to Keoladeo National Park generates a net income of almost Rs 10 above the costs of providing for the visit (see table 4.5).

⁹ For example, the rent for the privately-run book shop was 37,321 Rs in 1995/96, rickshaw and tonga drivers also paid a combined fee of Rs 120300/- in order to licence their operations.

¹⁰ The effectiveness of management in meeting the non-tourism objectives mentioned in the rationale is not considered here.

Tourism Costs met by State Funds	Rs 1061208	\$US 30,148
Tourism costs met by CSS Funds	Rs 212234	\$US 6,029
Total Tourism Costs	Rs 1273442	\$US 36,177
Tourism Revenue	Rs 2452000	\$US 69,659
Net Income from tourism	Rs 1178558	\$US 33,482
Number of visits	122628	122,628
Net income per average visit	Rs 9.6	\$US 0.27

Table 4.5 Tourism direct costs and revenue compared according to perspective (b)

Source: KNP Accounts

Budget head/item	Rationale	tourism costs (Rs)	non-tourism costs (Rs)
Creation of one deep water body	retain a stock of fish during dry season		99871
Eradication of <i>Prosopis juliflora</i>	increase diversity of tree species		100359
Creation of water bodies through bulldozing	increase feeding area for birds		50000
Construction of canal: Bhasanmori to Sita Ram	increase water availability for water bodies thus increasing the feeding area for birds		99999
Purchase of fibre-glass boats	tourist boating	42051	
Printing of publicity material	purchase by tourists	26532	
Staff patrolling kit	patrolling activities		101695
Creation of further open water bodies	increase feeding area for birds		1989825
Creation of 50 earth mounds	Nesting sites for birds and refuge for cheetal		299501
removal of wetland weeds	habitat for ducks		199088
upkeep of peripheral roads	patrolling along boundary wall		50000
maintenance of electric van	tourist transport within the park	25000	
fire extinguishing	fires occur as part of management and also by accident (unknown source)	5000	7500
repair of boundary wall	to prevent feral cattle entering and wild life from escaping		25000
running diesel engine	maintaining water levels for birds		25000
benches and sentry hut at barrier ¹¹	tourist relaxation and management	7000	
miscellaneous, additional costs	tourism and non-tourism	106651	447328
Total CSS tourism expenditure		212234	
Total CSS non-tourism expenditure			3495166
TOTAL COSTS met by the Central Sponsored Scheme		3707400	

Table 4.6 Estimates of tourism and non-tourism expenditure (direct costs) met by Central Sponsored Scheme Funds 1995/96.

Source: KNP Accounts

¹¹ costs met by both CSS and State Non-plan funds

4.3.3 Discussion

According to one perspective, revenues from tourism cover only **26 per cent** of costs. According to another, revenues from tourism account for **192 per cent** of tourism costs. The difference in the calculations above illustrate the significance of the terms of reference. Moreover, the contrast between accounting techniques is a product not only of differences in methodology but is also an indicator of competing definitions of tourism and conservation.

A special note should be made that the proceeding estimates include *direct costs* only - i.e. those that are visible within the park accounts. In addition to these, there are important indirect or external costs - current land use within the park has significant implications for land use outside the park in terms of flood risk and crop damage to adjacent agricultural land¹². Opportunity costs are also high - Keoladeo National Park has been used previously as a duck-shoot and a commons grazing area. Many economic (not to mention social) benefits of the park have been forgone due to national park status. Moreover it is the *distribution of indirect costs and benefits* which informs local opinion. National Park designation has effectively shifted the majority of economic benefits away from the rural areas (in terms of a curtailment of certain usufruct rights) towards the urban fringe of Bharatpur (in the form of hotel revenues) and urban centres in general (through the profits of tour companies).

Although the current use and management of the wetland is locally contested, its legal status as a national park confers certain existence and use values on the wetland in the form of species conservation and tourism. While existence values explain the maintenance of the site as a protected area, no market mechanism exists for the international financial expression of these. The use value of the wetland as a national park may be approximated by assessing the amount that tourists would be willing to pay in order to visit the site. At present the foreign entrance fee of the park is considerably less than the amount that tourists are willing to pay. Part of the costs of running the park, could, in theory be met by raising the entrance fee, although this could have considerable adverse effects on the local tourist economy. Alternative mechanisms might be sought in order to allow a more visible expression of tourist use value. Some of these matters are discussed in the sections that follow.

¹² See WWF, 1996 for a comprehensive discussion of these

4.4 Increasing Revenues from Tourism

4.4.1 Introduction

This section considers some of the options for increasing revenues from tourism, which may then be made available to the park for conservation and restoration¹³. Particular emphasis is given to the implications of raising foreign entrance fees. However, maximising revenue is *not* the primary concern of Rajasthan Forest Department, nor is it the primary concern of staff at Keoladeo National Park. A revenue maximising policy might have disastrous effects for the local tourist economy, lead to further charges of elitism, conflict with environmental education objectives, and possibly lead to a net loss in political support for the park. However, although maximising tourist revenue may not be the principal objective of the park, the level of income from tourism *is* a key consideration of park planners. Targets are set each year for the financial returns from tourism. In 1995/96, the target for revenues from tourism at Keoladeo National Park was Rs 42 lakh¹⁴ (US\$ 119,318)

4.4.2 Sources of Tourism Revenue

Much of the spending by tourists takes place within the park, on optional services and facilities. The Forest Department of Rajasthan currently operates a policy of multi-tiered pricing for entrance fees. Since 11 October 1990, the price of an entrance ticket has been Rs 25 for foreigners, Rs 5 for domestic adults and Rs 1 for students. The entrance fee allows for almost unlimited access to the national park - apart from the water areas (boats operate within one 'block'). There are no price differentials for the optional and additional tourist services available inside the park (apart from camera fees). Official fees, services and prices operated directly by national park administration are shown in table 4.7.

Entrance fee (Adult - Indian National).....	Rs 5
Entrance fee (Adult - Foreign).....	Rs 25
Entrance fee (Student - in practice Indian).....	Rs 1
Camera (still, Indian National).....	Rs 2
Camera (still, foreign National).....	Rs 10
8mm Camera (amateur).....	Rs 50
Video Camera.....	Rs 100
35mm Movie Camera.....	Rs1500
Car Entrance (up to Shanti Kutir).....	Rs 75
Jeep Entrance (up to Shanti Kutir).....	Rs 100
Bus Entrance (up to Shanti Kutir).....	Rs 100
Minibus Entrance (up to Shanti Kutir).....	Rs 50
Motor cycle Entrance (up to Shanti Kutir).....	Rs 10
Boat trip (seasonal).....	Rs 15 per person (minimum charge Rs 60)
Electric van.....	Rs 7
Bicycle hire.....	Rs 20
Shanti Kutir (Forest Rest House) Accommodation.....	Room rate Rs 100 - 400

Table 4.7 Fees and services operated by Rajasthan Department of Forests within Keoladeo National Park

Source: KNP Barrier Office

¹³ The administrative structure of the Forest Department in some way prevents this since local revenues and costs are not linked.

¹⁴ S. Sharma, Pers. comm.

In addition to the services above which are operated directly by the Forest Department, a number of individuals also run businesses within the park. While the national park authorities operate boats and electric vans, self-employed individuals (licensed by the national park) operate as guides, rickshaw pullers and tonga drivers. Tonga drivers and rickshaw pullers pay a monthly licence fee to the national park, and the book shop is run by concession. Cycle-rickshaw pullers pay the Forest Department Rs 150 for each month, or Rs 5 for each day, in order to retain their licence to operate within the park. Due to the seasonality of tourism at Keoladeo National Park the park receives up to Rs 15,000 per month during the high season. The book shop is leased out to a private concern each year. Potential operators are invited to submit a bid - the highest wins the tender. For the last three years (including 1995/96) the level has been fairly constant at Rs 35,000¹⁵. *Shanti Kutir* (Forest Rest House) is the only accommodation owned and operated by the Forest Department in Bharatpur. It is used mainly by visiting officials, but available rooms are often let to tourists. Room rate varies from Rs 100 - 300 for single rooms and Rs 200 - 400 for double accommodation. The 1995/96 levels of revenue from the facilities in table 4.7, above is presented in table 4.8.

Service (revenue source)	revenue	proportion of total (%)
Entrance fees: Indian adult	300920	12
Entrance fees: Foreigner	862000	35
Entrance fees: Student	23829	1
bicycle hire	39350	2
boat fees	100140	4
electric van	39580	2
rent from book shop	37321	2
accommodation: Shanti Kutir	135000	5
rickshaw and tonga permits	120300	5
<i>subtotal</i>	1658440	68
other tourist revenue*	793560	32
<i>total revenue from tourism</i>	2452000	100

*includes canteen, entrance by vehicles, camera fees etc.

Table 4.8 Forest Department Revenues from tourist services and facilities (1995/96)

Source: KNP accounts

¹⁵ During the 1996/97 season, a local hotelier submitted an application and the price for tender rose to approximately Rs 1 lakh.

4.4.3 Raising Foreign Entrance Fees

Raising the level of entrance fees is a common strategy for increasing revenues from tourism. Setting an appropriate entrance fee for foreign tourists is a source of increasing concern for national park planners. The demand of foreign tourists is thought to be more elastic than that of domestic tourists¹⁶ and surveys show that current entrance fees are significantly below the amount that foreign visitors would be willing to pay¹⁷. This is in part supported by historical evidence. When entrance fees for all visitors were increased in October 1990, the decline in the number of foreign visits was proportionately less than that of domestic visits (table 4.9).

	Apr 89- Mar 90	Apr 90- Mar 91	change
Foreign Entrances	31,501	28,025	- 11%
Domestic Adults	59,561	36,433	- 38%
Domestic Students	14,417	7,841	- 46%

Table 4.9 Number of visits to Keoladeo National Park following changes to the entrance fee in October 1990¹⁸.

Source: KNP Accounts

Entrance fees at Keoladeo National Park have not changed since 1990, but plans are underway to revise charges from the current Rs 25/- per visit to between Rs 50/- and Rs 100. The following sections consider some of the implications of raising the foreign entrance fee. Raising the entrance fee may reduce the number of foreign tourists entering the park, and will also affect park revenues.

4.4.4 Foreign Tourist Attitudes to Price Increases

4.4.4.1 Willingness-to-Pay

In order to estimate the reaction of foreign tourists to increased entrance fee charges, a number of different survey techniques were used. First, a questionnaire was administered at the canteen in Keoladeo National Park. Tourists were asked to predict the effect that various fees would have on their visiting behaviour. A key restriction of the willingness to pay method is that the answers given are contingent upon the situations and options described by the interviewer. Responses were in this case limited to a dichotomous choice between visiting/not visiting the park at Rs 50/-, Rs 75/- and Rs 100/-. The initial bid was Rs 75/-. If tourists would not visit at Rs 75/- they were asked if they would visit at Rs 50/-. If they predicted that they would still visit at Rs 75/- they were then asked if they would visit at Rs 100/-. A total of 816 questionnaires were collected between 2 August 1995 and 13 March 1996. The results of the willingness-to-pay questionnaire illustrated that the sample of foreign visitors to Keoladeo National Park were not particularly sensitive to even four-fold increases in the entrance fee. Between the current entrance fee of Rs 25/- and a suggested entrance fee of Rs 100/- the price elasticity of demand exhibited by respondents was 0.1775 (figure 4.2). If all foreign tourists to Keoladeo National Park were to respond according to the results of the questionnaire, an increase in the entrance fee to Rs 100/- would reduce the number of people making a visit to Keoladeo National Park by 30 per cent while substantially increasing revenue (in fact by enough to meet the tourist revenue target of Rs 42 lakh for 1995/96)¹⁹. However, this projection is restricted by a number of significant assumptions, not least the fact that respondents were presented with a limited number of options. The choice between an option to visit or

¹⁶ For foreign tourists, the cost of visiting a national park is marginal to the total cost of the trip. For domestic tourists, entrance fees represent a more significant proportion of their total costs.

¹⁷ see section 4.4.4

¹⁸ Foreign entrance fees were raised from Rs 10/- to Rs 25/-. Domestic Adult fees were raised from Rs 2/- to Rs 5/-. A domestic student fee of Rs 1 was introduced.

¹⁹ But see next section

not to visit is in most cases unrealistic since many visitors are able to vary the number of visits they make.

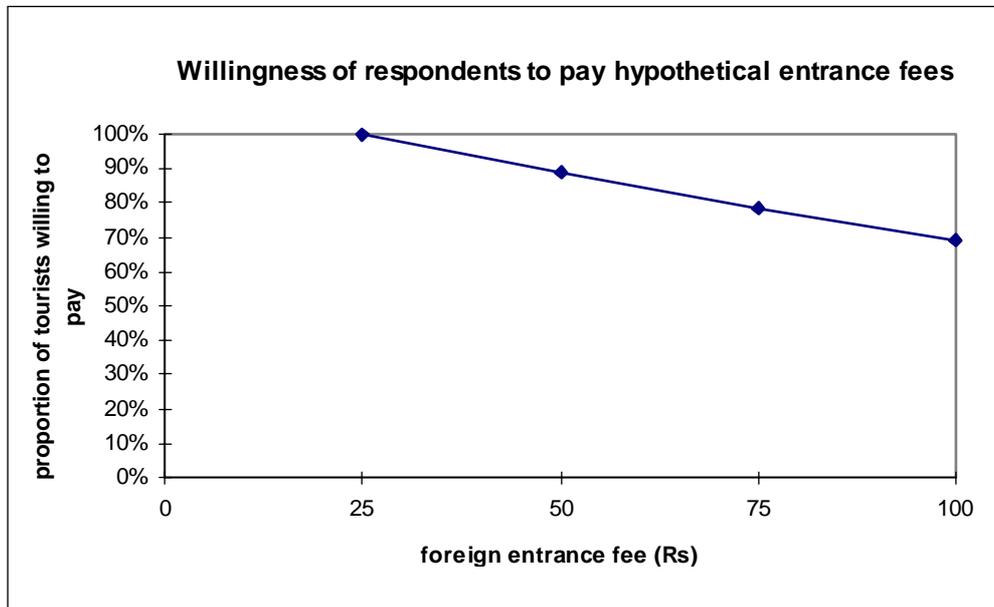


Figure 4.2 Response of foreign tourists to changes in the entrance fee when presented with a visit/no visit dichotomous choice at Rs 50/-, Rs 75/- and Rs 100/-

Source: Tourist Questionnaire

4.4.4.2 Differences between tourist types

The willingness-to-pay method employed above serves as a general indicator of tourist attitudes to hypothetical entrance fees. It should not be used in this case to predict the impact on levels of visitation. However, responses from the sample illustrate differences in elasticity which are exhibited by various tourist types²⁰. For example, although all types of foreign tourist pay the same entrance fee, non-package tourists show a more elastic demand for visits to the park than package tourists. When asked to consider the effect of higher entrance fees, 'independent' tourists displayed a potentially higher price elasticity than 'package tourists' while 'backpacker' tourists displayed a higher elasticity than all others (table 4.10 and figure 4.3). The survey also shows that the visiting behaviour of those making many visits (four or more) to the national park are also more likely to be affected by increases in the entrance fee than those of tourists making three visits or less (table 4.10 and figure 4.4).

²⁰ For a discussion of tourist types, see chapter 2

		proportion of tourists willing to pay				
		Self-ascribed category			number of visits made	
Proposed entrance fee (Rs)		Package tourists	'Independent' Travellers	'Backpackers'	3 or less visits	4 or more visits
(current) 25		100%	100%	100%	100%	100%
50		97%	89%	87%	91%	91%
75		94%	78%	70%	82%	76%
100		87%	69%	52%	72%	52%

Table 4.10 Proportion of foreign tourists willing to pay increased entrance fees, according to responses from a dichotomous choice willingness-to-pay questionnaire.

Source: Tourist Questionnaire

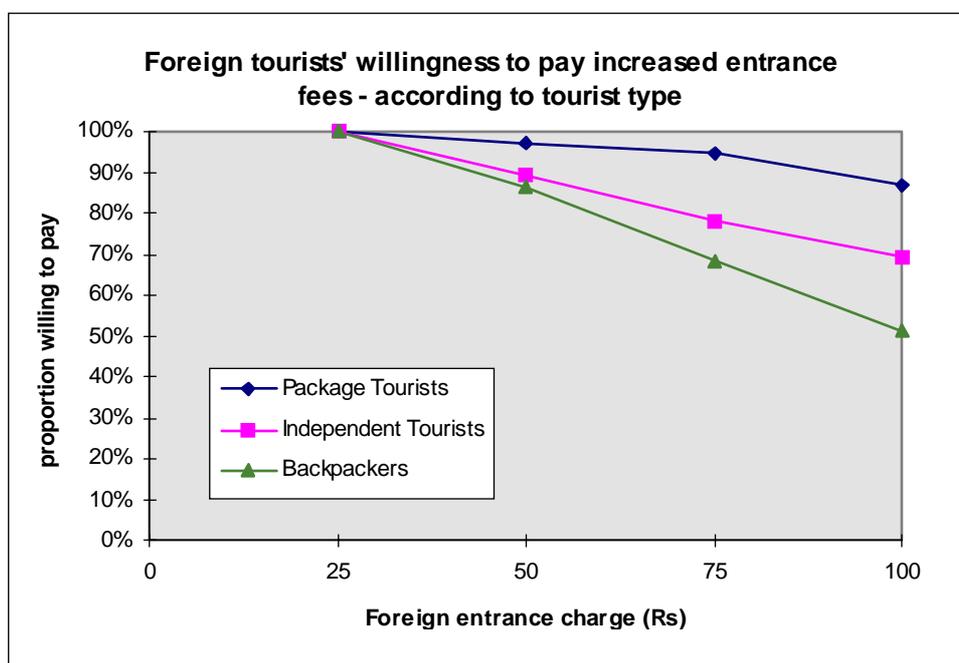


Figure 4.3 Response of foreign tourists to changes in the entrance fee when presented with a visit/no visit dichotomous choice at Rs 50/-, Rs 75/- and Rs 100/-

Source: Tourist Questionnaire

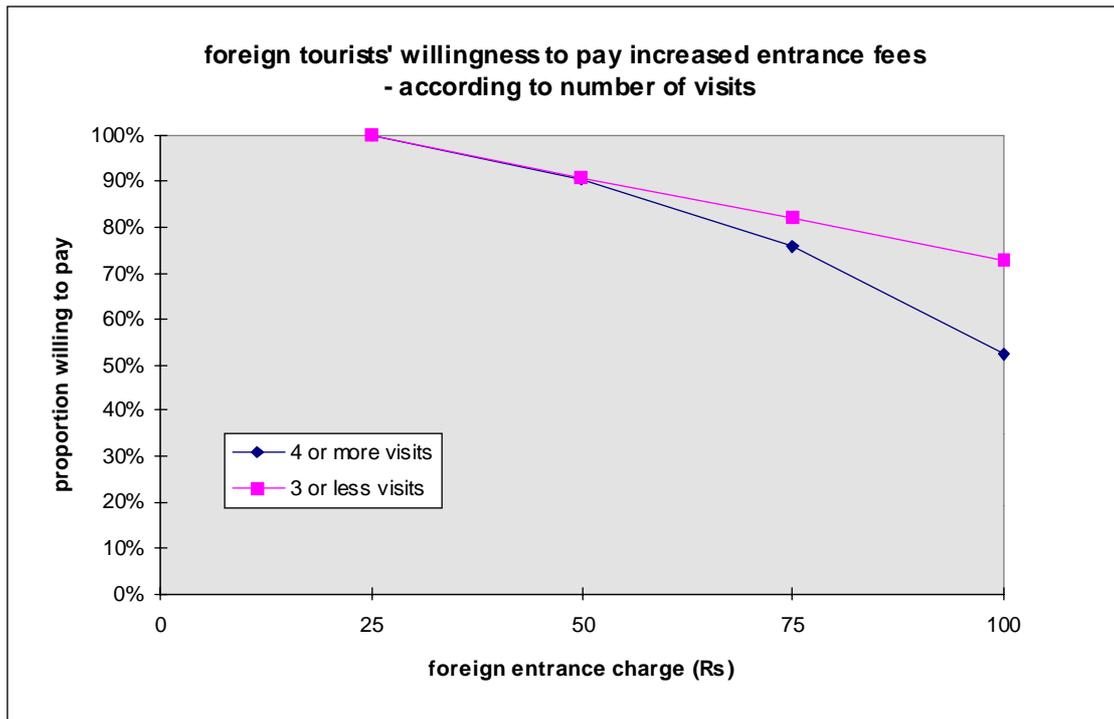


Figure 4.4 Response of foreign tourists to changes in the entrance fee when presented with a visit/no visit dichotomous choice at Rs 50/-, Rs 75/- and Rs 100/-

Source: Tourist Questionnaire

Package tourists

For package tourists, entrance fees are included in the price of their overall tour and are paid by the tour guide at the point of entry. The response of package tourists to willingness-to-pay questions is therefore largely insignificant. A survey among ground handlers in Delhi revealed that an increase in the entrance fee to Rs 100/- would not affect their businesses. For tour operators which send package tourists on a day visit to Keoladeo National Park, most suggested that raising the price to 100 Rs would not affect tourist numbers or the overall price of the tour. Some package tours feature Keoladeo National Park as an 'optional extra' to the tour. For example, during the 1995/96 season, one operator was offering a trip to Bharatpur as an optional half-day excursion, including transport and lunch for £29 (the basic price of the seven day tour was £495). The entrance fee to Keoladeo National Park is therefore marginal, even where the additional cost is incurred by the tourist. However, some companies offering specialist wildlife tours, with longer visits to Keoladeo National Park, have expressed reservations, although these are more concerned with the quality of tourist facilities:

'100/- Rs we think is quite nominal...however this money should be spent for the right purpose i.e. for upgrading the facilities....'²¹

From the responses given by the majority of tour operators, it is reasonable to assume that the visiting patterns of most package tourists would be largely unaffected by a rise in the entrance fee, and the demand for entry to Keoladeo National Park exhibited by package tourists is probably less elastic than that shown in the table above.

Non-package tourists

²¹ response by one prominent ground-handler to a postal attitude questionnaire

Non-package tourists are more likely to change their behaviour following an increase in the entrance fee. Unlike package tourists, these currently pay the entrance fee personally each time they make a visit. Further interviews with these tourists revealed that in most cases an increase in the entrance fee would not deter them from entering the park altogether but would cause them to reduce the number of visits that they make. According to this survey, non-package tourists (especially backpackers) who currently make many entrances to the park would be most affected by increased entrance fees. Of those intending to make one visit 15% would be deterred from entering the park altogether. From those planning to make two, three or four visits, none would be deterred from entering the park altogether but on average, 45% would reduce their visits by a factor of 2. An increase in the entrance fee would therefore have two significant effects. First, fewer tourists would make multiple visits to the park, and more would make one or two visits. Second, it would alter the mix of tourists. Fewer 'backpackers' would be expected to arrive in Bharatpur. Although this might be less significant in the high-season, foreign visits during the off-season may be severely affected. Further, in the absence of alternative tourist sights in Bharatpur, a reduction in both the absolute number of low budget non-package tourists visiting Bharatpur, and a reduction in the number of nights spent may have significant adverse effects on the low-tariff sector of the hotel industry.

4.4.4.3 Further impacts of raising the foreign entrance fee on park revenues

While entrance fees are the single largest source of park revenue, contributions are also sourced from activities within the park itself (see table 4.8, above). Different categories of foreign tourist use these facilities in different ways. Much of the revenue from boating for example, comes from foreign package tourists. Young ‘backpacker’ non-package tourists are the main users of bicycles which are rarely used by package tourists. Wealthier independent tourists (professional photographers and ornithologists) usually book accommodation in Shanti Kutir for much of the season in advance. Further questions from the tourist questionnaire asked foreign visitors to record their activities within the park. Results of the survey are presented in table 4.11 below.

	Proportion of the sample using the service/facility				
	all categories	package	non-package	independent	backpackers
bicycle hire	47.64%	9.85%	65.93%	56.93%	80.88%
book shop	19.60%	11.36%	23.57%	23.01%	24.51%
electric van	6.33%	16.60%	1.29%	2.06%	0.00%
boat use	25.56%	29.06%	23.76%	25.96%	20.10%
rickshaw	48.64%	81.13%	32.60%	38.35%	23.04%
guide	35.98%	49.06%	29.47%	36.28%	18.14%
sample size	806	264	543	339	204

Table 4.11 Facility use among various categories of foreign tourist in Keoladeo National Park.

Source: Tourist Questionnaire

Impact on bicycle hire, use of electric van and boats

Very few package tourists use bicycles - those that do are likely to be on a specialist small-group wildlife tour (figure 4.5). Bicycles are favoured by ‘backpackers’ - a function of the relatively low fee for bicycle hire and the personal freedom and mobility that cycling affords. Since a rise in the entrance fee is likely to reduce the number of visits by ‘backpackers’ more than any other group, revenues from this source might be expected to decline. However, some form of transport within the park is necessary. Low-budget tourists who are not dissuaded from visiting altogether are likely to switch their choice of transport from rickshaw to bicycle use (see next section). There may therefore be a net rise in the number of bicycles used - providing that they are made available.

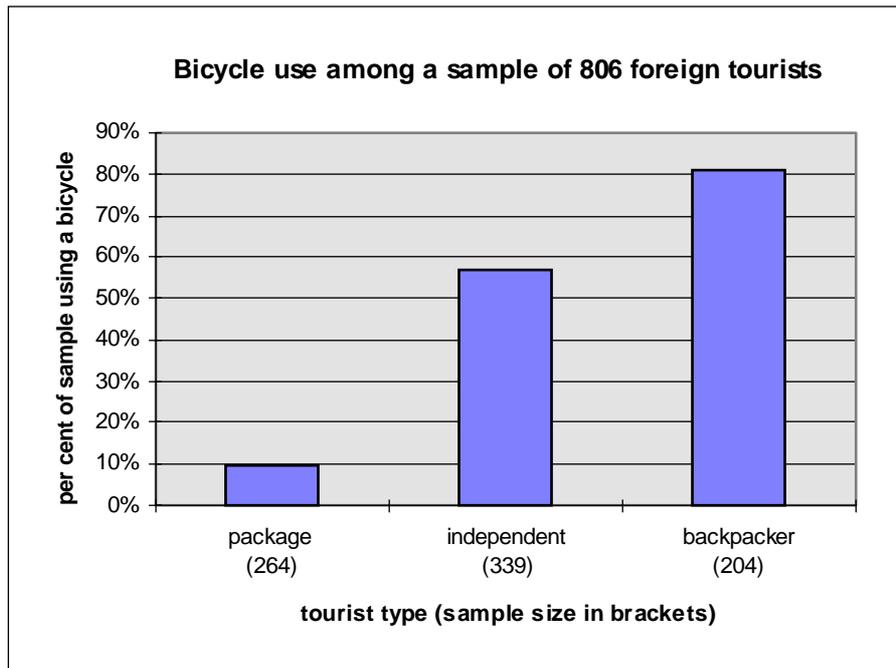


Figure 4.5 Bicycle use by package, independent and backpacker foreign tourists

Source: Tourist Questionnaire

The number of foreign tourists using the electric van is small. Package tourists are the only significant users - but even their financial contribution is minimal since fees are paid by agents rather than by tourists themselves. Since the number of visits by package tourists would be largely unaffected by a rise in the entrance fee, revenues from this source would remain largely unchanged. Unlike the electric van, the boat is very popular with foreign tourists. Use of the boat is seasonal in order to avoid bird disturbance at the height of the breeding season. According to the sample, package tourists are more likely to use the boat than non-package tourists and impact on revenues are therefore likely to be minimal. In addition, the main constraint on boat use is availability. Capacity is low and during the high season boats are currently in constant use. Boating is one of the more potentially environmentally damaging activities within the park - and a reduction on financial inducements to make 'additional visits' might be desirable.

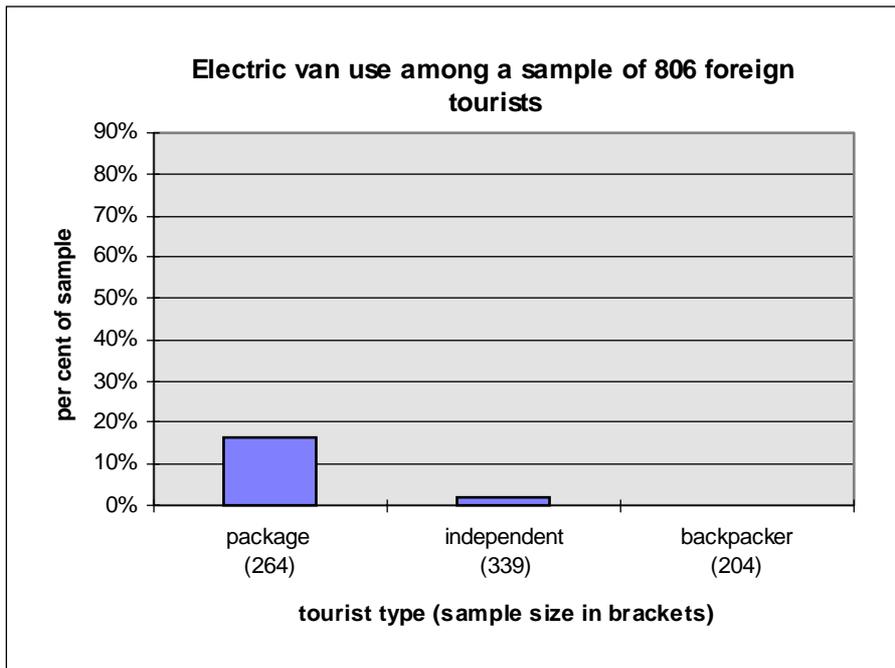


Figure 4.6 Electric van use among foreign package, independent and backpacker tourists

Source: Tourist Questionnaire

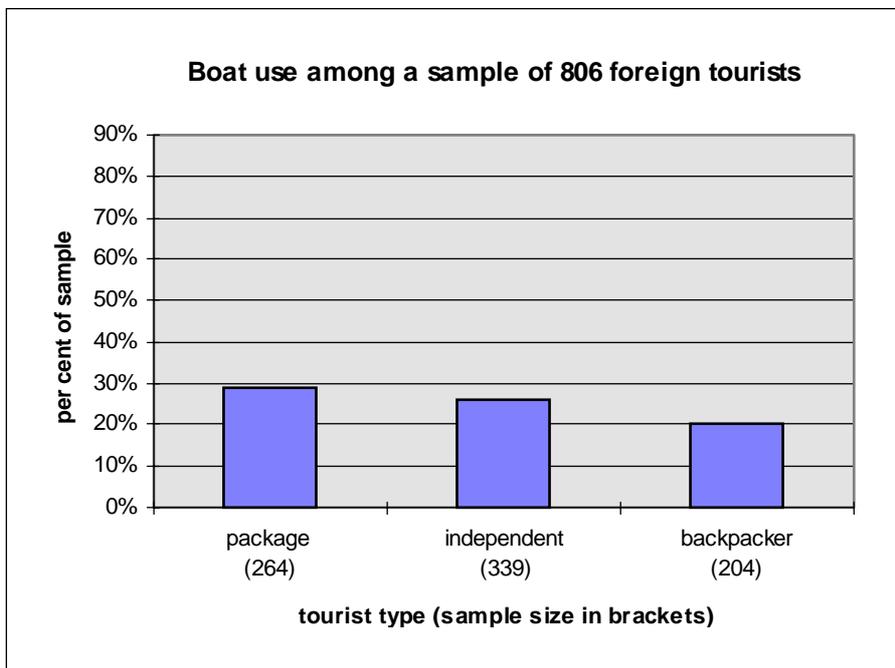


Figure 4.7 Boat use among foreign package, independent and backpacker tourists

Source: Tourist Questionnaire

Impacts on rickshaw permits and book shop concessions

Rickshaws pay a fee to the park for the privilege of operating within its boundary under licence. When the tourist demand for rickshaws is large, more rickshaw pullers are willing to operate and income to the park is increased. Package tourists are by far the most common users of cycle rickshaws, and a lower proportion of backpackers use rickshaws than any other category (figure 4.8). A rickshaw ride around the park is a key feature of package tours visiting Bharatpur - including those stopping for lunch. In contrast, few backpackers use rickshaws inside the park - although many use rickshaws to travel into the city to bus and rail stations. An increase in the entrance fee is likely to provoke many budget conscious tourists to avoid rickshaw use in favour of bicycles - depending on the number of bicycles available. If the incomes of rickshaw pullers are severely affected, less would be willing to operate causing a significant fall in revenue to the Forest Department from this source.

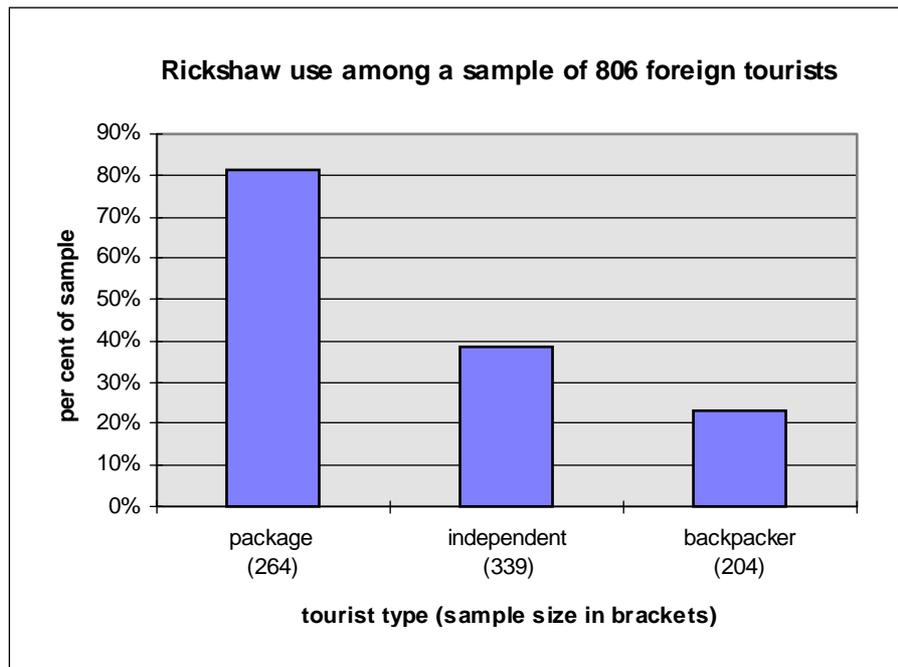


Figure 4.8 Cycle rickshaw use among foreign package, independent and backpacker tourists
Source: Tourist Questionnaire

'Backpackers' appear to have a higher propensity to buy books from the book shop than package tourists (figure 4.9) due to the relatively short duration of visit for many package groups. Package tourists on a two hour lunch stop will have little opportunity to stop at the book shop. The income to the national park from the book shop is by way of concession. If the entrance fee provides a smaller revenue for the book shop operator, it may reduce the price of the concession and corresponding revenues to the national park.

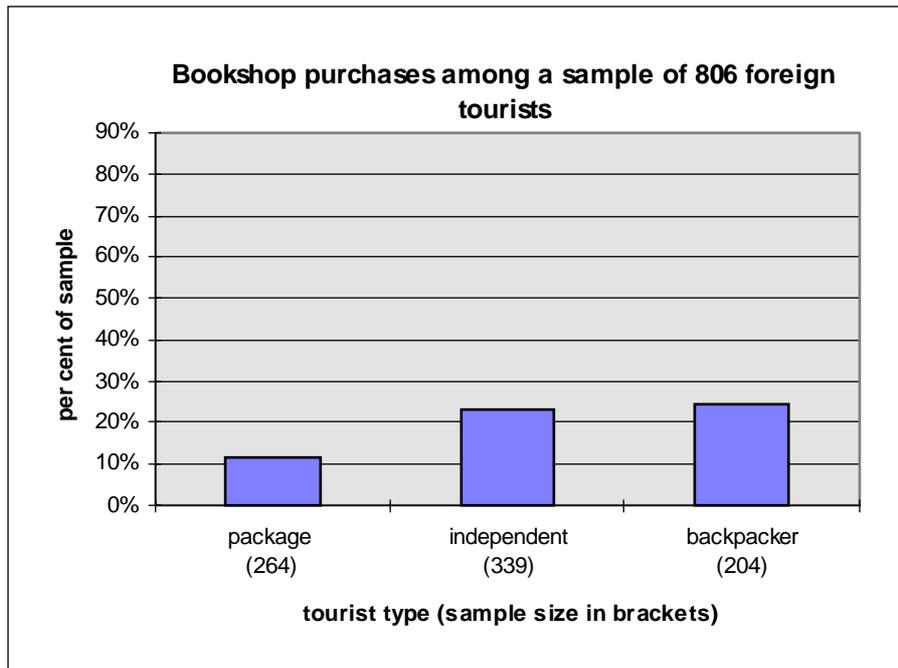


Figure 4.9 Proportion of foreign package, independent and backpacker tourists making a purchase from the book shop inside the park.

Source: Tourist Questionnaire

4.4.4.4 Further impacts on guiding, hotel and other local businesses

Unlike rickshaw pullers, guides do not pay a monthly rate in order to retain their licence. The park does not therefore financially benefit directly from their operation although they are a significant factor in local employment (chapter 5 discusses the activities of local guides in more detail). Almost 50 per cent of package tourists who responded to a questionnaire had taken a guide for at least part of their trip. Fewer 'Backpackers' take guided tours around the park (figure 4.10), and it might therefore be reasonable to assume that the incomes of local guides would not be severely affected by a rise in the entrance fee. However, the off-season incomes of local guides depend on non-package tourists, who might be expected to reduce their demand for guiding services. In addition, tour companies may substitute local guides in favour of staff accompanying tourists throughout the whole of the trip. When a 'compulsory guiding' order was made upon all visiting package groups at the beginning of the 1995 season, it was met with considerable resistance by tour escorts who preferred to save money by acting as guides themselves.

Some of the local hotels could be severely affected by an increase in the entrance fee. Larger hotels catering mostly for package tourists would largely remain unaffected. However, interviews with non-package tourists suggest that *in the absence of additional tourist attractions*, visitors would be disinclined to stay for many days in Bharatpur if the entrance fee was raised. Interviews with a sample of 45 foreign tourists staying at different types of hotels revealed that approximately a quarter of this group would reduce the number of nights stayed. Professional photographers reported that they would not be affected, but many of those on low budgets, planning to stay between one and three nights suggested that they would stay fewer nights in Bharatpur (table 4.12).

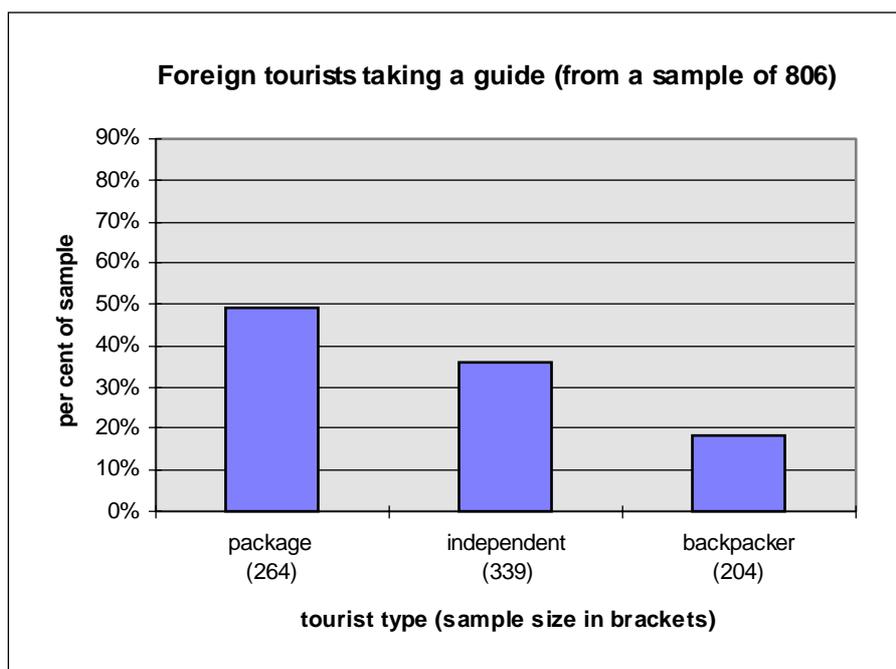


Figure 4.10 Proportion of foreign package, independent and backpacker tourists taking a guide in Keoladeo National Park (from a sample of 806 tourists).

Source: Tourist Questionnaire

Response	Number of responses	Proportion of sample
Number of nights in Bharatpur unchanged	33	73%
Reduce number of nights in Bharatpur	12	27%

Table 4.12 Rise in entrance fees to Rs 100/-: predicted effect on non-package tourists accommodation patterns

The views held by non-package tourists are largely shared by Bharatpur hoteliers. From a survey undertaken among 19 hotel proprietors, those operating low to medium tariff hotels were more generally more concerned about the effect of entrance fees on their businesses. During interviews, hoteliers were asked for their opinion regarding the 'appropriate' level for the foreign entrance fee. From the sample, proprietors of the high tariff hotels considered that Rs 50/- was an appropriate fee, while only 30% of low tariff hotel owners agreed (table 4.13).

Hotel type (sample size)	Proportion of sample holding each view	
	Rs 25/- is appropriate fee	Rs 50/- is appropriate fee
High tariff hotels (2)	0%	100%
Medium tariff hotels*(7)	43%	43%
Low tariff hotels (10)	70%	30%
All hotels in sample (19)	52%	42%

* One hotel owner in this group suggested that fees be raised to Rs 100/-.

Table 4.13 Bharatpur hotel owners' views regarding the 'appropriate' foreign entrance fee for Keoladeo National Park

Source: Interviews with Hotel Proprietors

From the sample of 19 hotel proprietors, two of those owning low tariff hotels suggested that if the entrance fee was raised to Rs 100/- only 20 per cent of tourists would be willing to pay the fee. Two hotel owners in the middle tariff group suggested that the price should rise in steps, every two years. 'Backpackers' form the principal clientele of small informal businesses around the park entrance. If tourists staying at low tariff hotels were affected by higher entrance fees, then other services used by these tourists would also be affected.

4.4.4.5 Conclusions

An increase in the foreign entrance fee from Rs 25/- to Rs 100/- is likely to cause a complexity of changes to park revenues and to the local tourist economy. Much depends on the activities of tourists once inside the park. In addition the response of local small businesses is also a significant factor. For example, a rise in the entrance fee is likely to place an increased demand on bicycles which may be met by the private sector rather than the park. Changes to the entrance fee may also have implications for the seasonality of visits. During the off-season, few package tours operate. Revenue at this time of year is largely from non-package tourists, who are more likely to reduce their visits. A summary of the principal effects is presented in table 4.14.

	Estimated impact of a rise in the foreign entrance fee from Rs 25/- to Rs 100/-
Single-visit package tourists	Minimal impact
Multiple-visit package tourists	Some reduction
Single-visit non-package tourists	Minimal impact (15% reduction)
Multiple-visit 'backpackers'	45% reduce number of visits by factor of 2
Multiple-visit wildlife photographers	Largely unaffected
Cycle use	Increased demand
Electric van use	Minimal impact
Boat use	Minimal impact
Rickshaw pullers and guides	Seasonal impact (large in off-season)
Book shop use	Medium impact
High tariff hotel	Minimal impact
Medium tariff hotel	Medium Impact
Low tariff hotel	Large Impact
Small, informal businesses	Large impact

Table 4.14 Summary of possible effects of raising the entrance fee from Rs 25/- to Rs 100/-

Much also depends on the way that the fee is raised. Incremental changes over several years are less likely to have a severe impact than sudden changes. Most non-package tourists arrange the frequency and form of their visits according to the advice of guide books and fellow travellers. The effect on absolute numbers visiting Keoladeo National Park will depend partly on how quickly potential tourists become informed of the changes. In addition, tourists are less likely to resist changes in the entrance fee if they are persuaded that revenues are spent locally for conservation and development. If additional revenue accruing from increased fees is diverted towards local conservation and development schemes (see next chapter), and that such mechanisms are afforded maximum publicity, then the adverse impact on tourist visits through increased fees may be largely mitigated. Indeed positive publicity in guide books from proposed local development schemes is likely to attract the growing number of visitors concerned with 'ethical' tourism.

4.4.5 Alternative options for increasing park revenues from tourism

4.4.5.1 Raising the price of additional tourist facilities

Raising entrance fees is not the only option available for park planners wishing to increase revenues. A less dramatic policy would be to increase the price of the additional facilities that exist within the park. As illustrated above, the demand of package tourists appears to be less elastic than other types. However, package tourists display a lower propensity to use many of the additional services, although they are frequent users of guides and rickshaws, boats and electric vans. Higher charges for these items might therefore be a sensible option, since non-package tourists will be affected less due to their current restricted use of these facilities. The extraction of additional permit fees from rickshaw pullers is not an attractive option and will be resisted unless fees are also extracted from the licensed guides. Although there may be a case for introducing a permit system for the guides, this is also likely to meet with considerable opposition - licensed guides have become a powerful interest group in Bharatpur. The price of the boat and electric van rides could more easily be raised. Both are used frequently by package tourists and are at present operating to capacity. This might, however, work to the disadvantage of less mobile visitors, less wealthy groups and may be at odds with environmental education objectives. A clear policy of multi-tier pricing would be required for these goods in order to avoid further charges of elitism due to the exclusion of domestic visitors.

4.4.5.2 Providing additional facilities

Limited potential also exists for park revenues to be increased through the improvement of existing tourist facilities and the provision of additional services. Such a strategy might persuade tourists to stay longer within the park, or to make additional visits, perhaps off-setting the loss in visit numbers due to increased entrance fees. However, some tourists are attracted to remote areas of park precisely because of the limited tourism infrastructure. As noted in chapter 3, many of these are low-budget 'backpackers'. Additional facilities in the peripheral areas may further deter this group from visiting. Wildlife enthusiasts and the scientific community might also resist changes which would place such areas under disturbance. In order to gauge the reception of additional facilities, tourists were asked to comment on several potential developments within the 'tourist zone' of the park (table 4.15 and figure 4.11).

Facility	Frequency	Proportion of sample responding positively
Name plates for wildlife	286	35 %
Labels on Trees	318	39 %
Hides	204	25 %
New Visitor Centre	163	20 %
Public Toilets	335	41 %

Table 4.15 Additional facilities: desirability as expressed by a sample of 816 foreign visitors to Keoladeo National Park²²

Source: Tourist Questionnaire

²² Based on questionnaire responses to the question: Which additional facilities would you like to see in Keoladeo National Park?

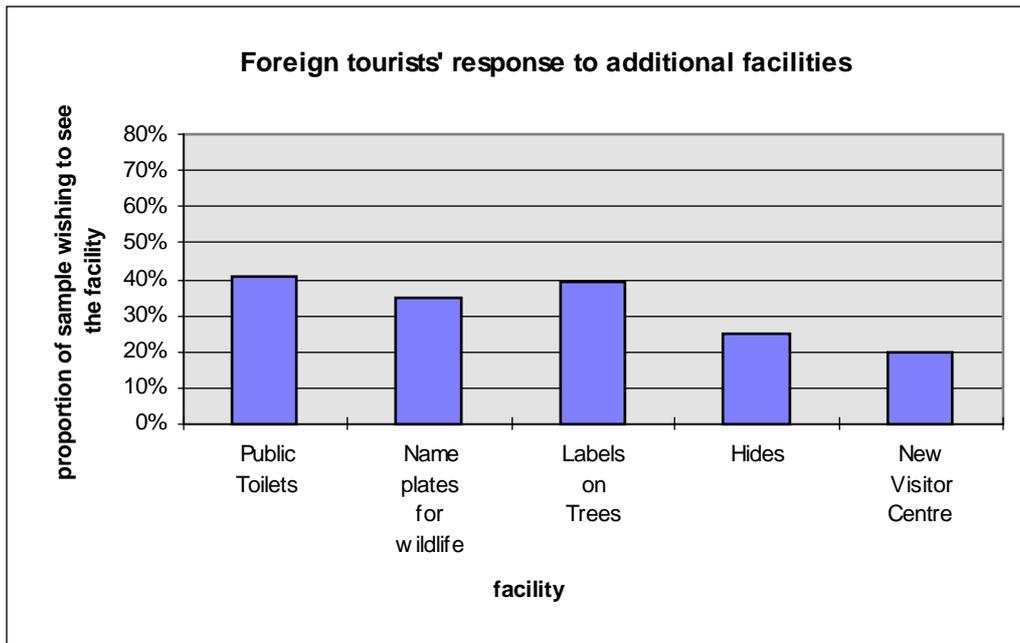


Figure 4.11 Additional facilities: desirability as expressed by a sample of 816 foreign visitors to Keoladeo National Park

Source: Tourist Questionnaire

Of the range of facilities mentioned, only the provision of extra public toilets was thought desirable by more than 40 per cent of the respondents. Appeals for a new visitor centre were particularly low - only 20 per cent of questionnaire respondents were of the opinion that this would be desirable. In addition, only 31 per cent of the same respondents suggested that they would stay longer in Bharatpur if the facilities of the park were upgraded. The questionnaire suggests that the facilities mentioned are not particularly desired by the majority of foreign tourists, nor would they encourage more visits.

4.4.5.3 Additional Items for Purchase

At present almost all purchases within Keoladeo National Park are made at the book shop - which is operated privately. Responses from a questionnaire revealed that there is considerable scope for marketing further products. Tourists were asked whether there were any items which they could not find and would be willing to buy. Table 4.16 presents some of the requested items (those marked [***] were the most commonly mentioned):

***	Postcards (birds)
***	Prints and paintings of birds, esp. black-necked storks and kingfishers
***	Map with facilities and routes (including the condition of the trails)
***	Snacks - chocolate and mineral water, cold drinks, samosas, pakoras, fruit
***	Bird checklist
***	T-shirts of Bharatpur, birds and India
	Insect repellent
	Small spotters' bird book and books about Salim Ali
	Standpipes for water in remote regions (Koladhar etc.)
	Wildlife books
	Postage stamps - an assortment for letters and collectors
	Wooden toys (and traditional Indian toys)
	Film cassettes
	Warm Jersey for winter mornings
	Cushion covers
	Cassettes to record animal's voices
	Stickers and badges
	A guide to trees
	Binoculars

Table 4.16 Items commonly requested by foreign tourists visiting Keoladeo National Park²³

Source: Tourist Questionnaire

4.4.5.4 Direct appeals for contributions from tourists and the tourist industry

The present financial structure of the park inhibits the collection of voluntary donations from tourists. At present mechanisms exist only for donations from large organisations such as the International Crane Foundation and World Wide Fund for Nature. There is some evidence, however, that individual tourists are willing to make donations, especially if they are able to maintain links with the national park after their trip through newsletters etc. There is also considerable scope for working holidays - some tourists would be willing to make contributions in kind by taking part in conservation work. There is some scope for facilitating such exchanges through advertisement in the visitor centre. Contributions from the tourist industry is an additional option. When presented with the option of making direct contributions to the national park, 40 per cent of hotel proprietors suggested that they would be willing to contribute Rs 1000/- or more, but the general perception held was that money was not a problem for the Forest Department. Similarly, tour operators were sceptical of such an idea because of the perceived unaccountability of current spending. If they were to make financial contributions they would also expect to be involved in decision making for resource allocation.

²³ Responses to the question: Were there any items which you were interested in buying but could not find?

4.5 Discussion

Park revenues from tourism are at present insufficient to cover direct operational costs, even though they might offset the marginal cost of accommodating tourists. If Keoladeo National Park is viewed as the product of largely foreign design then it is reasonable to conclude that the current use of the wetland by foreign tourists, researchers, film makers and academics is currently receiving a significant subsidy. If, however, the national park, in its present form, is viewed as a site of national heritage, then tourism contributes additional use-value to the wetland which is realised in entrance fees and payment for additional services. For decision makers, the issue is problematic because of the fluid definitions of conservation and tourism. For many of the local rural population, the conservation and tourism project of a largely international and urban design are inextricably linked.

The implications of all efforts to increase tourist revenues require that the income policy of national parks be scrutinised. Park planners should consider, for example, whether as merit goods, all visitors should have a right to tourist access at minimal cost. Alternatively, they may hold that since national parks are principally for the benefit of tourists, they should be financed by the tourist industry. In the absence of alternative mechanisms for the international financial expression of existence value, tourism should perhaps be charged at a maximum.

The current administrative structure of federal control over local budgets provides little incentive for maximising revenue. Even if revenues were to be raised, there is no guarantee, under the present structure, that additional funds might be made available for conservation and restoration. Alternatively, self-financing on a local basis might be an unwelcome distraction from conservation objectives which may also be compromised by the profit motive. During the peak tourist season, staff time is increasingly taken up with guiding as a result of informal financial incentives - a trend which might be institutionalised were the park to be self-financing.

However, despite reservations from orienting national parks increasingly around the designs of the tourism industry, there is considerable scope for increasing revenues from tourism. The surveys and questionnaires conducted throughout the course of the research at Keoladeo National Park suggests that an increase in the foreign entrance fee from the current Rs 25/- to Rs 100/- would have little effect on the number of foreign tourists entering the park, even though the number of visits that the average tourist makes may fall. The most significant adverse effects of such a policy would be on the sections of the local tourism market which earn an income from low-budget tourists. While sections of the industry catering to package and wealthier non-package tourists might be able to escape such effects, the impact on the more informal parts of the service sector would alienate the local economy further, in the way that many popular resorts have been turned into exclusive enclaves. Although demand forecasting and market assessments can to some extent be used as predictive tools for the effects of pricing, the variety of local interests requires that entrance fees should be set on the basis of discussions with stakeholders. If entrance fees are to be set in order to maximise local benefits, decisions should be made in the context of local dialogue.

5. TOURISM AND LOCAL DEVELOPMENT

5.1 Introduction

This chapter makes an assessment of the local economic benefits from tourism to Keoladeo National Park. Advocates of nature tourism development hope that the benefits of tourism revenues and employment will eventually create political support among local populations who otherwise feel aggrieved by exclusion policies. However, this perspective is dependent on benefits accruing to the same group of people that bear the costs of setting areas aside for tourism use.

A key consideration of this chapter is therefore to consider the local distribution of revenues and employment from tourism. The sustainability of nature tourism development depends on the ability of those sections of the population marginalised by conservation policies to secure incomes and other benefits from the tourism industry. According to the general terms of reference for the project this chapter seeks to address principal objective (d) and technical objective (b):

- raise the income and related benefits which local people gain from tourism based on biodiversity
- 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.

Maximising the local benefits from tourism requires that the industry is fully integrated into the local economy so that revenues, employment, and the pace and form of economic development may be locally controlled. The extent to which this is true may be assessed by considering the ownership of tourist enterprises, the extent of employment opportunities and the degree of linkage with the local economy.

The following are the principal areas of inquiry;

- 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 chapter proceeds by an introduction to the economy in order to provide a working definition for the term 'local population'. This is followed by a short history of the development of tourism in Bharatpur. The recent growth in the Bharatpur tourism industry has accompanied a decline in other economies dependent on the wetland that now forms Keoladeo National Park. A key consideration is therefore the location of economic growth, and the home residence of employees. The chapter then turns to an analysis of the current direct employment opportunities in the local tourism industry. Both formal and informal sectors are described.

5.2 Data Sources

Most of the data for this chapter was obtained via semi-structured interviews undertaken during the 1995/96 tourist season. Information was supplemented by a variety of sources including government records and maps. Key informants were participants in the local tourism industry. In addition, where employment records are kept (e.g. Keoladeo National Park) these are utilised, but due to the informal nature of much of the industry, most of the information in this chapter is derived from personal interviews. Estimates of hotel occupancy were derived from weekly interviews with hotel proprietors throughout the year. Small business owners, rickshaw pullers and guides were interviewed on several occasions throughout the tourist season.

5.3 Introduction to the local economy and society¹

5.3.1 Local Populations

The area adjacent to Keoladeo National Park is populated by a variety of communities and sub-groups. Although archaeological evidence has suggested that villages such as Mallah and Aghapur have been inhabited for centuries, the community composition of these and other villages are constantly changing. The *Gujjar* community, for example is thought to have settled permanently in Jatoli village only 80-100 years ago², but currently plays an important role through political influence on rural land-use issues. In addition, Bharatpur district received a large number of Sikh refugees following partition in 1947³. Sikh families currently make up an estimated 5% of the population. Categories such as 'indigenous' and 'local' (as referred to in the research project terms of reference) are therefore contested.

This study places a particular focus on the impact of tourism on employment opportunities for populations residing immediately adjacent to Keoladeo National Park. In terms of research methodology, the term 'local' is used to refer to the inhabitants of area immediately adjacent to the park boundary (essentially within 2km of the park). It is these populations which have the most intimate historical links (in terms of incomes, resource use and management) with the wetland.

5.3.2 Caste and *Jati*

Many of the caste communities residing close to Keoladeo National Park have reservation status according to national legislation⁴. Reservation is of three types: 'Scheduled Caste' (SC), 'Scheduled Tribe' (ST) and 'Other Backward Caste' (OBC). Although reservation status is intended to support a policy of positive discrimination for politically marginalised groups, it cannot be used strictly as an indicator of relative socio-economic status. However, the existence of mutual support networks between members of the same *jati* and continued patterns of occupation and residence (especially in rural areas) permits the use of *jati* here as a basis of disaggregation for a discussion of employment issues. Some of the more numerous communities present in the region surrounding Keoladeo National Park are given in Table 5.1, together with traditional occupation and reservation status. The data within the table is by no means exhaustive and should be used with caution.

Approximately 5 per cent of the population of Bharatpur follow the Sikh religion, and Muslims make up about 3 per cent. These populations are far less numerous in the rural areas around Keoladeo National Park, although a sizeable Sikh community lives close to Aghapur (At Punjab Nagla) and controls Aghapur *Panchayat*⁵.

The urban/rural dichotomy has associated implications for caste composition. *Gujjars* and *Jatavs* make up the majority of the rural population adjacent to the national park, while most of the land on the north (urban) side of the national park is owned by *Jats*, the erstwhile rulers of the district. However, caste

¹ The diversity of livelihoods around Keoladeo National Park are given comprehensive treatment in WWF (1996).

² Hari Singh, pers. comm.

³ *Jat* Sikhs have an even longer presence in the area as members of the Maharaja's armed forces.

⁴ Government statistics for the district put scheduled castes and scheduled tribes at 21% and 2% of the population respectively (Krishi Vigyan Kendra, Kumher [Bharatpur] (1991))

⁵ There are also distinct sub-communities among followers of the Sikh religion. A number of less wealthy Sikhs live in Bharatpur city where they work as labourers and rickshaw pullers. These are known locally as *Lavana* Sikhs.

⁶ Running alongside the system of administrative and police control in the districts, a parallel system of local government in tiers from village (*panchayati raj*) to the district level (*zila parishads*) is organised spatially into community development blocs, whose jurisdiction comprises around 100 villages. By universal adult suffrage, villages in a small cluster of villages elect a village *panchayat*. Usually this election also produces a *panchayat sarpancha* (president). The *sarpanchas* of all village panchayats within the development bloc meet together with bloc development officers as a *Panchayat samiti* (committee). In most states, *panchayat samitis* are the institution in *panchayati raj* structures with the most immediate effect on rural development⁶. Presidents elected from *panchayati samitis* meet with district development officers as a *zila parishad*.

composition also varies considerably between villages - there are villages dominated by *Jats* (e.g. Barso) and others where there is not a single *Jat* household (e.g. Jatoli). Some villages contain less than five caste communities while others contain 15 or more.

<i>Jati</i>	<i>Traditional Occupation</i>
Brahmin	priests, bureaucrats, teachers
Jat	armed forces/business, agriculture
Bania/Sunar	entrepreneurs
Pujari	temple assistants
Gujjar [OBC] & Mina [SC]	cattle rearing
Gaderia / Baghel [OBC],	goat rearing
Dheemar [OBC] / Kadhera [OBC] / Koli [ST]	basket weaving, NTFP collection, water chestnut collection, tailor etc.
Mali [OBC] / Katchi [OBC]	market gardeners
Jadow (Thakur)	agricultural
Nai [OBC]	barbers etc.
Kumhar	potters
Jatav [SC]	labourers, masons
Banjara [SC]	travelling petty traders
Harijan (Dalit) [SC]	sweepers

Table 5.1 Common *Jati* communities⁷ residing adjacent to Keoladeo National Park

A 1993/4 survey undertaken by the Bombay Natural History Society⁸ suggests that the relative representation of various community groups in 14 villages adjacent to Keoladeo National Park is as follows:

<i>Jati</i>	per cent of population
Gujjar	26.7
Jatav	26.13
Jat	13.07
Brahmin	5.11
Banjara	5.11
Thakur	8.52
Others	15.54

Table 5.2 Relative populations of various *Jati* residing adjacent to Keoladeo National Park.

Source: BNHS, 1994

⁷ The associations between community and *jati* or *caste* used throughout this chapter are a simplification of complex social relations. Communities may be drawn along alternative lines, and a range of social relations exist among and between *jati*. The term is used here only as a basis for observing the (relative) participation of each *jati* community in the local tourism industry - with especial regard to employment.

⁸ Survey undertaken by Bombay Natural History Society between October 1993 and February 1994. The findings were produced from a survey of 14 villages (containing 2,121 households and 15,527 people). About ten percent of the households in each of the 14 villages were covered in the survey. Results are presented in a more comprehensive form in Bombay Natural History Society 1994

5.4 History of Tourism Development at Keoladeo National Park

5.4.1 Early economic uses

The development of tourism at Keoladeo National Park follows a much longer history of other economic uses. The open water system which includes Keoladeo National Park was developed in 1899 by Prince Harbhamji of Gujarat⁹ in order to act as a flood defence for the city of Bharatpur, a duck shooting ground for the local royal family, and as an area for grazing and collection of minor forest produce. The hunting area was opened by Lord Curzon in 1902 and while the wetland became famous across the sub-continent for its proliferation of birdlife, portions of the surrounding land were cleared for settlement (rather than agriculture) as the value of the renewable resources of the wetland were realised. Before the designation of Keoladeo National Park in 1982, a variety of products were extracted from the wetland. In addition to the collection of honey, gum, *zizyphus* berries, and other minor forest products, charcoal was produced from acacia trees and perfume distilled from *vetiveria* (Khus) grass. Cattle rearing became a major economic use of the *Ghana*¹⁰, and nomadic cattle herders settled around the margins of the wetland. However, towards the end of the British period, colonial administrators began to express concern at the rate of extraction from the wetland and the surrounding forest. In reaction to this concern, the Janglat and Shikar Department began an organised planting of *Desi Babool* (*Acacia nilotica*) around the wetland. A visit by a retired district forest officer made the following recommendations in 1941;

‘No goats and camels must be permitted inside the *Ghana*. In the area not regenerated and in regenerations over five years old, grazing of cattle may be permitted but in restricted scale. Grazing will have to be permitted only on a ‘rotational system’. That is the whole grazing area may be divided into two blocks and grazing permitted for one month when the other block is given rest.....this is to allow grass to grow. If grazing is allowed all over the area without any rest, grass will not grow and will deteriorate¹¹.’

By the 1940s, a wire fence around the wetland had been built in order to prevent wildlife from raiding crops. Post-independence pressure for land reform and the diversion of water for irrigation purposes, caused the Maharaja to relinquish control of his hunting grounds to the State Forest Department.

5.4.2 Ascendance of tourism

Sir Peter Scott, leading an IUCN delegation to Keoladeo Ghana in 1966, recommended that grazing be controlled, and that the park be fitted with various facilities for tourists¹². A report the following year lamented the disturbance to wild animals caused by villagers ‘gathering berries, cutting and removing grass, collecting and drying water plants for livestock feed, collecting firewood, making charcoal, and so forth¹³. These authors also suggested that the income for the park be shifted from grazing rents to tourist entrance fees and that the Sanctuary be included on all Delhi-Agra-Jaipur tours:

‘If strong action along the lines we have suggested is taken as soon as possible, Keoladeo Ghana Sanctuary could become a very valuable economic asset to India. It is close to other major tourist attractions; it already offers good tourist accommodations and could easily offer more without disturbing the wild life; it already offers a great, but threatened, variety of wild animals and could easily offer these in fantastic numbers as well.’¹⁴

Concern about overgrazing and disturbance from villagers continued during the 1970s. Newspaper headlines from the period suggested that ‘domestic cattle were the most serious threat to the peace of Keoladeo¹⁵. As the wetland became increasingly viewed as a refuge for wildlife and a source of tourist revenue, pressure increased to exclude domestic cattle. During the same period, the notion of ecological

⁹ Former Administrator of Bharatpur

¹⁰ The wetland is known locally as *Ghana*, meaning ‘thicket’.

¹¹ Rao Sahib E.V. Padmanbhan Pillai 1941

¹² Scott, P. 1966

¹³ Spillet *et al*, 1967

¹⁴ *ibid*, p.607

¹⁵ Doctor, F.E. and Patole,G., 1980

limits began to gain currency on the international conservation agenda, and found a particular application in commons grazing management. In March 1982, Keoladeo Ghana was declared a National Park, under provisions made by the Wild Life Protection Act 1972, which formalised state acquisition of all rights¹⁶ and explicitly forbade grazing¹⁷. The gates in a two metre high wall around the perimeter of the wetland (initially constructed at the request of adjacent farmers to prevent crop damage from wildlife and feral cattle) were closed and a ban on domestic grazing imposed. In November of the same year, continuing unrest precipitated a confrontation with the state police resulting in the deaths of six villagers.

The rural economy around the wetland underwent substantial change following the ban on the collection of forest products. The number of cows and buffaloes kept by the population declined, many local people turned to agriculture, and some left the area to find alternative employment. Despite the ban, fuelwood continues to be taken from the *ghana*¹⁸ and unproductive cows are lifted into the national park to be retrieved when they become healthy or start producing milk. The Forest Department has issued fodder collection permits for the local population on payment of a fee. There is a locally held belief that the wetland has been closed to grazing on the advice of foreigners who would otherwise be disturbed from taking photographs. This notion is perhaps not altogether unfounded. During the course of the research, several tourists expressed concern about disturbance of wildlife caused by local people cutting grass for fodder.

As the volume of tourist traffic increased over the years, tourism infrastructure was established within the park, and alternative uses declined. Opposing local notions of the wetland as a component of buffalo husbandry were marginalised, and the notion of ecological carrying capacity applied as a legitimising agency. Following the ban on grazing by domestic cattle, the growth of grass within the park has been held in check by bulldozing (chapter 4) and to a lesser extent by manual grass harvesting. The latter is performed by former cattle herders who now use the products for stall feeding buffalo and cattle. In addition to the curtailment of certain industries within the wetland, the national park legislation also inhibits the development of any polluting industry within a 25km radius of the park. In contrast, although tourism development is not generally regarded as a polluting industry, tourism building in the last decade has been tolerated, although much takes place on designated green belt land.

5.4.3 Tourism infrastructural development

In 1971, Bharatpur had only four places for tourists to stay¹⁹. The Public Works Department of Rajasthan Government maintained *dak bungalows* primarily for government officers, although these were also available for tourists. The Forest Department had a Rest House at Shanti Kutir, within Keoladeo National Park (the Forest Lodge, was built in 1976), and the Central Government maintained a motel near to the entrance of Keoladeo National Park (rebuilt after 1981 by Rajasthan Tourism Development Corporation as the Saras Hotel). There was also a *dharamshala*²⁰ in Bharatpur city, giving a total of about 25 bed spaces close to the park, but tourist infrastructure was generally minimal.

The Tourist Lodge, in Bharatpur city itself, was built in 1980, but it was not until the late 1980s and early 1990s that hotel building around the national park began in earnest. Some of the more recent developments are given in Table 5.3 but this list is by no means exhaustive. During the 1995/96 season, there were over 18 hotels within the vicinity of Keoladeo National Park. All are located on the northern urban side of the park which is nearest to the main entrance of the park. The Agra-Jaipur road also passes along this side of the park, and some of the public buses depart from this point. With limited access to the rural areas on the east, west and south sides of the park, villages have minimal infrastructural impacts from tourism development. Few tourists visit them, and only Mallah and Jatoli, which lie on the north east and north west sides of the park have significant populations involved in the tourism industry (see following sections).

¹⁶ Section 35, paragraph (4b) of the 1972 Wildlife Protection Act: 'all rights in respect of lands proposed to be included in the National Park have become vested in the State Government'.

¹⁷ Section 35, paragraph (7) of the 1972 Wildlife Protection Act: 'No grazing of any cattle shall be permitted in a National Park and no cattle shall be allowed to enter therein except where such cattle is used as a vehicle by a person authorised to enter such a park'.

¹⁸ Local name for the wetland meaning 'thicket'

¹⁹ Sehegal, K.K. 1971, p.239

²⁰ Pilgrim accomodation

Recent hotel construction between Keoladeo National park and Bharatpur city has been a cause of some concern to the park authorities. A committee chaired by V.D. Sharma²¹ suggested that the 2km stretch adjacent to the gate of the park should be kept as green belt land, in accordance with the draft master plan of Bharatpur Township. In the subsequent Bharatpur Urban Development Plan, areas adjoining the northern periphery of the Park had been shown as an extension of the Park. Consequently, a proposal was moved to the State Government to acquire the land at an estimated cost of between Rs 6 to 8 crores, which is presently pending with the State Government. There have also been suggestions to use the Environmental Protection Act (1986)²² to regulate activities within this zone. Clarification is currently being sought by the Forest Department from the Government of India.²³

Hotel Name	Date Built	Number of rooms when built
Forest Lodge	1976	18
Tourist Lodge	1980	6 (12 by 1995/96)
Nand Hotel	1982	12
Sangam Hotel	1984	5 (10 by 1995/96)
Eagle's Nest	1987	4 (12 by 1995/96)
Laxman Vatika	1990	4
Tourist Guest House	1991	4
Crane Crib	1991	4
Hotel Welcome	1991	5
Hotel Sunbird	1991	3 (8 by 1995/96)
Falcon Guest House	1992	6
Hotel Pelican	1992	7
Hotel Pratap Palace	1994	11
Spoonbill	1994	2
Jungle Lodge	1994	2
Laxmi Vilas	1994	13
Hotel Siddarth	1995	10

Table 5.3 Hotels in Bharatpur - construction and development up to 1995

Source: Interviews with hotel proprietors

The number of hotels in Bharatpur is continuing to diversify in order to meet the requirements of different types of tourist²⁴. During the 1995/96 season, most of the hotels were of a mid-price range - a few catered for tourists on a very tight budget and two were at the higher end of the market. Such is the pace of hotel development in Bharatpur that four hotels were opened in the 18 months during the course of the research.

²¹ Brar and Sharma 1991

²² Chapter II, section 3.(2), paragraph (v) empowers the central government with the 'restriction of areas in which any industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards', Desai (ed) 1994, p.83

²³ Singh, S. 1995

²⁴ Many hotels exist in the centre of Bharatpur city in order to cater for the domestic business sector. These are not included in the analysis that follows - unless they also provide accommodation for foreign tourists.

5.4.4 Hotel types

During the 1995/96 season, there were two high tariff hotels operating in Bharatpur²⁵. The *Forest Lodge*, which commands a special position inside Keoladeo National Park is maintained by the India Tourist Development Corporation (ITDC).²⁶ Most of the (package) lunch groups visiting Keoladeo National Park use facilities at the *Forest Lodge*. The hotel was commissioned in 1976 and has a very high turnover - room occupancy is over 50 per cent for four months of the year, but due to central government ownership, revenue does not remain in Bharatpur. The only private high tariff hotel operating in the 1995/96 season was *Laxmi Vilas Palace Hotel*, an old residence of the local royal family. This was opened in December 1994 with assistance from the state by way of the Heritage Hotel Scheme (a recent grant scheme available in order to encourage the conversion of former *havelis* into hotel accommodation). The hotel is based on pre-Independence themes of the maharajas and their colonial guests (a relationship which foreign tourists are perhaps encouraged to recreate) - the owner is a descendent of the local royal family.

Apart from those staying at the *Forest Lodge*, the majority of overnight visitors to Keoladeo National Park stay at the hotels which lie within 1km of the bird sanctuary, many in close proximity to one another. A number of budget hotels exist within Bharatpur city itself, and a few more near to the *Saras Hotel* which is maintained by Rajasthan Tourism Development Corporation. However, recent additions to the market appear to be larger, with relatively high tariffs and are comparatively formal in their operation.²⁷ The stretch of road immediately to the east of the entrance to the bird sanctuary is occupied entirely by middle to low tariff hotels²⁸ and according to interviews among hotel proprietors, this market appears to be close to saturation. Some established hotels are attempting to specialise further - 'Hotel Sunbird' for example, attracts clients from small specialist wildlife tours and wealthier independent travellers. Almost all hotel proprietors in this bracket aspire to cater for higher spending foreign tourists and many of the new additions are attempting to make a direct entrance into this market.

²⁵ The Golbagh Palace, adjacent to Laxmi Vilas Hotel was being renovated during the 1995/96 season

²⁶ ITDC, established in 1970 is owned by the Government of India but operates as a commercial organisation within the public sector. In 1991 it was still India's largest accommodation chain with 3,000 rooms. The growth rate of ITDC under the programme of economic liberalisation introduced in the 990s has since slowed.

²⁷ A formal/non-formal dichotomy is used tentatively throughout this section. Formal enterprises are taken to be larger in scale (high turnover), employ trained workers, and are capital intensive.

²⁸ The hotels in question occupy 'green belt land'.

5.5 The Local Tourism Economy

5.5.1 Introduction

The following section describes the principal sectors of the local tourism industry associated with Keoladeo National Park. Each sector is treated in turn, beginning with the national park itself, and followed by hotels, guides, rickshaw pullers and other peripheral tourist services. The key variables under discussion are the gross revenues of operations and the numbers of employees. Only those components which have a direct link with tourists are included, i.e. the analysis makes no attempt to describe those sectors of the economy which serve the tourist industry itself (such as suppliers of food and drink)²⁹. However, due to the proximity of Bharatpur city, leakage from the regional economy is thought to be low, although this also means that most development is urban-biased. Most food and produce for the two state run hotels is supplied by contractors, who in turn make purchases from the city market. Other hotels generally make purchases direct from the city - drinks are sometimes purchased from the market, but also from the proliferation of alcoholic drink suppliers at the edge of the district. There is a lower leakage of revenues from other sectors, due to the low amount of capital required for guiding, rickshaw pulling and selling snack foodstuffs.

Employment and ownership are described within each sector. These are used to suggest general trends in the spatial distribution of tourism revenues and also the extent to which certain *jati* communities are directly involved with tourism. Again, no attempt is made to assess the ownership and employment opportunities which exist for those enterprises serving the tourist industry itself, except perhaps for the small group of informal traders at the main gate of the national park.

Four general trends are discernible throughout the section. First, most of the tourist development has taken place within a relatively small geographical area, on the urban side of the park. There is therefore a high degree of linkage to the local urban economy, while the rural economy, formerly dependent on natural resources within the park, remains marginal. Second, the majority of operations are owned by *local* elites - although some profits from the hotel sector accrue to urban-based tour companies (and their overseas counterparts) the degree of vertical integration by tour companies is relatively small. Most of the hotels are owned and run by a small local elite who benefit by virtue of location (almost all land near the entrance to the park is owned by them) and historical regional, national and international connections (they belong to the same *jati* as the local pre-independence ruling family). Third, access to tourist spending is mediated by patron-client relations between owners of enterprises and ancillary service providers and employees, but tempered by the state through assistance to rickshaw wallahs etc. Fourth, opportunities for informal sector involvement (street vendors etc.) are largely hampered by the mode of arrival ('method of delivery') of package tourists.

5.5.2 Keoladeo National Park

The largest single employer in the tourism sector is the national park itself. Although many of its employees have little contact with tourists, much of the infrastructural development is concerned with the industry. For the vast majority of visitors, Keoladeo National Park is the sole attraction of Bharatpur. In addition, many local perspectives regard the national park as the core of the tourism industry (chapter 4). National Park revenues from tourism are discussed in chapter 5, and seasonality in chapter 2.

All employees working on behalf of Keoladeo National Park receive salaries from Rajasthan State Forest Department. Casual labour work is seasonal and unpredictable, but higher posts receive regular salaries. Regular staff positions may be divided into protection, clerical, maintenance and tourist posts. In addition to government salaries, some tourist staff benefit from informal guiding services and others, with close contacts with the local, national and even the international tourist industry earn supplementary incomes. According to local interviews, informal incomes from this source may be in excess of regular

²⁹ i.e. this analysis does *not* make an attempt to calculate employment and income multipliers due to the high degree of informality of the tourist sector. Many benefits are for example paid in kind, and a high degree of family labour is utilised at low levels of operation.

government salaries during the peak tourist season, but figures are unavailable and the following estimates refer to government salaries only.

5.5.2.1 Size of the labour force and incomes

In 1995/6 there were 123 regular³⁰ employees of Rajasthan Forest Department at Keoladeo National Park³¹. In addition, approximately 50 casual labourers³² were employed on a daily basis for maintenance tasks including clearing water hyacinth, *dakhni babul*³³ etc. Government jobs are highly sought after in order to secure incomes and associated benefits - holders of 'permanent' and 'workcharge' posts benefit from a steady income throughout the year. Average wage rates for regular employees were approximately Rs 2300/- per month in 1995/96. The majority of wage rates in the park are close to this level although a few junior staff earn under Rs 2000/- while some senior positions command salaries of over Rs 4000/- per month. Casual labourers are eligible for employment for no longer than 3 months at a time in order to avoid claims for permanent employee status. The financial year is as much, if not more of an influence on the seasonality of employment for casual labourers as the changing climate and seasonality of the birds and tourist arrivals. Most work takes place in February and March - water levels are becoming low during this period, which makes weed removal more effective. However, yearly accounts also have to be balanced at the end of March. In 1995/96 casual labourers earned Rs 32/- per day.

During the financial year 1995/6, approximately Rs 4,000,000 to Rs 5,000,000/-³⁴ was received by *regular employees* of the Forest Department in salaries. There are no figures for expenditure on casual labour, but this figure does not exceed Rs 600,000/-.

Of the 123 regular employees in 1995/96, only 6 are women, although only one holds a senior post (the park director). There are no figures for the gender of casual labourers.

5.5.2.2 Residence and 'home' of employees

About half of the employees of Keoladeo National Park are local, although as is the case with almost all professional organisations, local employees are less well represented in the higher levels of administration. This is largely due to the bureaucratic structure of the Indian Forestry Service - senior staff are employed in many districts during the course of their careers.

Of the regular staff, 42 per cent are from the villages close to the wetland, 16 per cent are from Bharatpur city, 7 per cent are from the margins of the city which lie close to the wetland, and 7 per cent are from outlying locations within 20km of the wetland. A further 21 per cent of regular employees are from 20km or further from the wetland (Table 5.4 and Figure 5.1). Much of the employment within the park does not require a large degree of formal training and to some extent the park is better placed to absorb rural labour than other sectors of the tourism industry. However, some local critics have suggested that the high level of local rural employment within the park makes it difficult to enforce protection, or at least allows some portions of the local population to avoid prosecution. Residents of Jatoli Ghana, a village close to the entrance of Keoladeo National Park account for most of the employees drawn from the local villages. These are in turn comprised of a handful of Jatav and Gujjar families.

³⁰ Regular employees are divided into 'permanent' and 'workcharge' staff. Workcharge employees are those that have been employed for long enough to secure certain rights of permanence, but have yet to be registered by the state as such.

³¹ All figures in this section are based on estimates from Keoladeo National Park records

³² Known locally as 'daily basis' labourers

³³ *Prosopis juliflora*

³⁴ Keoladeo National Park office records

Home Location*	Proportion of all regular employees 1995/96
Villages surrounding Keoladeo National Park	42 per cent
Margins of Bharatpur City (within 1.5km of park)	7 per cent
Bharatpur City	17 per cent
Outlying districts (1.5km to 20km from park)	7 per cent
Further afield (more than 20km from park)	21 per cent
Unknown	6 per cent

Table 5.4 Regular Employees of Keoladeo National Park in 1995/96 according to home location. *defined by location of residence before taking up employment at Keoladeo National Park. **Casual labourers employed on a daily basis are excluded from estimates. Source: Keoladeo National Park staff records and interviews

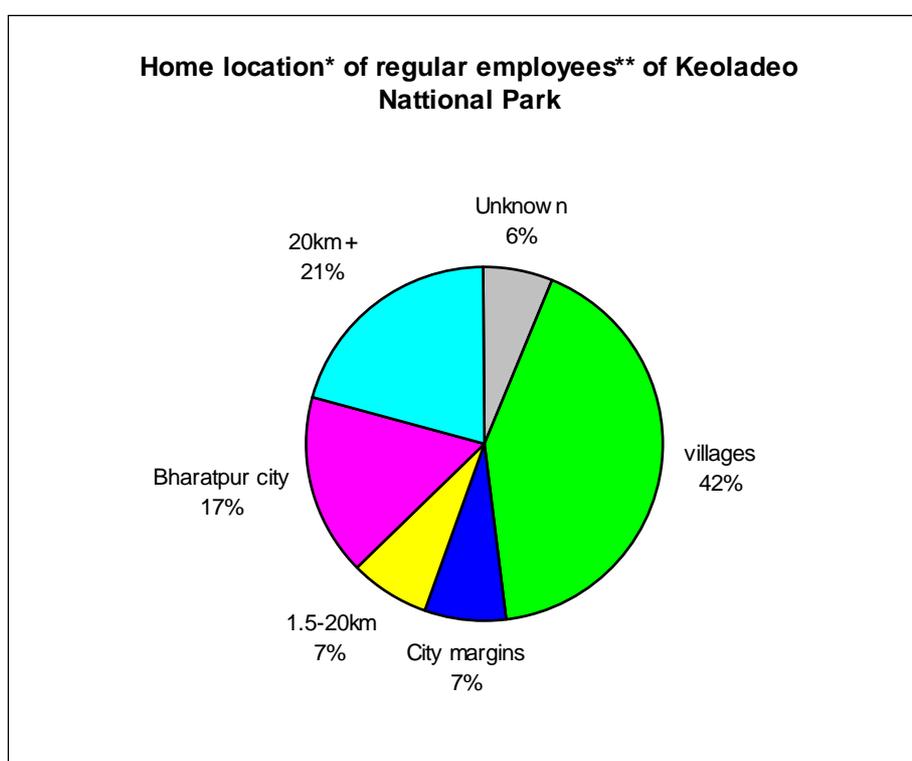


Figure 5.1 Regular Employees of Keoladeo National Park in 1995/96 according to home location. *defined by location of residence before taking up employment at Keoladeo National Park. **Casual labourers employed on a daily basis are excluded from calculations. Source: Keoladeo National Park staff records and interviews

Due to the professional nature of the Indian Forest Service there are significant variations across pay scales. While 65 per cent of employees earning less than Rs 2,000/- per month are considered to be 'local'³⁵ this group represents only 13 per cent of those earning more than Rs 4000/- per month. Conversely, only 7 per cent of those employees earning less than 2000/- Rs per month come from more

³⁵ see introduction - the working definition of a 'local' employee is someone who was residing in the villages adjacent to the wetland, or in the part of Bharatpur city close to the wetland before their employment began.

than 20km from the wetland, while this group represents 37 per cent of those earning more than 4000/- Rs per month.

All casual labourers reside either in the villages lying adjacent to the Wetland, (especially Jatoli, Mallah, Aghapur, Naswaria, Khori Nagla and Ghasola) or in Bharatpur city. However, the timing of much of this work co-incides with the harvest season, the only time in the year when labour is in short supply. According to one landowner, this has the effect of raising the local price of labour at this time - which might be beneficial for local labourers, although an increasing trend is for local landowners to bring in labour from other districts.

According to available statistics during 1995/6, the magnitude of income in the form of salaries and wages from the national park which accrued to the 'local' population was between Rs 1,900,000/- and Rs 2,600,000/-³⁶.

5.5.2.3 Employment recruitment among *jati* communities

The regular employees³⁷ of Keoladeo National Park are drawn from many *jati* communities. Members of the Gujjar community are well represented, - in much the same proportion as the population at large. Only the *Brahmin* community is significantly over-represented. An estimate of *jati* composition is given in *this estimate does not include casual labourers

Table 5.5 below.

Jati	proportion of all Keoladeo National Park regular employees*
Gujjar	24%
Jatav	18%
Brahmin	16%
Jat	14%
Mali	7%
Thakur	4%
Others	18%

*this estimate does not include casual labourers

Table 5.5 Keoladeo National Park regular employees according to community (*jati*) group.

Source: Keoladeo National Park staff records and interviews

A high proportion of the labour force at Keoladeo National Park are drawn from the local villages surrounding the park, although individuals are largely from the two villages nearest to the park entrance - Jatoli and Mallah. *Jati* are also well represented Members of the *Gujjar* community are generally the most vocal in their opposition to the grazing ban imposed as a consequence of national park designation.

³⁶ Estimate calculated from interviews and park records

³⁷ There are no figures in this section for casual labourers

5.5.3 Hotels

The following sub-section describes revenues, ownership and employment with the accommodation sector. Analysis is largely on the basis of interviews with hotel proprietors and staff, although records, where available are also used (especially for state-owned hotels). A sample of 18 hotels were covered by the research - during the 1995/96 season there were a number of other hotels in the city itself, but these cater largely for domestic business visitors. The two large public sector hotels catering for visitors to Keoladeo National Park³⁸ are dealt with separately in most sections, although hotels are generally divided on the basis of tariff (which has until recently correlated with the scale of operations in private sector hotels).

The sub-section proceeds with a discussion of the revenue from tourism reaching the accommodation sector. It then goes on to discuss issues of seasonality, followed by a consideration of the ownership and employment patterns of the private hotels. Employment within the two large public sector hotels is dealt with in the final part.

5.5.3.1 Revenue (scale of operations)³⁹

The bulk of tourist expenditure in Bharatpur takes place within the accommodation sector. Accommodation fees are extremely variable, nevertheless a broad distinction between high, medium and low tariff hotels is discernible. Room rates are especially flexible in the medium tariff sector where high season charges are more than twice those of the low season. Variation is also evident on a weekly basis, according to the capacity of the hotel, the standard of the room, and forecasting by hotel proprietors. High season rates in the medium tariff hotels vary from Rs 250/- to Rs 850/- for a double room - with a mean of around Rs 400/-. Budget hotel rates are between Rs 100/- and Rs 400/- during the same period, and high tariff hotels charge up to Rs 2250/- (see Table 5.6 for average rates during 1995/96 season).

Tariff	Double room rate (Rs)		Lunch/dinner (Rs)	Number of hotels 1995/96
	High season	Low season		
High	Rs 1250 - 2250	Rs 900 - 1600*	Rs 225 - 350	2
Medium	Rs 250 - 600	Rs 100 - 300	Rs 100 - 250	8
Low	Rs 100 - 400	Rs 50 - 150	Rs 75 - 175	8

*Bharatpur Forest Lodge off-season discount is 10% (Rs 2000/- per double)

Table 5.6 Double room rates - Bharatpur hotels (1995/96 season)

The hotel market is growing rapidly at all levels - with specialisation, advertisements, extensions and renovations changing the market position of each hotel from year to year. Annual revenue for individual Bharatpur hotels is therefore highly variable - especially in the mid-price sector. Commission systems are in operation at almost all levels. Tour companies receive a commission for booking clients into the medium sized and high tariff hotels, and most hotels will also pay a commission to rickshaw pullers who deliver tourists. Estimates extrapolated from visitor and hotel surveys suggest that tourist expenditure on accommodation in Bharatpur was in the order of Rs 15,000,000/- during 1995/96. A medium tariff hotel with 20 rooms could expect a revenue of over Rs 500,000/- in 1995/96, but some hotels have a larger turnover, and many more are much smaller operations (revenue for some enterprises can be little as Rs 20,000/-). *Shanti Kutir*, owned and run by the Forest Department and located inside the national park earned Rs 135,000/- in tourist accommodation in 1995/96, but bed occupancy was much lower than most private hotels. The other two state-owned hotels - *ITDC Forest Lodge* and *RTDC Saras Hotel* achieve much higher revenues - the *ITDC Forest Lodge* (catering almost exclusively to foreign tourists) has the highest turnover in Bharatpur - with an estimated revenue in excess of Rs 8,000,000/- each year. Revenue from state run hotels is deposited with state and central government accounts.

³⁸ The Forest Department also maintains *Shanti Kutir* a small guest house - see chapter 4.

³⁹ Estimates for hotel revenues are derived from occupancy records and tariffs.

5.5.3.2 Seasonality of operations

The high seasonality experienced by the Bharatpur hotel industry has important implications for employment - especially in private hotels. The degree of seasonality experienced by individual hotels is determined by the visiting characteristics of clients. In Bharatpur, the ratio of foreign to Indian tourists is reduced during the week between Christmas and New Year. The number of Indian visitors rises dramatically, while the number of foreign tourists falls. Hotels which are priced and marketed for foreign visitors (especially package tourists) therefore experience a greater degree of seasonality than those which cater for domestic visitors⁴⁰. The two large state hotels serve as an illustration. The ratio of foreign to domestic visitors using accommodation at the *ITDC Forest Lodge* in 1995/96 was 2.5:1. In addition, most of the guests staying with this hotel are package tourists. With its commanding location, the *Forest Lodge* experiences exceptionally high room occupancy rates throughout the high season, although figures for January and December are lower than those of November and February (Figure 5.2).

In contrast to the *Forest Lodge* the *Saras hotel*, owned and operated by Rajasthan Tourist Development Corporation is marketed at domestic tourists. During 1995/96 season, the ratio of foreign to domestic tourists at the *Saras Hotel* was 0.2:1. Although total revenues for the *Saras Hotel* are much lower than that of the *Forest Lodge*, seasonality is less marked (Figure 5.3 shows *bed* occupancy for the 1995/95 season).

The average *weekly* room occupancy across a sample of 16 *private sector* hotels in Bharatpur is shown in Figure 5.4. These hotels cater largely for foreign non-package tourists. Lower occupancy rates than the *Forest Lodge* throughout the year indicate the competitive nature of the market. Occupancy patterns are erratic, but the general seasonal pattern is less marked than the *Forest Lodge* but more so than the *Saras Hotel*. The Solar Eclipse in the last week of October 1995 produced record occupancy rates in all hotels in Bharatpur. Unlike the *Forest Lodge*, room occupancy is not affected by the slight downturn in foreign package trips during the last week in December.

⁴⁰ chapter 2

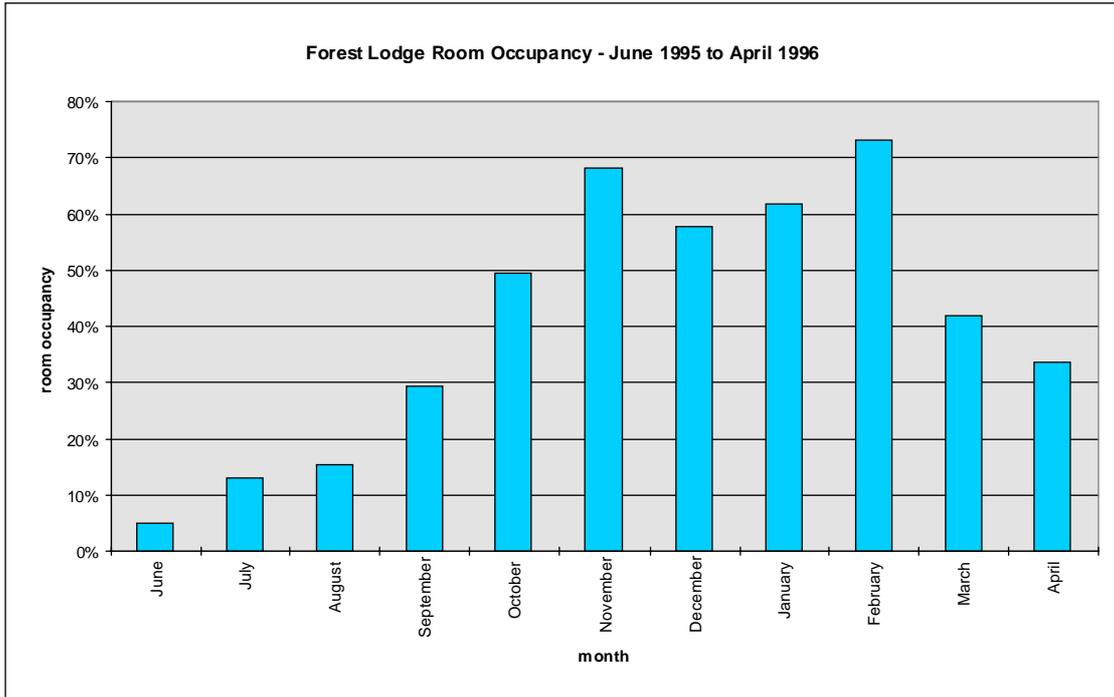


Figure 5.2 ITDC *Forest Lodge* Room Occupancy - June 1995 to April 1996

Source: Hotel Occupancy Survey

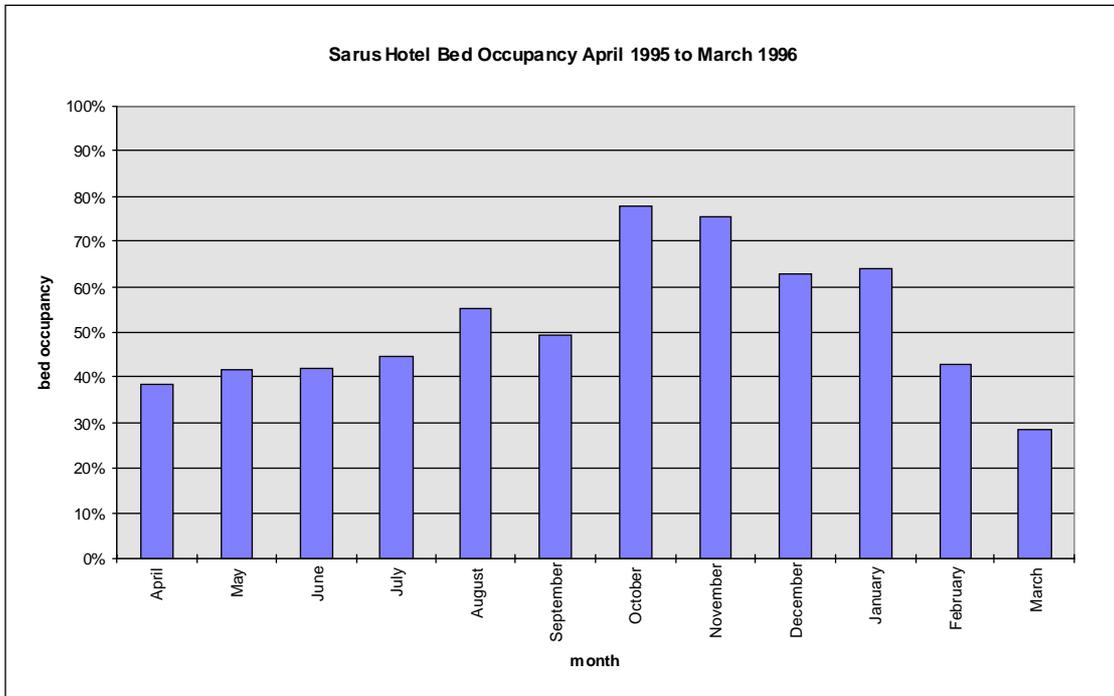


Figure 5.3 RTDC *Saras Hotel* Bed Occupancy - June 1995 to April 1996

Source: Hotel Occupancy Survey

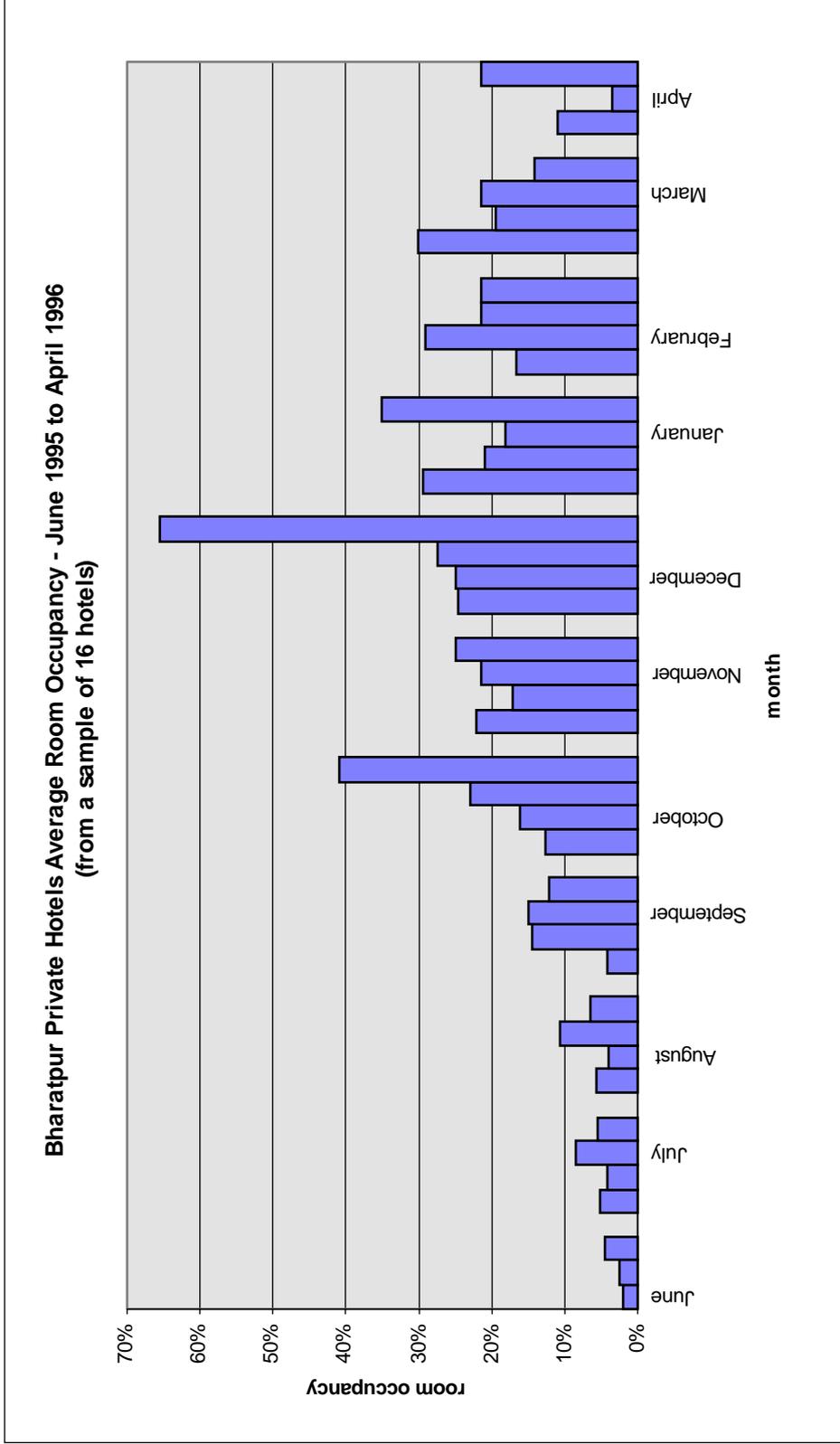


Figure 5.4 Bharatpur Private Hotels: Average Room Occupancy, June 1995 to April 1996 (from a sample of 16 hotels)
Source: Hotel Occupancy Survey

5.5.3.3 Ownership of Private Hotels

Almost all of the private hotels used by visitors to Keoladeo National Park are run by entrepreneurs often on the (former) site of the owners' home. Many involve family labour and brothers and sons often move on to start their own hotel on adjacent plots. Two *Jat* Bharatpur families own six of the hotels, all within 500 metres of each other, and at least two entrepreneurs have entered the hotel business after several years accumulating experience and capital from guiding, working in state hotels, with the Forest Department or even with foreign research projects. Small, cheap 'backpacker' hotels require relatively little capital to set up - and are run almost entirely with family labour. One such family owns three small hotels. The number of very small hotel enterprises in Bharatpur appears to be declining in favour of larger establishments although family labour and networks play an important part at almost all levels of operation. Hotels which have more than two or three rooms will employ non-family labour, but are still essentially family businesses.

The majority of private hotels are run by *Jat* entrepreneurs (75 per cent in the sample), typically in their mid-30s, although, in a sample of 16 hotels (there are about 22 in total), *Brahmin* and *Thakur* families own one hotel each. The dominance of *Jats* is in part due to the pattern of land ownership around the north end of the park where most of the hotels are situated. Since Independence much of this land has been owned by a handful of *Jat* families - which now control the private hotel sector. Only one hotel has close associations with the rural communities around Keoladeo National Park. It is run by a family of *Brahmins*, formerly from Jatoli village (on the north-east side of the park).

5.5.3.4 Hotel Employment

In 1995/96, the hotel industry associated with tourism to Keoladeo National Park directly employed approximately 150 staff in the off-season, and as many as 200 in the high season. Some of these jobs are part time - especially gardening and cleaning. Less than 5 per cent of hotel employees reside in villages close to the wetland - those that do so are mostly from Jatoli. More than 45 per cent of paid employees are from Bharatpur City and the remaining 40 per cent have migrated from more than 10km away, some from as far as the southern Indian states. Due to the prevalence of family-run businesses, top salaries are hard to discern. Among paid employees, many wages are less than Rs 1000/- per month, although considerable variation exists. Estimates from interviews with hotel proprietors suggest that the hotel industry directly contributed some 1,500,000/- Rs to incomes in the form of wages in the 1995/6 season.

Employment Ratios

Two indicators are used in this section in order to estimate the intensity of labour in the industry. The first is the staff per bed ratio which estimates the density of employment according to levels of occupancy in the hotel. However, many Bharatpur hotels operate well under capacity, even in the high season, while some have a rapid turnover. The staff per guest ratio is also used. This measures the number of staff to each guest arrival. Typically, the staff per bed ratio in the smallest hotels is relatively low (0.3-0.5) as is the staff to guest ratio (0.06-0.07), although the family network is such that the number of people actively employed in the businesses is much greater than at first apparent. Medium sized hotels (eg. 10 rooms) typically employ a core of 2-3 staff full and part-time throughout the year which will be supplemented by seasonal staff. If all staff are taken into account, the typical bed to employee ratio is above 0.3, but because many of these hotels are operating below capacity, the staff to guest ratio is sometimes above 0.01. Bharatpur currently has one high-tariff private hotel, employing 20 staff in the high season. Higher accommodation charges for this hotel allow relatively higher staff per bed and staff per guest ratios (0.5 and 0.012 respectively).

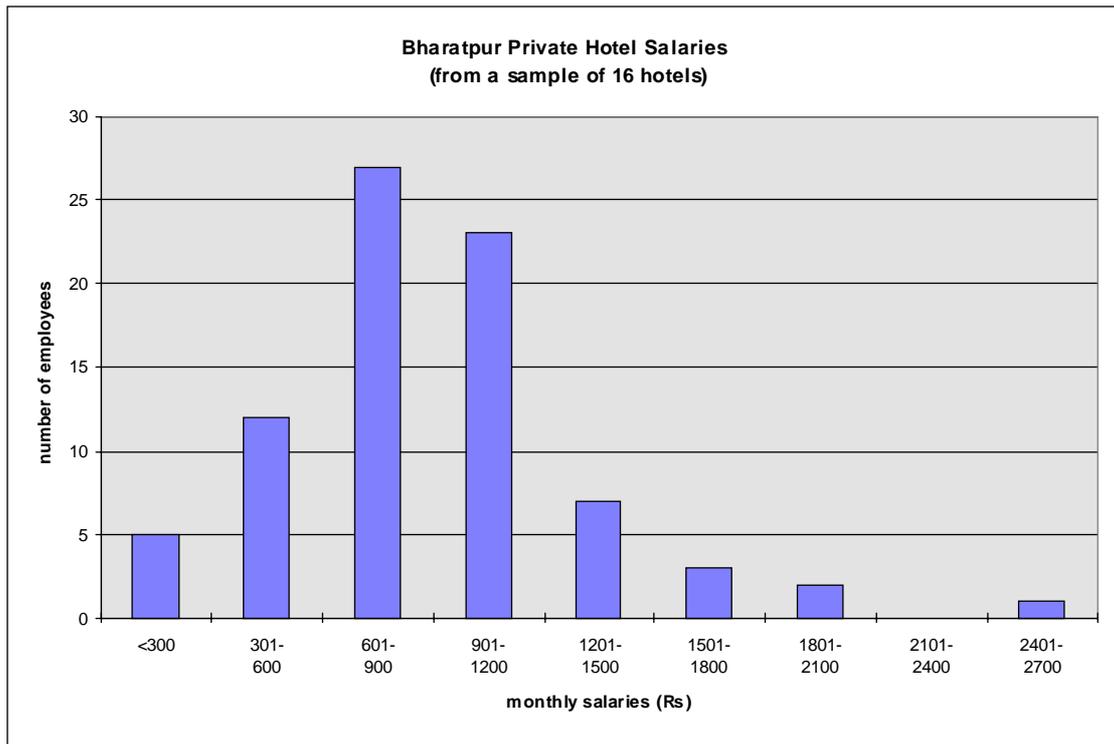


Figure 5.5 Salaries among paid employees in Bharatpur Hotels⁴¹

This estimate includes all part time and seasonal employees.

Source: Interviews with hotel proprietors

Salaries

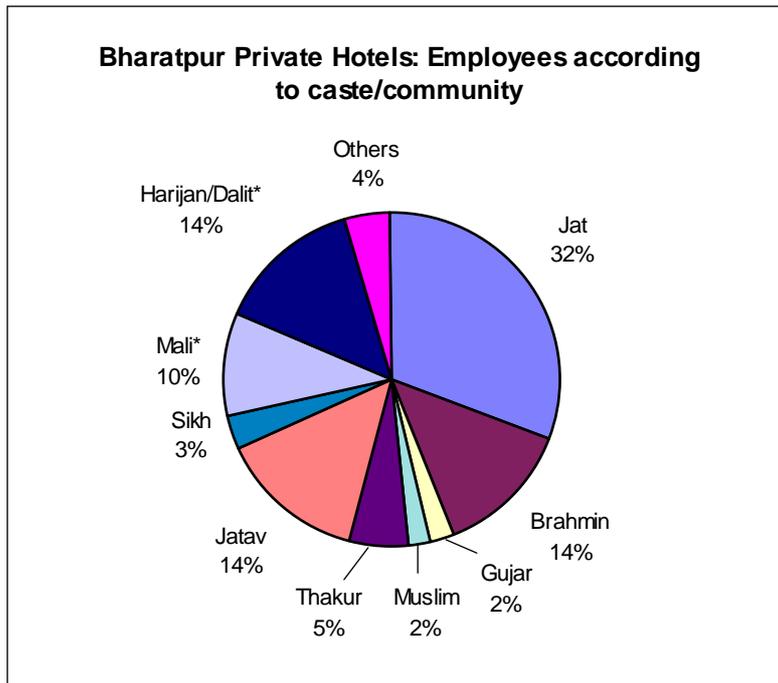
Administrative positions in the mid-tariff private hotels are paid on a monthly basis throughout the year (typically Rs 1200/- for manager/receptionist). Cooks command the highest wages (Rs 1200/- to Rs 1500/-) but are usually employed on a seasonal basis (40 weeks p.a.). During the season, these staff will send remittances home to dependants, many of whom reside in other states of India. In medium sized hotels, waiters (who often double up as general domestic staff) command salaries of Rs 700/- to Rs 800/- per month. Staff (except for cooks) usually lack professional qualifications (many are educated to the 5th standard) and gain training on the job. Accommodation and food is almost invariably provided in addition to basic salaries. Medium sized hotels also employ maintenance staff on a part time basis. Gardeners and sweepers often work elsewhere for the family or for other hotels owned by relatives. Gardeners may earn up to Rs 800/- per month, but sweepers rarely earn more than Rs 400/-. The single high tariff private hotel employs a larger proportion of non-local qualified staff. Apart from labourers (sweepers and gardeners), many have worked in the hotel industry elsewhere - in the public sector or in the private hotels of Agra, hence many are not from the Bharatpur area. Salaries in this hotel are generally higher than the smaller hotels, almost all staff earn more than Rs 1000/- per month. An illustration of monthly salaries in the private hotel sector is illustrated in Figure 5.5 (family labour is not included).

Jati of Employees

An estimate of the distribution of direct employment by caste (including owner-managers) in the private hotel sector is illustrated in Figure 5.6. Managerial (including receptionist/accountant) positions are usually given to relatives (nephew, son or son-in-law) - or held by the owner. The 'traditional' emphasis on the ethnic/community background of cooking staff appears to be given less weight in the newer hotels, perhaps as an indicator of the rising proportions of foreign clients. However, religion and *jati* are still more variable in this sector of the workforce than any other - muslims and sikhs are employed as well as *Jats* and *Brahmins*. Many waiters are drawn from the *Jatav* community and are

⁴¹ Accommodation and food is often provided in addition to basic salaries.

relatively young members of staff (18 to 25 years of age) while gardeners are *Malis* and all of the sweepers in private hotels are from *Dalit* families.

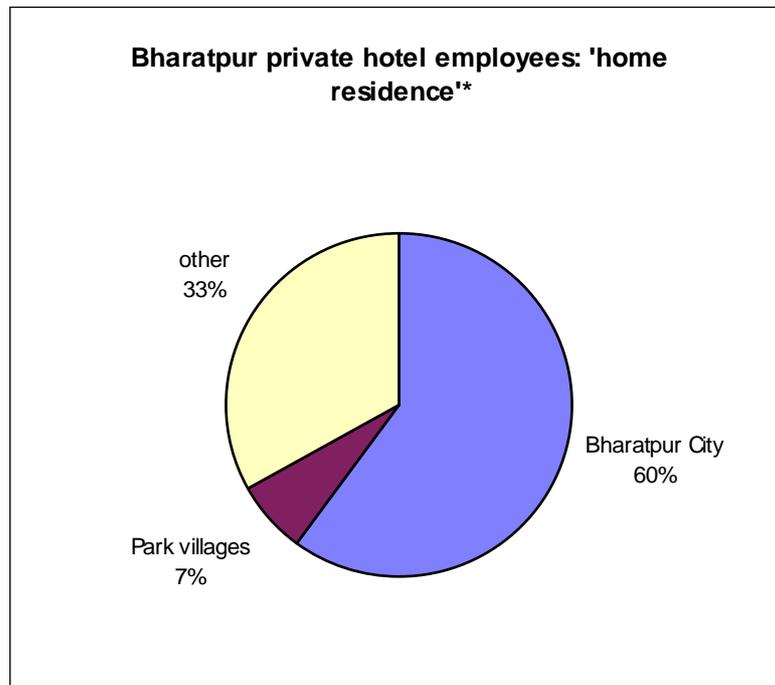


***Dalits and Malis are generally employed as sweepers and gardeners respectively and usually work part time. This estimate includes all part time and seasonal employees and owner/managers but not unpaid family labour.**

Figure 5.6 Caste/Community employment in the Bharatpur Hotel Sector
source: Interviews with hotel proprietors

Residence and 'home' of employees

From the sample of 16 private hotels in Bharatpur, employing a total of 80 salaried staff, only four are from the villages that lie adjacent to Keoladeo National Park. These are two waiters from Jatoli, and two sweepers - one from Ghasola and the other from Barso village. Employment is secured largely by way of existing social networks, and the entrepreneurial class largely has connections with the urban district. The home residence of employees is shown in Figure 5.7.



***home residence is defined as the place of residence of the employee before taking up the present job. This estimate includes all part-time and seasonal workers**

Figure 5.7 'Home residence' of Bharatpur Private Hotel Employees

Source: Interviews with hotel proprietors

Hotels owned by the State and Central Governments⁴²

The *ITDC Forest Lodge* directly employs 43 staff. The staff per bed ratio in the Forest Lodge is 1.25, but the exceptionally high turnover produces a staff per guest ratio of 0.004 when lunch parties are taken into account. The hotel employs 4 management staff, 19 restaurant and kitchen staff, 8 housekeepers, 5 maintenance staff, 4 office clerks and 3 security guards. Salaries are in the order of Rs 3000/- per month and all employees receive wages throughout the year. As government employees, many of the staff are non-local. Of all staff, approximately 35 per cent are from Bharatpur City and the surrounding villages. At least one has a second business in Bharatpur city.

The *RTDC Saras Hotel* employs approximately 24 staff all with monthly salaries of above Rs 1000/-, and 10 with salaries of more than Rs 2000/-. As with the Forest Lodge, many of the high positions attract employees from some distance. Five of the staff are from Jatoli village, close to the park, and seven are from the city itself. Many castes are represented among the workforce. The *Saras* is the only hotel where (non-family) female labour is employed, this is due to assistance from the rural development board. The *Saras Hotel* has a staff to bed ratio of 0.4, and the large turnover produces a guest to employee ratio of 0.005.

⁴² *Shanti Kutir*, the resthouse owned by the Forest Department is maintained by Forest Department staff and therefore all employment is covered in section 5.5.2 above.

5.5.3.5 Discussion

From the survey of hotel operations and employment above there would appear to be little correlation between the size of the hotel, and labour intensity (see summary in Table 5.1). However, it would appear that as the industry develops, the barriers to entering the market for hotel proprietors with little capital are increasing. The budget end of the foreign tourist market appears to be saturated and most new entrants are competing at the mid-price level while existing hotels attempt to specialise for particular types of client. The degree of linkage to the local urban economy is high, but connections with the rural economy are generally low and although hotel ownership is also 'local' it is concentrated into the hands of a few entrepreneurs with connections to the traditional elite.

As the sections above illustrate, hotel labour is largely drawn from the urban sector, with higher tariff hotels having a higher propensity to employ non-local professionals. Many wages within the hotel sector are below the national minimum wage, but include many payments in kind, provision of seasonal accommodation, clothing and food are the norm. Wages are higher in the public sector, and provide more regular incomes than in the private sector where there is a high degree of family labour. However, despite the strong seasonality in tourist arrivals (chapter 2), labour demand is less seasonal than might be expected. Hotels rarely close for the off-season. In terms of employment, the *Jat* community also dominates the sector, but local *Jatavs* also have relatively high representation. *Jatavs* traditionally occupy low occupational positions, but within the hotel sector they have been able to secure employment in fairly large numbers and at most levels. In contrast, *Gujjars* and *Thakurs* (traditionally cattle herders and farmers) are less well represented. The only tangible links to the rural economy in this sector is through the sale of milk and the employment of a few waiters and domestics from the *Jatav* communities. Despite the location of the hotel sector at the edge of the national park, and its proximity to rural suppliers of produce and labour, Bharatpur city maintains a stronger influence. Consequently the hotel sector, although dependent on nature tourism, retains an essentially urban character.

Hotel Type	Number of hotels in Bharatpur	High season double room Tariff (Rs)	Foreign tourist type ⁴³	Foreign to domestic tourist ratio (f:d) ⁴⁴	Staff per bed ratio (s/b)	staff per guest ratio (s/g)	Estimated revenue p.a. (Rs)
TYPE I - Public Sector Hotels							
Bharatpur Forest Lodge (ITDC)	2	2000/-	P	2.5	1.25	0.004	8,000,000
Saras Lodge (RTDC)		350/-	I	0.2	0.3	0.005	N.D.
Type II - Private Sector High Tariff Hotels							
Laxmi Vilas Hotel	1	1000-2000/-	P/I	2.4	0.5	0.012	N.D.
TYPE III - Private Sector Medium Tariff Hotels							
	7	300-700/-	I/P	1.9	0.3	0.01	500,000
TYPE IV - Private Sector Low Tariff Hotels							
	7	150-300/-	B/I	variable-0.2 to 2	0.4	0.007	N.D.

Table 5.7 Typical characteristics of Bharatpur hotels included in the 1995/96 survey

⁴³ Letter indicates the most common types of foreign tourist using the hotel group, according to a sample survey of 816 foreign tourists. P=Package, I='independent' and B='backpacker. P/I indicates 'package' and 'independent' tourists, but few backpackers etc.

⁴⁴ The higher figure, the greater the number of foreigners compared to domestic visitors

5.5.4 Local Transport, Guiding and Peripheral Tourist services

5.5.4.1 Introduction

The 'method of tourist delivery' is a key indicator of tourist spending patterns. Those that arrive by public transport are more likely to use additional forms of local transport during the course of their stay. Most of the tourist hotels in Bharatpur are situated within 1km of the entrance to Keoladeo National Park. Package tourists almost invariably arrive by coach⁴⁵, and make almost no use of local transport until they are inside the park⁴⁶. The main form of local transport around Bharatpur and inside Keoladeo National Park is the cycle rickshaw. In addition, there are a handful of private taxi operators - who occasionally take non-package tourists on tours to Ranthambhore national park, or to Delhi airport. These are arranged through the upper middle-tariff hotels.

5.5.4.2 Rickshaw pullers

About 4,000 to 5,000 cycle rickshaws operate in Bharatpur city. A small proportion of these operate between the hotels and the bus and railway stations and are hired by non-package ('backpacker') tourists. Rickshaw pullers charge Rs 40/- for the 30 minute ride from the railway station to the hotels at the edge of the park, but can expect to obtain a further Rs 50/- from hotel proprietors by way of commission, on delivery of guests. Rickshaws also operate along the 1km strip between the hotels and the park entrance and charge Rs 10/- per trip.

All rickshaws operating within the park are licensed by the Forest Department,⁴⁷ a system which has been in operation since 1979. During the research period (1995/96 season) the number of licensed rickshaws rose from 87 to 103. Each time the national park wishes to issue additional permits, advertisements are placed in the local newspapers. Prospective candidates make an application to the national park and according to the discretion of the ranger, are permitted to enter the 3 month training programme in order to obtain the licence.

Rickshaws cost around Rs 3,500/- to buy. Some of the recent applicants for a Forest Department licence have been assisted by the DRDA⁴⁸. Each licensed rickshaw puller pays the Forest Department Rs 150/- per month for permission to operate within the national park⁴⁹. Income for rickshaw pullers is highly seasonal, and although daily revenues can be substantial during the peak season very few continue to operate throughout the year. During the high season (October to March) rickshaw pullers earn up to Rs 100/- per day which increases to as much as Rs 4,500/- for the month of January (Table 5.8). Annual incomes are in the order of Rs 15,000/- to Rs 20,000/-, however, interviews with rickshaw pullers suggest that incomes are declining as the number of licensed rickshaws increases.

⁴⁵ these are permitted up to 2km on the metalled road inside the park - to the *Forest Lodge*, or the car park adjacent to the barrier

⁴⁶ Once inside the park, many package tourists use rickshaws (see chapter 4)

⁴⁷ There are exceptions: cycle rickshaws taking hotel and Forest Department staff up to the Forest Lodge and Shanti Kutir do not need a licence, but must pay a park entrance fee.

⁴⁸ District Rural Development funds - recent training programmes for guides have also been met by this source.

⁴⁹ Revenue to the Forest Department from rickshaw and tonga permits was Rs 120,300/- (chapter 4)

Month	proportion of rickshaws present	number of journeys per day	earnings from tourism per month
April, May, June, July	20%	<1	500
August, September	40%	<1	600
October	100%	1	1,000
November, December, January, February	100%	1-2	3,000
March	60%	1	1,000

Table 5.8 seasonality of licensed cycle rickshaw operations

Source: interviews with rickshaw pullers, 1995-96

Rickshaw pullers work in a system in order to maximise revenues from the variety of tourists. They divide themselves into groups positioned at three locations where tourist services are most likely.⁵⁰ Although both foreign and domestic tourists use rickshaws, the regular incomes of rickshaw pullers during the peak season is largely due to the presence of foreign package tourists. Off-season income is largely dependent on the traffic of park and hotel staff and non-package tourists. Official rates for rickshaws are Rs 25/- per hour, although these may rise up to Rs 50/-, depending on the season and the generosity of the tourist and the tour operator. Both the level of tips and the level of average income are thought to be declining. Total annual income from tourism to the licensed rickshaw sector is in the order of Rs 1,400,000/-.

Most of the licensed rickshaw pullers are Lavana Sikhs from Bharatpur city and Jatavs from the rural areas surrounding the park. A few other *jati* are represented, including two baghel and two muslims but all hindus are lower caste. During the hot season, about one third of the rickshaw pullers leave the park in order to operate in the city where they are able to earn Rs 50/- to Rs 70/- per day. Another third find other employment, typically construction work, where wages are Rs 70/- to Rs 100/- per day, but employment irregular. The remaining third continue to operate within the park, hired by staff and a few non-package tourists. Although most rickshaw pullers earn between Rs 15,000/- and Rs 20,000/- each year, a few who have established contacts with local hotels, tour companies from Delhi, and even overseas professional photographers are able to earn more. Some also earn much less, and the highly seasonal income is a cause for concern. Most of the workforce were working as rickshaw pullers within the city before obtaining a park licence, but many have family links to the park with fathers who had previously earned a living from wood collection. The almost exclusively low-caste workforce is indicative of the low status attached to the job. Some of the rickshaw pullers aspire to become licensed guides (one has obtained a guiding licence) or taxi driving, but many more are concerned with improving work conditions⁵¹ since there are few alternative occupations at a similar wage rate. There is considerable concern among rickshaw pullers about the issuing of additional licences, competition from guides and from bicycle hire.

5.5.4.3 Nature Guides

There are approximately 20 licensed nature guides working inside the national park⁵². Guiding rates are shown in Table 5.9. Several groups have been trained and licensed since 1976, with increasing resistance from existing guides. Incomes amongst the nature guides vary considerably and are largely dependent upon the extent of pre-booked business they are able to secure. On a routine basis, nature guides offer their services to tourists at the main gate to the national park. For this group, incomes are highly seasonal - with 2-3 months of regular work (Rs 200-300 per day). However, those who have connections with the travel trade are able to pre-arrange their services with tour companies, while others

⁵⁰ Main gate, Forest Lodge and Barrier (ranked in order of preference)

⁵¹ Rickshaw pullers are increasingly resistant to the issue of additional licences. They have requested training to improve their service to tourists, a shelter by the main gate and to be able to take tourists further into the park (they are currently confined to the metalled road). They continually press for government employee status.

⁵² This figure varies, even between days in a single season.

secure additional work as tour escorts throughout India. Those who derive *all* of their income from *ad hoc* guiding from the main gate typically earn Rs 40,000/- per year. The few who supplement their income through tour escort work earn more than Rs 100,000/- per year⁵³. Of the guides that maintain a regular presence at the main gate, the average income per guide for 1995/96 was over Rs 60,000/-. An approximate estimate for the total income to this group from guiding in Keoladeo National Park alone is Rs 800,000.

Typical guiding rates	group size	
	less than 5	over 5
PER DAY	350-400	500-750
PER HALF DAY	200	300-400
PER HOUR	35	150
LUNCH GROUP		150-300

Table 5.9 Guiding rates in Keoladeo National Park
Source: interviews with nature guides 1995-1996

Originally guides were recruited by way of advertisements in local newspapers and candidates had to be graduates. The number of guides working within the park varies considerable from season to season and even from day to day. Guiding is often regarded as a way into the travel business and nature guides have the opportunity to make international connections. Of those that were recruited in 1976, two have subsequently become travel agents (at least one now lives in England) and two others have become local hotel proprietors. Many have become tour escorts, associated with particular companies and travelling across India.

Earlier guides were largely drawn from the *Jat* community which owns a large part of the medium tariff hotels close to the park entrance. In recent years, there has been a shift towards the recruitment of guides from the rural areas around the park. This has been accompanied by changes in the selection technique whereby recruitment is no longer advertised in local newspapers and fewer qualifications are required. One third of the most recent batch of qualified guides are from the rural area surrounding the park. The more established guides have taken the Forest Department to court over its licensing procedure, with charges of nepotism, undermining existing incomes, and lowering the standard of guiding in the park. The park has responded by stating its aim for increasing its support base among the rural poor.

⁵³ Five guides who now have their own businesses as hotel proprietors of permanent positions with tour companies earn more than Rs 200,000/-. They no longer wait for business at the main gate.

5.5.5 Peripheral Tourist Services

A number of additional services (not run by the Forest Department) are available to tourists visiting Keoladeo National Park. The most formal, exclusively tourist enterprise is the book shop within the national park itself. A cluster of enterprises operate at the junction of the main highway to Agra, known locally as the *Circle* (close to the *Saras Hotel*). An additional group of mobile stalls congregates daily around the entrance to the national park.

5.5.5.1 Book shop

A book shop within the park is in operation during the four high season months⁵⁴. The property is owned by the Forest Department, but leased out at a price arranged through a competitive bidding system. During the 1995/96 season, the lease was approximately Rs 36,000. Takings from books, posters, stickers and postcards amounted to some Rs 35,000 each month. More recently, competition for the operation of the book shop has become intense, as hoteliers (one local, and another from Agra) have offered higher bids. The lease for the 1996/97 season has risen to almost Rs 1 lakh.

5.5.5.2 Enterprises at the *Circle*⁵⁵

There are several enterprises at the *Circle* which have close links to the tourist industry. Enterprises are of various sizes, and operate at different levels of formality, but almost all are owned by people who have resided in the area for a long time, or who live in the city. They also all employ exclusively family labour⁵⁶. Various caste communities are involved according to the nature of the work. For example, a dry cleaning business serves 4 of the medium tariff hotels is run by a family⁵⁷ of *Dhobis*. The owner takes on an additional employee to assist during the high season when revenue doubles from Rs 3000/- per month to Rs 6000/-. The most informal enterprise is a cycle repair and hire business, maintained by a single *Khati*⁵⁸ individual of 22 years of age. The business is strictly seasonal as 75% of the income⁵⁹ comes directly from tourists. A number of small stalls sell cigarettes and snacks, but only 25% of their Rs 1500/- per month salary comes from tourism. Finally, a telephone communications office is maintained by a *Jat* family, 50% of the revenue for this enterprise comes from tourism, which takes up to Rs 10,000/- during the peak tourist season, although the high running costs of this service⁶⁰ reduces income to Rs 4000/- per month. In all, approximately Rs 30,000/- of tourist spending reaches this set of small businesses per year. Nine people are employed directly.⁶¹

5.5.5.3 Enterprises at the Entrance to the Park

The handful of small businesses which assemble daily at the entrance to the park are more informal in their operation than those at the *Circle*. At the main entrance to the park, a small parking area accommodates waiting rickshaw pullers and guides. There are 4-5 enterprises, none of which are permanent since they trade with the unofficial permission of park staff, who make up part of their clientele. A variety of *Jati* are involved (including *Lavana Sikhs*, *Jatavs*, and one *Gujjar*). Of a handful of tea stalls, 10-15% of their income is received directly from foreign tourists⁶², but all is attributable to the tourism industry since other customers are park staff, guides and rickshaw pullers. For example, the monthly income of *chai wallahs* is approximately Rs 2-3000/- in the peak tourist season. Information from interviews indicates that, 20 per cent of income is from Indian tourists, 30 per cent foreign tourists, 40 per cent from rickshaw pullers and 10 per cent from guides and park staff. Another cycle repairer⁶³

⁵⁴ November, December, January and February

⁵⁵ The *Circle* is at junction of the road to Agra and the end of the row of medium tariff hotels

⁵⁶ Apart from the laundry business which takes on an additional paid employee over the tourist season

⁵⁷ All of the owners' immediate family are involved in the business - including women

⁵⁸ Carpenter family/community

⁵⁹ Rs 4000/- in the high season

⁶⁰ Regional leakage is high

⁶¹ Does not include family members (apart from owner), but includes seasonal employees

⁶² All non-package

⁶³ from *Jatav* community, aged 17

earns up to Rs 1500/- per month in the high tourists season. Approximately Rs 40,000/- accrued to this sector of small businesses in the 1995/96 season. Eight individuals were employed, almost all from *Binaryan Gate*, at the edge of the city. One owner/operator resides in a village close to the park.

5.6 Discussion

The designation of Keoladeo Ghana as a national park in 1982 signalled a shift in both the location and the nature of economic activity associated with the wetland. National Park legislation also had a differential impact upon the various communities living around the park.⁶⁴ Many former users of the wetland turned to agriculture while some migrated out of the area. A few former functions of the park (for example as a source of fuelwood) continue despite prohibitions. Although tourism to the wetland is not new (it had been a place of recreation for the wealthy since the turn of the century) it was not until the late 1980s that infrastructural development in the form of rapid hotel building occurred. Hotel development has occurred within a relatively small suburban area due to existing transport routes, and the demise of former routes that ran through the park. Alternative areas were marginalised by lack of accessibility. The private hotel industry also developed in the hands of a community with access to prime locations and connections with the old ruling family. However, Keoladeo National Park is still the largest single employer in the Bharatpur tourism industry, and is also the largest single contributor to local incomes. Of all sectors, it also has the lowest urban bias, more village residents are employed in Keoladeo National Park than all other tourist sectors put together. The accommodation sector provides a comparable number of jobs, but these are taken by a largely urban workforce. This is also apparent from the caste composition of employees; *Jats* have a strong presence whereas *Gujjars* are significantly under-represented. Low caste *Jatavs* have secured positions in most sectors of the tourism industry and are especially numerous among park-licensed rickshaw pullers. Apart from the national park, rickshaw pulling is the only tourism oriented sector where rural inhabitants find significant access. This is due in part to the action of the public welfare schemes. In recent years, the Forest Department has attempted to increase its support from adjacent rural communities through positive discrimination for guide and rickshaw permits. However, this has caused considerable protest from existing guides who have built up a substantial lobbying force with close associations with the hotel sector. There is potential for low-capital employment opportunities within the peripheral service sector, but legal space is restricted. Hawkers are not permitted within the national park and tourist coaches usually drive up to the barrier (which is within the park boundary). Opportunities for hawkers to gain access to package tourists are therefore low and a type of tourist enclave culture is evident.

⁶⁴ Details of the impact of the national park on rural society is not dealt with here. Readers should consult the comprehensive account from a PRA exercise carried out in 1995 in six villages surrounding the park (WWF, 1996).

5.7 Raising Local Benefits

Between 24 and 30 September 1996, a series of workshops were held in Bharatpur in order to discuss the development of tourism. Participants included representatives from all sections of the local tourist industry, park staff and sarpanches from communities adjacent to the park. Three schemes for using tourism to re-orient the benefits of the park back to rural communities were discussed. These are outlined below;

- *Raising the entrance fee of the park for foreign tourists, and diverting some of the revenue to local development schemes.*

At Keoladeo National Park, the entrance fee is currently far below that which the majority of foreign tourists are willing to spend (chapter 4). Part of the extra income raised by increasing the entrance fee of the park could be directed towards local development such as roads, schools, biogas and water sources for the surrounding villages. If visitors were provided information on the 'eco-development' scheme, especially in the travel literature, then this may not reduce visitor numbers. Alternatively, a fund could be advertised within the park visitor centre whereby tourists could make contributions to local development initiatives. This suggestion has been a frequent topic of discussion between park managers and community leaders. However, the idea is discussed with less enthusiasm among villagers themselves, principally because of the lack of appropriate institutions which could administer it. The success of such a scheme would depend upon the transparency and representation of the committee responsible for distributing the revenue. Park employees, while generally supportive of the idea suggest that the sharing pattern should be made clear at the start of such a project - particularly with regard to the powers and responsibilities of the park management, tourists and local government.

- *Opening another gate at the site of the old Aghapur entrance to the park.*

An additional entrance to the park presently exists close to Aghapur, which has been closed since 1981. Suggestions have been put forward as to open this gate so that visitor pressure on the main road might be reduced and so that people living in Aghapur might be able to participate in the tourism industry. Currently, the road on the west side of the park running through Mallah village is too small to accommodate tourist traffic, and the opening of the Aghapur side gate might well encourage local non-tourist traffic to enter the park. Again, this suggestion has been met with enthusiasm from local leaders, but there is little support for it within the communities themselves. This is largely because of the pattern of land and capital ownership in the local rural areas. Creating another tourism pole is not regarded as the answer to the problems facing many of the rural poor.

- *Encouraging a Local Handicraft Industry*

Unlike many parts of Rajasthan, traditional handicraft skills are not exploited in the Bharatpur district. Surveys with foreign tourists revealed that many wanted to purchase local crafts but could not find them. Some already exist, and are mostly made by women, for example baskets and fans made from local grasses. Other crafts such as knitting soft toys and weaving 'endri' (for carrying water pots) could be adapted to suit tourist tastes. Some training in handicrafts would be necessary and various methods of marketing explored. However, the potential impact on women is unknown. The lives of women around the national park have changed significantly since the wetland was gazetted as a national park. In the absence of grazing the labour requirements for fodder collection are high and this task falls largely on women and children. However, rural unemployment among women as well as men is of increasing concern. One of the principal obstacles for income generation of this kind is the lack of a suitable institution in the area.

- *Reconsidering tourism*

During the course of the research it became increasingly apparent that despite the significant potential for increasing tourist spending at Bharaptur, there were few mechanisms which could orientate revenue and employment benefits towards rural communities. Although leakage of tourism revenue from the regional economy is low, there is a strong urban bias to the accumulation of profit due to existing patterns of land ownership and the transferability of urban skills. Access to tourist spending is highest among the rural population where existing skills and capital are utilised, i.e. those that are easily transferrable and complimentary to existing livelihood patterns. Few such opportunities exist within the tourism industry, and those that do are of sufficiently low status to exclude large sections of the population (for example rickshaw pulling). By far the most common suggestions for local rural development have been concerned with access to the resources of the wetland itself - an issue which suggests the need for a reappraisal of the function and management of the national park.

6. INTEGRATION INTO THE INTERNATIONAL MARKET

6.1 Introduction

Keoladeo National Park is located on the main tourist route between Agra, Jaipur and Delhi known as the “Golden Triangle”. A popular guide book claims that “A visit to one of [India’s] wildlife refuges is a must on any traveller’s itinerary”.¹ National parks are accordingly marketed as tourism attractions and state tourist development corporations have produced specialist tour itineraries since the 1990s.¹ However, the Indian Tourism Ministry has acknowledged that ‘opening the floodgates of tourism could seriously affect the fragile ecosystem and environmental balances of national parks and wildlife reserves’. In addition, The Ministry of Environment has asserted that national parks are primarily for conservation and advocate the delineation of core areas from which tourism activity is excluded.¹

The purpose this chapter is to ‘identify and quantify the benefits and problems created by integration into the international market.’¹ The intention is *not* to discuss the impact of structural factors on the incomes of the local population involved in the tourism industry, although the impact of the ‘plague’ season of 1994/95 is discussed in brief. The first section reviews the growth of international tourism to Bharatpur. The chapter then turns to the development of national tourism policies,¹ the position of India in comparison to other destinations, and the vulnerability of the industry. Finally, the perspectives of local and international tour operators and the tourists themselves are considered.

6.2 Keoladeo National Park: a Tourist ‘Midway’¹

The continuing popularity of Keoladeo National Park as a tourist destination is primarily a function of its position on the most heavily visited tourist circuit in India - the proportion of day visitors to the park is large (chapter 2). Apart from pricing policies discussed in chapter 5, the volume to the bird sanctuary is therefore beyond the control of the Forest Department. Keoladeo National Park has received increasing numbers of international tourists (chapter 2 and 5). In the first half of the 1990’s foreign tourists were averaging 29-30,000 ticket sales per year, about 30% of the total. Foreign tourists are significant users of the park, purchasing entrance tickets and a range of other services which have considerable implications for park finances and the local economy. However, visitor arrivals are highly seasonal, due to the highly variable climate in India and the holiday periods in source markets¹.

Year	Foreigner Admissions	% of Total Admissions
1988/89	22,884	23
1989/90	31,501	30
1990/91	28,025	39
1991/92	27,432	29
1992/93	31,407	34
1993/94	29,747	30
1994/95	25,466	26
1995/96	38,026	30
Average 1988/89-95/96	29,311	30

Table 6.1 Foreign Visitor Admissions to Keoladeo National Park, April to March 1988-1996

Source: KNP Barrier Office

6.3 The Role of National Tourism Policies

¹ Keoladeo National Park is used by many tourists as a convenient stopping place on the a well established route between the cultural attractions of Agra and Jaipur. Restaurants and service stations which perform this role are known locally as ‘midways’.

A report by the Department of Tourism in 1982 argued that the industry had considerable potential for job creation and argued that tourism deserved a 'high priority in Indian planning'.¹ By the end of the 1980's the Department of Tourism had begun to promote tourism both as a means of earning foreign exchange and in order to stimulate economic development. Links were made with anti-poverty and area development programmes and the Department of Tourism advocated grants to local people in areas with high tourism potential for the development of tourism facilities.¹ The 1988 Report of the National Committee on Tourism stated that;

'The efforts on the part of developing countries to attract large numbers of tourists from the affluent countries may prove to be less daunting and more rewarding than the struggle to obtain fair prices for primary commodities or expand the export of manufactured products.'^{1,1}

Visit India Year in 1991 was intended to promote the positive socio-economic impacts of tourism, to develop India's international image overseas, and to develop new products for the future growth of the industry. In 1992 the government launched a National Action Plan for Tourism. By 1992 tourism was India's highest net foreign exchange earning industry. The plan was designed to foster socio-economic development, increase employment opportunities, develop budget domestic tourism and international tourism, diversify India's tourism products, increase India's share of world tourism and foreign exchange earnings and encourage the "preservation of natural history and environment."¹ Between 1991/92 and 1993/94, the hotel and restaurant sector in India experienced one of the highest profitability ratios of all industries (Table 6.2).

	Gross profit as a percentage of sales for 565 Indian companies		
	1991/92	1992/93	1993/94
Average across all sectors	14.1	13.1	14.2
Hotel and restaurant sector	23.0	26.7	31.6

Table 6.2 Profitability ratios of private hotel and restaurant sector compared to average of all private sector companies

Source: Bhandare (1995; 115)

In 1993, the Government issued fresh guidelines for foreign collaboration in hotels in India. For the first time collaborations were permitted not only on a franchise basis but also on a management contract basis. Equity participation in foreign exchange was permitted by up to 51% of the total equity of the proposed company. The foreign investor was now free to repatriate dividends after payment of Indian taxes. In addition, loans to Indian parties from foreign collaborators were also permitted by up to 50% of the total cost of the project. Foreign collaborators were also allowed to bring foreign managers to head major departments of such projects. Some of the India Tourism Development Corporation hotels were listed for privatisation and there were new opportunities for external investors in hotels and other tourism projects. The Heritage Hotels scheme was also launched. In Bharatpur, the opportunities presented by this initiative were taken up by the management of Laxmi Vilas Palace Hotel.

6.3.1 Economic Vulnerability

International tourist arrivals to India, and therefore to Bharatpur have suffered a relatively high degree of volatility as a consequence of changes in international market trends, and a range of specific, short term problems and events. These are discussed in the following sections.

6.3.1.1 The International Market

The changes in the international market trends are largely beyond the control of India and are the result of changes in consumer fashion and the opening of the countries of South-East Asia to tourism. India is no longer viewed as quite so exotic as it was and UK tour operators now offer cheap inclusive packages direct to Agra.¹ In the early 1980's India had just over 1% of the tourism industry's global revenue and about 0.3% of tourist arrivals. By the early 1990's it had around 0.5% of global revenues and a little over 0.3% of tourist arrivals.¹ Whilst it was maintaining its share of tourist arrivals in an expanding market its revenue was slipping. Dutta (1991) claims that India's relatively poor performance in recent years compared to that of other Asian destinations is due largely to inadequate marketing and a lack of a clear market segmentation strategy. To date, the preparation of packages to celebrate the 50th anniversary of Independence has been modest. In contrast, regional events are marketed more aggressively. In Bharatpur, a number of specific packages were developed for the 1995 solar eclipse. This had a strong impact on the occupancy rate for Bharatpur hotels (Figure 6.1).

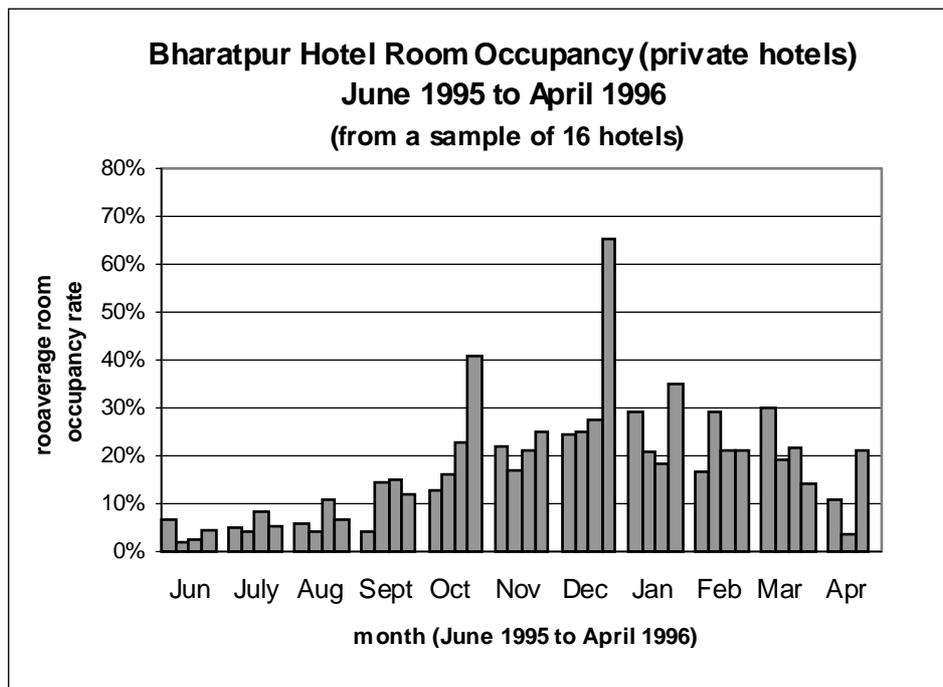


Figure 6.1 The impact of the October 1995 Total Solar Eclipse on the Room Occupancy of Bharatpur Hotels

Source: Hotel Occupancy Survey

6.3.1.2 Tourist Confidence

There are a plethora of examples of 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 widely publicised student protests over job quotas for "backward castes" all contributed to a reduction in tourism business. In the early 1990's the civil unrest in Punjab and Kashmir affected tourist arrivals and Kashmir was closed from 1991.

Communal violence in 1992/93 created a general climate of uncertainty which adversely effected tourist numbers (down 15.5%) and in the winter of 1993/94 UK operator, Thomson Holidays scrapped a package designed to carry 30,000 tourists to India. In the same period Nippon Travel Bureau of Japan booked 90% less business than it had the previous year.¹

In the autumn and winter of 1994 the India tourist industry was hit by outbreaks of pneumonic plague, cerebral malaria and tourist kidnappings seriously reducing package and independent travel. Interviews with Indian ground operators in December suggested that up to 90% of packages had been cancelled during October. The Department of Tourism reported tourist arrivals 45% down on expected numbers in October and 29% less in November.¹ In Bharatpur, hotel proprietors remarked that foreign tourist numbers fell by 40% to 50 % for two months. Non-package tourists were not affected to the same degree as package tourists, many of which cancelled their tours. Therefore not all hotels were affected to the same degree. The room occupancy of high-tariff, foreign package dominated hotels were affected the most, while those who are patronised partly by domestic tourists were affected to a lesser extent. Throughout the local hotel industry, employment rates were affected less than might be expected - only 3 out of a survey of 16 hotels remarked that employees had been laid off because of the decline in business. However, rickshaw pullers, whose peak season incomes depend upon the visits of package tourists felt a large impact. The impact of the 'plague publicity' on foreign arrivals to the park can be seen in Figure 6.2.

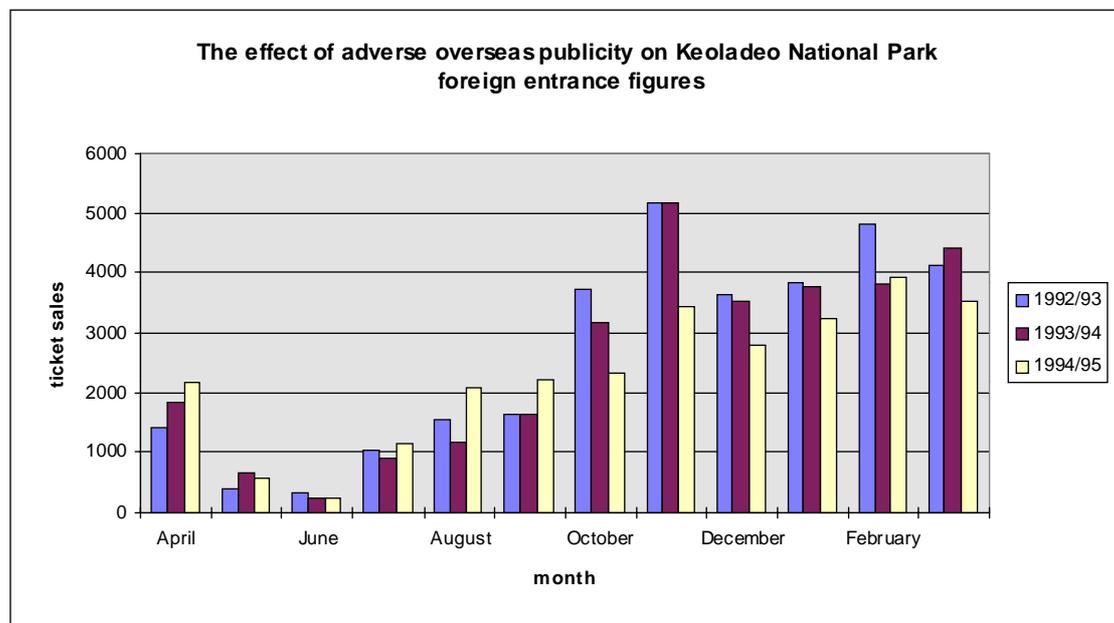


Figure 6.2 The impact of adverse publicity on tourist entrance figures from October to February 1994

Source: KNP Barrier Office

6.4 Tour Operator Perspectives

6.4.1 Indian Tour Operators

Representatives from the Indian tourist industry attended a workshop¹ in September at Laxmi Vilas Hotel, Bharatpur. There was a general agreement that a high concentration of sites of considerable cultural value and interest exist in around Bharatpur which could be developed to both diversify the local economy and reduce tourist pressure in the national park. Indian tour operators and hoteliers present thought that it was desirable to increase the cultural content of the tourism products offered in Bharatpur.

The fort and the temple in Bharatpur are largely unvisited sites. The local Lord Krishna legends and associations would, in the view of the local tour operators, be of interest to international tourists. Deeg Palace is also rarely visited. Tour operators were of the view that Bharatpur could become a significant stopping point on the Golden Triangle providing a preferred location from which to visit the Deeg Palaces, Fatehpur Sikri and even Agra and the Taj Mahal. Indian tour operators and hoteliers felt that in this way revenues from tourism and the benefit to the local economy could be significantly increased and as a *tourism destination* Bharatpur would be more effectively integrated into the international market.

6.4.2 International Tour Operators

In 1996, 9 German tour operators and 26 UK tour operators who were marketing India were contacted and surveyed by postal questionnaire.¹ German tour operators to India are significantly more committed to the destination than are the UK operators.¹ On average, German tour operators ranked the importance of India as a destination as 1.86, on a scale of 1 to 5. UK operators ranked the destination 2.81. When asked how their perception of India as a tourist destination had changed over the past few years on a scale of 1 (worse) to 5 (better) the average score was just above 3 suggesting very little change. Respondents were also asked to forecast the volume of their business to India and as an indicator of their expectations of growth. Five German and nineteen British operators responded (Table 6.3 and Table 6.4):

Year	number of clients to India	% increase
1995	17420	-
1996	18605	6.8%
1997	20630	10.8%

Table 6.3 Growth in tourist market to India: German Tour Operators

Source: Tour Operator Survey

Year	Number of Clients to India	% increase
1995	4015	-
1996	4605	14.7%
1997	5310	15.3%

Table 6.4 Growth in tourist market to India: UK Tour Operators

Source: Tour Operator Survey

From the sample, the expectation of growth appears to be greater in the British market. In terms of expected passengers to India, the 5 German operators forecast a growth of 18% between 1995 and 1997, while the UK operators forecast a growth of 32%.

6.5 Tourist Perspectives

6.5.1 Motivation for Travel

6.5.1.1 Domestic Tourists

Few domestic tourists visit Bharatpur for the sole reason of seeing birdlife, and even fewer make multiple visits to the bird sanctuary. Those that do are likely to be keen photographers or bird watchers with a professional interest in birdlife. Most non-local domestic tourists make only one visit to the bird sanctuary during their stay in Bharatpur - many visits are made at weekends or public holidays and others after local weddings or by tourists en route to Mathura, a nearby religious site. Religion is a key feature of the domestic tourism market and for many middle-class Indians travel or 'Yatra' is synonymous with pilgrimage. Sita Ram temple near Jatoli Ghana village (on the Eastern edge of the Bird Sanctuary) is an important feature of the national park for many domestic tourists. In addition, school groups (mostly from Bharatpur city) use the bird sanctuary for educational visits. An annual 'wildlife week' in October attracts particularly large number of domestic students to the park.

6.5.1.2 Foreign Tourists

Keoladeo National Park is well known internationally for its birdlife, but it is also very accessible due to its location on one of the most heavily visited cultural tourist trails in Asia (the 'Golden Triangle' of Agra, Delhi and Jaipur). For most foreign tourists, a visit to Keoladeo National Park is a subsidiary item on the tour itinerary. According to field interviews, 94% of foreign tourists visiting Bharatpur would make a trip to India even if they were unable to visit the bird sanctuary. Similarly, when stating their reasons for travel, most foreign tourists visiting Bharatpur appear to be motivated by 'culture' than wildlife (Figure 6.3).

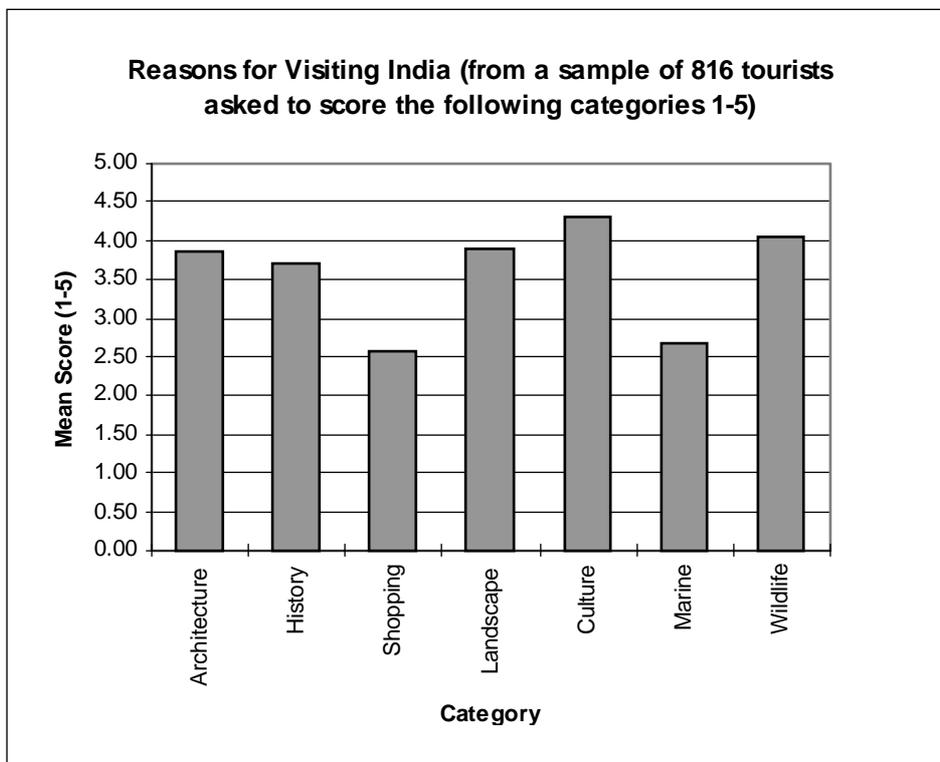


Figure 6.3 Motivation for travel: A sample of 816 foreign tourists were asked to score each category (from 1-5) for its contribution to their decision to visit India
Source: Tourist Questionnaire (August 1995 to March 1996)

6.5.2 Visitor Satisfaction

Foreign tourists were also asked to rate the international importance of Keoladeo National Park as a protected area for wildlife conservation. On a scale of 1 to 5 the national park was rated an average of 4.9. In addition, almost 80% of visitors to Keoladeo National Park put the park within at least the top 100 conservation sites in the world (Table 6.5).

Rank of K.N.P. among world conservation sites	proportion of sample (from 680 responses)
First	4%
In the top 20	33%
In the top 100	42%
In the top 1000	12%
In the top 2000	3%
Not significant	1%

Table 6.5 Responses to the question “How would you rank Keoladeo National Park among the world’s conservation sites?”

Source: Tourist Questionnaire (sub-sample of 680)

When asked if they would return to Bharatpur, 46.5% responded that they would either very likely or definitely be back, suggesting high levels of motivation and satisfaction (Table 6.6). During a workshop held at the park in September 1996 (see below), Smt Shruti Sharma and Shri Kamlesh, Assistant District Magistrate, endorsed the suggestion that a “Friends of Keoladeo” society could be established in order to assist with the development of the park and to maintain links with international visitors.

Stated likelihood of tourists to return	Proportion of sample (from 781 responses)
Yes - definitely	24.1%
Very likely	22.4%
Possibly	37.6%
Unlikely	15.4%
Definitely not	0.05%

Table 6.6 Responses to the question Would you come to Bharatpur again?

Source: Tourist Questionnaire (sub-sample of 680)

6.5.3 Discussion

Despite the international recognition of Keoladeo National Park as a major wildlife site, much of the tourist traffic passing through Bharatpur is due to regional attractions such as the Red Fort at Delhi and the Taj Mahal at Agra. Questionnaires and interviews conducted during the course of the study indicate that tourists are largely motivated by cultural rather than wildlife attractions. The number of visitors to Bharatpur is therefore largely outside the control of the national park and the local industry, let alone the local population. If development is concerned with the local control and transformation of resources, then the notion that tourism might be promoted to this end is in part contrary to the local experience. However, in Bharatpur, an urban entrepreneurial class has managed to articulate around market opportunities presented by the industry, and both local hoteliers and Indian tour operators suggest the potential for the development of local sites. However, at the very local level, the integration of the wetland into the international market, as represented by UNESCO and IUCN status presents an enduring source of conflict between local and extra-local interests.

7. NATURE TOURISM AND VISITOR EDUCATION¹.

This chapter was researched and written by Ian Bride (DICE)

7.1 Introduction

Article 13 of the *Convention on Biological Diversity* maintains that:

...the public's lack of awareness of the importance of biological diversity - its relevance to every day life, the benefits from the use of its components and the consequences of its loss - is a major constraint which must be overcome if biodiversity conservation and sustainable use efforts are to succeed. *Efforts to conserve biological diversity cannot succeed without the general public's understanding and support.* (my emphases)

Nearly all key texts aimed at the slowing of biodiversity loss accept the need for widespread changes in people's behaviour as a crucial element of successful strategies for doing so. Most also recognise that the required changes cannot be achieved by coercion, that ultimately the solutions to environmental crises rest neither with the scientists nor with government officials but with a citizenry educated in environmental problem solving. This environmentally literate citizenry does not yet exist. The question to consider in relation to nature tourism, is whether or not it can contribute significantly to the process of creating, not only an environmentally literate citizenry, but one prepared to act.

If the required behavioural change is reliant upon the development of public understanding and support (although this is not to suggest that it *necessarily* follows from it), then it becomes important to explore the processes by which present and desired understandings and support are formed. The traditional view is that understandings are underpinned by knowledge, that there is an association between knowledge and affect, and that both knowledge and affect are constituents of attitudes, which comprise propensities to certain behaviours. Not only does the assumption of this relationship underlie a considerable amount of general educational activity, but it forms the basis for a good deal of environmental education. It is perhaps surprising therefore, to discover that despite numerous studies reporting a high level of "concern" about environmental issues, hardly any research has been conducted into what the public actually knows about them. In relation to biodiversity loss in particular, there exist almost no empirically-based studies exploring people's knowledge and attitudes or the processes by which both develop².

Direct experience is thought to be an important means of learning about wildlife. It is also said to help increase people's knowledge, understanding and support for wildlife conservation. At the same time, television wildlife programmes, wildlife photography and wildlife art, though often of very high technical quality, might be regarded as providing but poor substitutes for the real thing. Indeed, some researchers argue that these sources of learning actually do conservation a disservice by providing a distorted view of the natural world.

Increasing numbers of tourists are arriving in national parks in pursuit of an encounter with wildlife and its habitats. Given the needs expressed in Article 13 of the *Convention on Biological Diversity*, plus tourism's growing influence upon the potential for sustainable management of wildlife resources and the possible link between wildlife experiences and support for conservation, the time is ripe to explore the educational effects of nature tourism.

An appraisal of the educational value of nature tourism seems particularly pertinent in respect to the widely adopted concept of "ecotourism". This is because questions need to be asked about the qualitative differences which might set ecotourism apart from conventional nature tourism. For the term

¹ This chapter addresses scientific/technical objective d) of the project i.e. to: 'identify and assess the qualitative contribution of tourism to conservation through visitor education and increased awareness'

² At least in the English language.

"ecotourism" to be significantly more than a sales gimmick, the visitors themselves must be "ecotourists" rather than nature or wildlife tourists in the sense that their experience should be qualitatively different. Beyond the more obvious requirement of the ecological "sustainability" of the tourism to the particular site³, it could be argued that in order for the term "ecotourist" to be applied with any real meaning, individuals should not be ecotourists purely within the period of the trip but should experience a significant positive change in their attitudes to ecology or ecological problems; In other words, that the trip should have positive educational effects on the visitors themselves.

In accepting the need to identify and assess the qualitative contribution of ecotourism to conservation through visitor education, a number of questions arise. For instance, what should be the objectives and content of this education?, how might it best be delivered? and how might it best be evaluated? Clearly, reliable answers to these questions are likely to be rather site-dependent. They also require a large comprehensive project incorporating a comparison of various educational techniques and an assessment of long-term changes in visitors knowledge and understandings following a visit to the site. Hopefully, research of this type will be conducted in due course. However, in the meantime, within the constraints of this project, some useful points of reference might be established in relation to one example of nature tourism. *This study therefore examines the general and specific knowledge and behaviour of visitors to the Keoladeo National Park.*

7.2 Methodology

Of the three sites covered by the ODA project Keoladeo National Park was chosen as the most suitable for the research. Keoladeo has a range of tour operators taking visitors there, and interviewers in the park have been relatively successful in collecting the names and addresses of visitors. Komodo was rejected on the grounds that for the great majority of visitors, it 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 surveying was taking place very late in the project cycle.

A postal questionnaire was chosen as the most suitable method for gathering a sufficient quantity of data across a range of visitors to the site. The questionnaire was designed with a view to gathering data on the visitors in six main areas of interest.

- i. their general wildlife-related activities
- ii. their reasons for going on the trip to India
- iii. their activities associated with the trip to Keoladeo
- iv. their knowledge of the Keoladeo Park
- v. their general knowledge of biodiversity
- vi. their standard socio-economic characteristics

In setting out to assess learning in connection with the Keoladeo site, the initial intention was to conduct a pre- and post- visit survey of visitors. It rapidly became clear however, that the unhelpful response from most tour operators combined with problems of seasonality⁴ therefore meant that in order to gather a sufficient quantity of data, the sample population would have to comprise *any* visitors who had visited the site during recent years. Of course, this also resulted in learning being considered solely in the context of a post-visit survey.

Thirty five tour operators thought to be taking UK visitors to the Keoladeo site were approached by telephone, given an explanation of the nature and importance of the research and asked for their collaboration in distributing questionnaires to past clients. The questionnaires, together with reply-paid stickers were to be supplied in stamped envelopes and all the operator need do was to address the envelopes and forward them. Operator's attention was drawn to the possible benefits of the research

³ If indeed this is definable, desirable or measurable.

⁴ Tours from the UK largely take place in November, December and January.

which might accrue to them and offered a copy of the eventual final report and the data set relating to their clients.

Five operators gave a positive response, agreed to participate and were sent questionnaires. Two of these were bird watching specialists (A+B), two were general nature holiday providers (C+D), and one (E) was a general tour operator. Operators A-D were small companies in which individuals/tour leaders took on the responsibility for forwarding the questionnaires. Company E was a large operator which takes several small groups to Keoladeo each year. A total of 150 questionnaires were sent out via these operators (A=25, B=30, C=25, D=30, E=30, Total=140). An additional 231 were sent to individuals whose names and addresses had been collected by local researchers at the Park between August 1995 and March 1996. This latter group included 127 non-UK nationals. Because the visitors had been reached by two separate routes, some small degree of duplication for the UK visitors may well have taken place. However the 128 replies received by the deadline date of 1st March 1997 represent no less than 35% of the 371 visitors sampled, 30% (73) of those from the UK and 43% (55) of those from overseas.

7.3 Results

7.3.1 Characteristics of the respondent group.

Respondents were male and female in nearly equal numbers (67 and 60) and well spread across the six "age in years" categories, with approximately 20% in each of the middle four (26-35, 36-45, 46-55 and 56-65) and 10% in both the lowest (<26) and the highest (66+). They were mainly British (73) and U.S. (22) nationals⁵, and they were clearly dominated by the higher occupationally-based social classes⁶. In fact, 48% (57) of those completing the relevant question (N=119) were from class I ("professional occupations") and 35% (41) from class II ("intermediate occupations"). Classes III ("skilled") and IV ("semi- and unskilled") were poorly represented (12% (15) and 2% (3) respectively). Formal educational levels reflected this distribution, with 65% (83) of respondents declaring they had completed a higher degree (30% undergraduate and 35% postgraduate) and just 17% (22) admitting to no more than a secondary school education.

7.3.2 General wildlife related activities

A substantial proportion of the respondent group reported that they had been members of organisations concerned with wildlife during the preceding 5 years, with only 27% (35) of all respondents and 16% (12) of the UK nationals not indicating that they had been so. Forty seven percent (60) reported membership of two or more organisations, and 27%, three or more. Table 7.1 shows membership data for the 73 UK nationals⁷. Not surprisingly, because Keoladeo is renowned for its birds, a large percentage (67%) of them were, or had been, members of the RSPB, but membership of local Wildlife Trusts (41%) and The World-wide Fund for Nature (21%) was also well-represented.

Organisation	No. of respondents	% of UK nationals
RSPB	49	67%
Local Wildlife Trust	30	41%
Others	27	37%
World Wide Fund for Nature	15	21%
RSPCA	8	11%
Greenpeace	6	8%
One or more	61	84%

Table 7.1. UK respondent's membership of wildlife organisations during previous five years (N=73).

Those who returned questionnaires reported high levels of wildlife related activity in their lives independent of nationality. 54% (69) of respondents watch wildlife documentaries roughly once a week and 85% (109) watch them about once a month or more⁸. An even higher proportion (90% (115)) reported that they visit the countryside either about once a week (63% (81)) or once a month (27% (34)), whilst 55% (70) of those answering the question included themselves in the "once a month" (20%) and "once a week" (35%) categories for going to watch animals in the wild. The "once a year" category predominated for visits to National Parks or protected areas (41% (52)) and to zoos or museums (48%

⁵ Plus a few Dutch (6), German (8), Belgian (5) and Antipodean (8) representatives.

⁶ Based on the Register General's classification (Register General 1961).

⁷ The questionnaire was designed for UK nationals. The choice offered was mainly of UK organisations and therefore other nationalities should be excluded at this point.

⁸ It should be noted that each category includes frequencies up to the point at which the next is selected. Thus "once a month" will include frequencies up to once every 6 months, beyond which the "once a year" category is selected. This in turn includes up to once every 2.5 years, beyond which the "once every 5 year" is selected.

(62)), with 43% (54) and 20% (26) respectively going more often than this. The "once a year" category also dominated the taking of nature-oriented holidays (70% of respondents (89)) and the giving of money to wildlife organisations (58% (74)), the latter probably including annual membership subscriptions. Only one activity was reported as being very seldom or not at all participated in by substantial numbers of respondents. This was practical conservation work, for which 35% (67) of respondents chose "never" and 17% "hardly ever".

In identifying from which of their activities they had learned most about wildlife, the greatest proportion of respondents (40% (51)) chose television wildlife documentaries as the primary source. Reading about wildlife (19%) and watching animals in the wild (13%) were also seen as important. Figure 7.1 illustrates these data in combination with those for the reported second most important source of learning. In following the question about the frequencies of the various activities, there may have been a tendency for respondents to simply select their most frequent ones as the most important sources of learning. However, the relatively low incidence of the "visit the countryside" category in these data (this being the activity reported to be the most frequent of all), seems to counter this supposition.

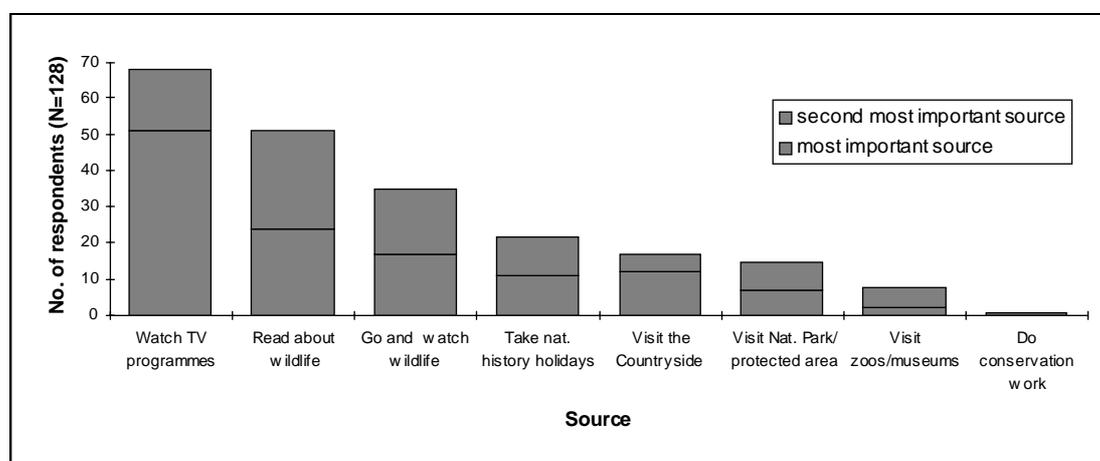


Figure 7.1 Self-declared sources of learning about wildlife.

7.3.3 General knowledge of biodiversity

An 'General Knowledge of Biodiversity' Index (GKBI) was calculated by combining the results of questions concerning several topics⁹: the species richness of certain habitats and certain countries; levels of endemism; the number of species existing globally, nationally and locally; the major threats to the world's wildlife; rates of natural and anthropogenic species extinction; and actual extinct species. Nearly 80% of respondents said that had heard the term "biodiversity" and 90% selected the most accurate definition from a list of five. But although few respondents scored very badly on this index, few scored particularly well either. On the scale of 1-20, no respondents scored less than 5, none more than 16, and 92% lay between 8 and 14 (Figure 7.2).

⁹ This index was developed because the scores for individual questions were made according to the distance of the respondents answer from the correct one. Thus the lower the score the better the knowledge. Because total knowledge scores could range between a minimum of 1 and a maximum of 20, the index was calculated by subtracting this score from 20 to give a "higher the better" measure.

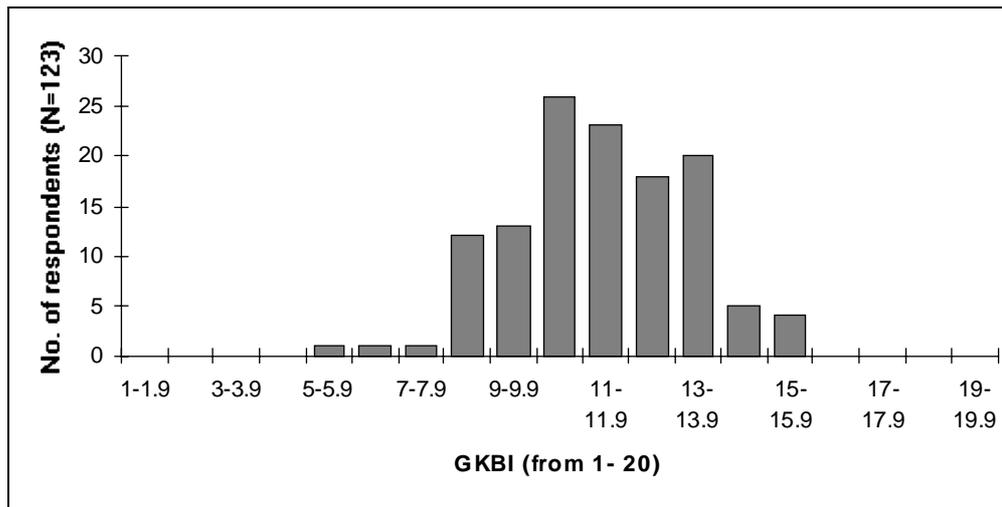


Figure 7.2. General Knowledge of Biodiversity Indices (GKBI).

Scores for the individual questions varied considerably. Those for habitat species richness were relatively good, the recipients having been asked to order 6 habitats according to their decreasing species richness. As with most of the biodiversity knowledge questions (which had a similar structure), respondents answers were scored by calculating their distance from the correct hierarchical position. So the closer to zero the better the score. For habitat species richness the mean distance for all respondents was just under 1 (with the maximum possible = 3). Of the particular habitats, deserts and forests were the most precisely positioned, whilst marshland was the most inaccurately located, with 62% (79) of those who answered this question (N=121) exaggerating its species richness by giving it a position two or more places higher than the correct one. In contrast, the diversity of seashores was similarly underestimated by 45% (58) of respondents.

Respondents knowledge of the species richness of countries were not as accurate as that for habitats, with their answers having a mean distance of 1.9 from their correct hierarchical position (max. = 4). Whilst the positioning of Indonesia was the most precise, that of Mexico was grossly underestimated, with only 9% (11) of the 118 answers putting it in either the correct or the nearest lower neighbouring slot. The species richness of New Zealand was overestimated by two or more positions by 70% (81) of the respondents, that of Kenya by 66% (78) and that of Mongolia by 44% (48). The positioning of for the remaining countries (U.S.A., Spain and Japan) was reasonably accurate.

The answers concerning the relative importance of different threats to the world's wildlife had an aggregated mean error distance of 1.3 (max. = 3), although it should be noted that the "correct" positioning of the categories was more contentious than that for the other biodiversity knowledge variables. Nevertheless, it is worth noting that according to the hierarchy adopted here, 45% (53) of the 118 respondents who answered this question underestimated the importance of introduced species by two or more positions, that 40% (47) did the same for interbreeding between species and subspecies, and that 90% (106) overestimated the relative importance of modern agricultural practices¹⁰. The disturbance and destruction of habitats was consistently correctly identified as the major threat, with 81% (96) of answers putting it in its correct position and another 12% (14) placing it second instead of first.

Perhaps the most interesting findings in this group of results relate to estimates of the numbers of species existing globally, nationally and locally, and those for the rates of extinction. Although for the former, the overall mean distance of answers from their correct position was just under 2 (max. possible = 5), because each category differed from the next by an order of magnitude, this in fact represented a very substantial difference. For example, those data for the number of species in the world included 57% (71) of estimates in the 1 billion category and above. Twenty six percent (32) went as high as 10 billion and as many as 17% (21) chose 100 billion. Given the widely accepted working estimate of 30 million

¹⁰ Although they may have been correct in doing so.

species globally (Wilson 1991), these percentages are remarkably high. Similarly, although the most accurate category for UK species numbers was 10,000, 56% of the 124 respondents to this question (56), chose categories of 1 million or more (24% - 1 million and 23% - 10 million). The data for Keoladeo were also skewed in the same way, as were those for the "local woodland", though to a somewhat lesser extent. But even here 23% (25) of respondents selected 100,000 species or more.

Respondents tended to substantially overestimate the rate of natural extinction and to underestimate the rates resulting from human activities. Thus, 57% (71) overestimated natural extinction rates by a factor of 100 or more, and 66% (82) underestimated anthropogenic extinction by a factor of 10 or more. When it came to actually naming extinct species the respondents also performed badly, despite the fact that a number of taxa were accepted to be included within the term "species" i.e. dinosaurs, mammoths, moas and sabre-toothed tigers. As Table 7.2. demonstrates, the "species" were dominated by the Dodo, the Passenger Pigeon, dinosaurs, the Great Auk, the Thylacine and mammoths. Rigorous marking revealed that only 30% (58) accurately named two or three species which had become extinct prior to 1900, and that 26% (33) were unable to name any. Of the 33 who named just one, 21 (64%) wrote "Dodo" and 10 (30%) wrote "dinosaur", whilst of the 28 who named two species, 8 (29%) simply wrote "Dodo" and "dinosaur". For species which had been lost post-1900, 59% (75) of respondents did not accurately name any at all and another 23% (30) named just one, more than half of which were either "Passenger Pigeon" (8) or "Thylacine" (8).

"Species"	Number of respondents mentioning each species
Dodo	73
Passenger pigeon*	36
Dinosaurs	35
Great Auk	26
Thylacine**	21
Mammoth	18
Moas	9
Quagga	8
Ivory-billed woodpecker	5
Sabre-toothed tiger	5
Stellar's Sea Cow	4

Table 7.2. Frequency of extinct species mentioned more than four times.

* Eight of these were references to "Carrier pigeon", which means any homing pigeon. Also in 15 cases the extinction was incorrectly identified as having taken place prior to 1900.

** Three of which were references to the "Tasmanian Devil", an extant carnivorous marsupial (*Sarcophilus harrisi*) rather than the "Tasmanian wolf /tiger" (*Thylacinus cynocephalus*).

7.3.4 Keoladeo-related activities

In relation to the Keoladeo National Park itself, 23% of respondents (30) had visited with specialist operators (20% (26) with birding tours and 3% (4) with general wildlife operators). Twenty seven percent (34) had gone with general tour operators and 50% (64) were either independent travellers or had not answered this question. Just 12 (9%) of the respondents had visited Keoladeo previously and only 4 (3%) more than once. Forty seven percent (49) of those who responded to the question said that they would have come on the tour even if Keoladeo had not been included. Visitors declared "culture and people" to have been the most important attraction for their coming to India (mean score = 4.26 on a scale of 1-5). "wildlife" was the second most important attraction (4.19), followed by "art and architecture" (3.80), "landscape" (3.77), "history and archaeology" (3.67), "markets and shops" (2.48) and "marine environment" (1.76). In response to an open question asking what they most remembered about Keoladeo, 86% of respondents mentioned the birds and/or wildlife and "people/rickshaws", "the place/beauty" and "the quiet/tranquillity" were each mentioned by just over 20%.

The questionnaire contained three questions covering activities related to possible sources of learning about Keoladeo before, during and after the trip. Table 7.3 Table 7.4 Table 7.5 show these data and give some indication of the relative importance of each source of learning. Before the trip, the reading of tour materials and materials from book shops and libraries were by far the most frequent activities participated in. Sixty five percent (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" (42%) (see Table 7.5). It should be noted however, that none of the post-trip activities were necessarily dependent upon the individual having visited Keoladeo, and should not be assumed as having resulted in any way from it.

Activity	No. of respondents	%
Given money to a wildlife organisation	67	52%
Been birdwatching	58	45%
Bought a bird book	53	42%
Borrowed a bird book	26	20%
Joined wildlife organisation	16	13%

Table 7.5. Sources of learning/activities following Keoladeo trip.

7.3.5 Keoladeo Knowledge Scores

The questions concerning visitors knowledge of Keoladeo had deliberately not included questions about birds. This was in order to avoid the data being skewed by the highly knowledgeable birders. The overall Keoladeo knowledge scores, formed by aggregating those for the individual questions, were generally quite poor (see Figure 7.3) with an overall mean of 15.3, just over one point above the mid-way

mark of 14, which, since the each question was of a yes/no format¹¹, 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 having been artificially created, and the mean number of correct answers for mammal questions was just under 3 out of a possible maximum score of 5. Most errors concerning particular species related to the porcupine (65% incorrect) the fruit bat (60% incorrect) and the nilgai (50% incorrect).

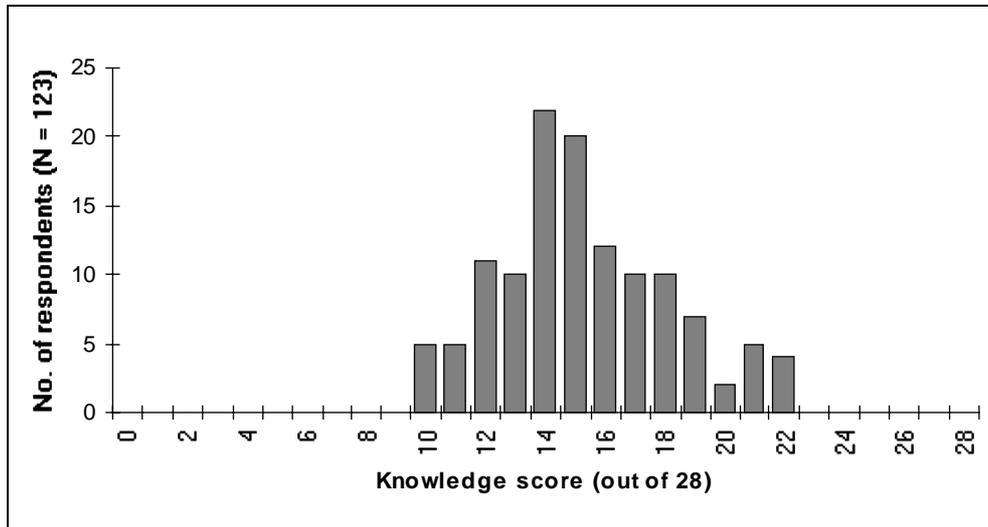


Figure 7.3. Keoladeo Knowledge Scores (KKS).

If the responses to the aforementioned questions were poor, the visitors knowledge of the site designations of Keoladeo was particularly bad, with just 26% (34) correctly assigning it to four or more of the six categories on offer (see Table 7.6). Only 31% (39) respondents correctly identified Keoladeo as a World Heritage Site, just 19% 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.

¹¹ The "no" option may have included "no answer". Where other parts of the question had been answered it was assumed that leaving a box blank indicated that the respondent was answering negatively.

Designation	Correct answer	No. of respondents giving correct answer	%
RSPB reserve	No*	120	94%
Protected forest	No*	109	85%
National Park	Yes	107	84%
World Heritage Site	Yes	39	31%
Ramsar Site	Yes	24	19%
Man + Biosphere Reserve	Yes	7	6%

Table 7.6. Respondents' identification of Keoladeo designations.

*In some cases the "no" option, which meant leaving the box blank may have included no response. Where other parts of the question had been answered it was assumed that a box blank indicated that the respondent was answering negatively.

7.3.6 Variable correlations

7.3.6.1 Socio-economic data

Amongst the socio-economic data, variable cross tabulations resulted in few significant correlations, even following substantial recoding of variables into less categories. As might be expected, a positive association was found between higher occupationally based social class and higher levels of education¹², and between both of these and the respondent's reading of the "quality press"¹³. A significant correlation was also found between class and rural/urban residence such that a disproportionately high percentage of those in classes I and II reported urban residence¹⁴.

In respect to general wildlife-related activities, a number of statistically significant differences in the frequencies of certain activities across categories of specific socio-economic variables were encountered. These are summarised in table 7.7. Clearly, some of these may well have been effected by intervening variables e.g. that between increasing age and increasing frequency of giving money to wildlife organisations is probably influenced by the amount of disposable income each individual enjoys. In the case of the relatively strong correlation between rural residence and a higher frequency of countryside walks however, the connection seems more direct. Those who live in the country have easier access to it and may even have decided to live there in order to be able to walk in the countryside regularly.

Activity	Socio-economic variable for which a significantly higher frequency of this activity was recorded.	F prob.
Go for walks in countryside/coast	Rural residence	.0004
Read about wildlife	Male gender	.008
Go on natural history holidays	Male gender	.056
Do practical conservation work	Non-degree level of education	.032
Give money to wildlife orgs.	Increasing age	.013

Table 7.7. Statistically significant differences in the frequencies of certain activities across categories of specific socio-economic variables.

¹² χ^2 significant at the 0.5% level

¹³ χ^2 significant at the 0.01% level

¹⁴ χ^2 significant at the 0.01% level

More interesting perhaps is the finding that males tended to report reading about wildlife and going on nature oriented holidays more often than females and the correlation between those who had not completed a first degree and higher frequencies of doing practical conservation work.

Correlations between the frequency of general wildlife-related activities and the type of tour operator used for Keoladeo visit, found statistically significant one-way analyses of variance for all but one activity (i.e. visit zoos/museums). These correlations were remarkably consistent (Table 7.8). All indicated a tendency to more frequent participation in each activity by those associated with the "birders/wildlifer" category, and, except in two instances ("Watch wildlife TV programmes" and "Give money to wildlife organisations") the lowest level of activity was associated with the "generalist" operators rather than the "independent travellers"¹⁵. Those who travelled with organised tours also tended to be those in the higher age groups (and *vice versa*)¹⁶. In fact, only 18% (7) of the under 35 age group, visited Keoladeo with a tour company.

A similar pattern was found for correlations between the frequency of general wildlife-related activities and the number of memberships of wildlife organisations during the preceding 5 years (see Table 7.9). Again, the same one single activity was absent from the statistically significant correlations (i.e. visit zoos/museums) and all activities showed a tendency for a positive relationship between increasing level of membership and higher frequency of participation.

A 'Wildlife Activity Index' (WAI) was developed by ordering and weighting wildlife-related activities according to the degree of activism each embodied¹⁷. This new variable was found to show a significant positive correlation with increasing membership level¹⁸ and with the reading of relevant materials from book shops and libraries prior to the trip¹⁹. A significant variation in levels was also found across the different tour operators, such that the WAI was highest for "birders/wildlifera" (mean = 117), second highest for the "independent" travellers (105), and lowest for the "generalist" visitors (96)²⁰. No relationship was found with any of the socio-economic variables.

¹⁵ This category also included those respondents who did not answer this question.

¹⁶ χ^2 significant at the 0.001% level

¹⁷ Ten people were asked to order the activities by the increasing degree of activism they embodied. All sorted them into scales which were exactly the same if one set of three activities and one set of two were grouped together. This resulted in a scale of 1-5, with 1 = least active and 5 = most active. The recorded frequency for each activity was multiplied by its point on this scale and the total of these scores formed the wildlife activity index (WAI) for each case.

¹⁸ F prob. .0000

¹⁹ F prob. .0121

²⁰ F prob. .0000

Activity	Mean frequencies* for the different categories of tour operator			F. prob
	Birders /wildlifers	Independent travellers	Generalists	
Watch animals in the wild	3.53	2.72	2.27	.0000
Read about wildlife	3.57	2.64	2.53	.0000
Visit Nat. Park /protected area	2.90	2.40	2.00	.0003
Go for walks in countryside/coast	3.93	3.46	3.38	.0008
Give money to wildlife orgs.	2.33	1.84	2.00	.0053
Watch wildlife TV programmes	3.73	3.16	3.29	.0109
Go on natural history holidays	2.03	1.83	1.70	.0639**
Do practical conservation work	1.89	1.62	1.38	.0863**

Table 7.8. Significant variation of frequencies of wildlife-related activities by type of tour operator used for trip to Keoladeo.

*calculated across ordinal categories: (1. "hardly ever/never", 2. "once/year", 3. "once/month", 4. "once/week"). Nevertheless figures give indication of relative frequencies.

**Significant difference only between "birder/wildlifer" and "generalist" operators.

Activity	Mean frequencies* for the different levels** of membership of wildlife organisations					F. prob
	none	one	two	three	four +	
Give money to wildlife orgs.	1.47	1.94	2.24	2.31	2.54	.0000
Watch animals in the wild	2.13	2.45	3.42	3.23	3.46	.0000
Read about wildlife	2.18	2.72	3.12	3.09	3.77	.0000
Visit Nat. Park /protected area	1.94	2.13	2.80	2.59	3.31	.0000
Go on natural history holidays	1.64	1.73	2.08	1.91	2.08	.0143
Go for walks in countryside/coast	3.29	3.52	3.68	3.68	3.92	.0153
Do practical conservation work	1.37	1.35	1.84	1.90	2.00	.0278
Watch wildlife TV programmes	3.03	3.24	3.48	3.54	3.69	.0665***

Table 7.9. Significant variation of frequencies of wildlife-related activities by level of membership of wildlife organisations.

* Actually calculated across ordinal categories: (1."hardly ever/never", 2."once/year", 3."once/month", 4."once/week"). Nevertheless figures give indication of relative frequencies.

** Numbers 1-4+ indicate the number of organisations the respondent had declared being a member of during the preceding 5 years.

*** Significant only between 0 and 3, 4+.

Relationships were also considered amongst the different wildlife-related activities²¹. Figure 7.4 shows the strongest correlations between activities. It suggests two main groupings of activity. These can be usefully described as two particular "types" of people. There are those who read about wildlife and watch wildlife TV programmes, give money to wildlife organisations (probably more than one) and walk in the countryside; and the others, who also read about wildlife, but are more active walking in the countryside, and visiting national parks and protected areas in order to watch animals in the wild.

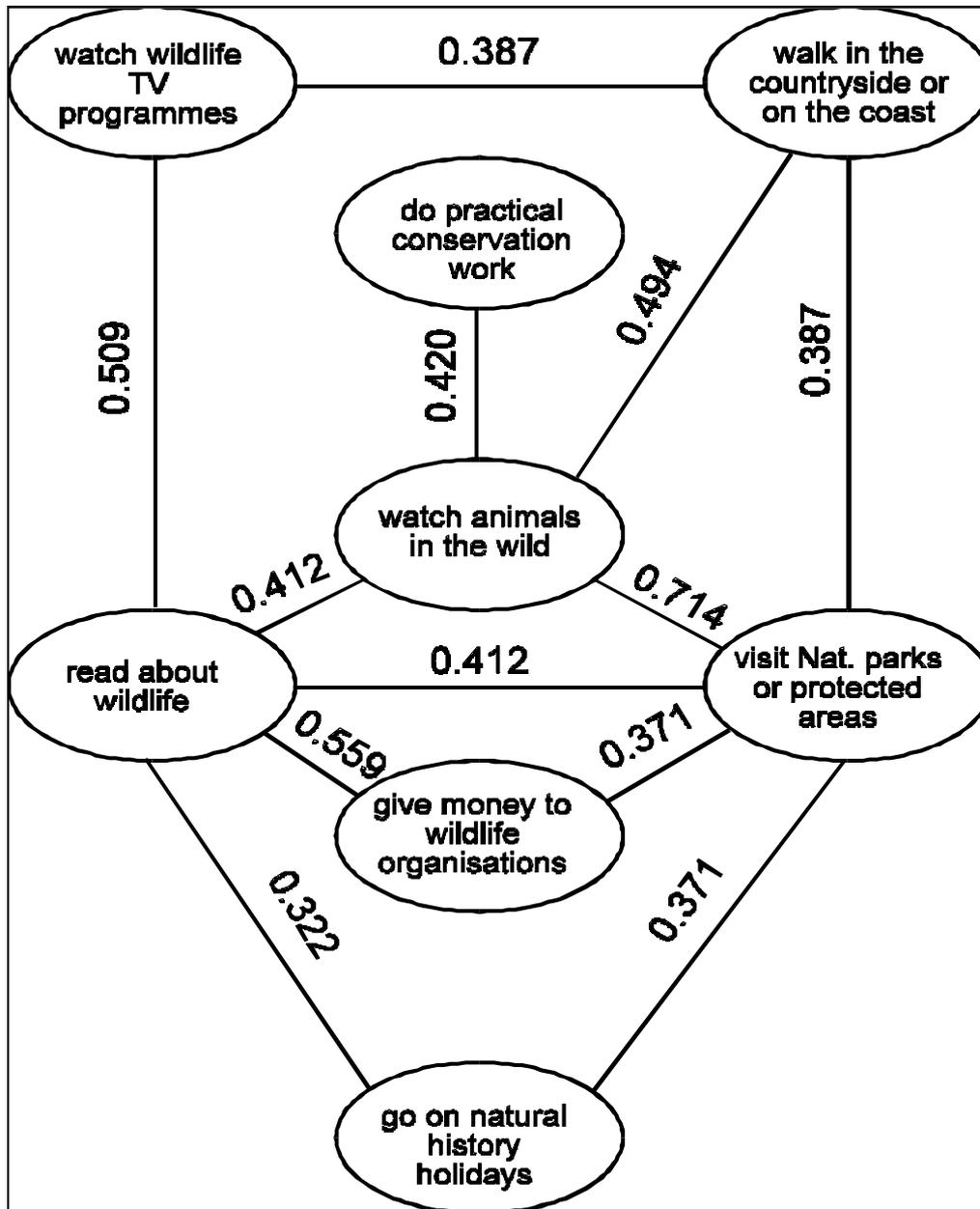


Figure 7.4. Spearman correlation coefficients of respondents' wildlife-related activities.

²¹ Frequencies were recorded in ordinal categories, but analysed using one-way Anova, a tool designed for comparison of normal distribution etc.

7.3.6.2 Biodiversity knowledge score correlations with other variables.

The general knowledge of biodiversity index (GKBI, mean = 11.43) was found to have a positive relationship with the number of organisational memberships reported²². Of the individual organisations to choose from (RSPB, RSPCA, WWF, Greenpeace, and Local Wildlife Trust), significantly higher mean scores were found for members of the RSPB (mean = 12.31)²³ and Local Wildlife Trusts (12.27)²⁴. As Table 7.10 illustrates, GKBI were found to be significantly higher for those reading about wildlife, watching animals in the wild, or giving of money to wildlife organisations more often, and for those taking more frequent: natural history holidays; visits to National Parks and protected areas; and walks in the countryside.

Of the socio-economic variables, only gender and educational level²⁵ showed a significant correlation with the GKBI. Males achieved a higher GKBI (mean = 11.84) than females (10.95)²⁶, and those people with degrees (11.75), a better score than those without (10.85)²⁷. Of the other variables whose relationship to GKBI was of interest, only "tour operator" was found to be in a statistically significant relationship, with respondents in the category "birders/wildlifers" performing best (mean = 12.47), those in the "independent" group, next best (11.44) and the "generalist" visitors, the poorest (10.44) (Figure 7.5 below).

Activity	Mean GKBI for the different frequency categories of wildlife-related activities.				F. prob
	hardly ever/never	once /year	once /month	once /week	
Read about wildlife	10.48	10.83	11.49	12.32	.0026
Visit Nat. Park /protected area	10.79	10.98	11.93	12.61	.0028
Watch animals in the wild	10.98	10.83	11.44	12.18	.0092
Go on natural history holidays	11.27	11.53	10.83	14.70	.0198
Give money to wildlife orgs.	10.54	11.69	11.97	11.15	.0328
Go for walks in countryside/coast	-	10.82	10.86	11.76	.0412

Table 7.10. Significant variation of frequencies of General Knowledge of Biodiversity Index (GKBI) by frequency of different wildlife-related activities.

²² F. prob. .0000

²³ F. prob. .0001

²⁴ F. prob. .0006

²⁵ recoded into two categories, those with and those without a first degree.

²⁶ F. prob. .0103

²⁷ F. prob. .0129



Figure 7.5. Differences in GKBI by type of tour.

7.3.6.3 Keoladeo Knowledge Score: correlations with other variables

The Keoladeo Knowledge Score (KKS, mean = 15.3) exhibited a very similar pattern to the General Knowledge of Biodiversity Index (GKBI) in its relationship to other variables, except for the socio-economic ones, with which no correlations were found. Indeed, a linear regression between KKS and GKBI resulted in a significant, if not particularly strong correlation between the two²⁸. Of the other significant correlations, the increase of KKS with membership levels was particularly pronounced²⁹ (see figure 6.8.), whilst that with the specific named organisations was strongest with the RSPB (mean = 16.73)³⁰ and marginally less so with the Local Wildlife Trusts (16.43)³¹. As Table 7.11 shows, the Keoladeo Knowledge Scores were also found significantly higher for those respondents who reported more frequent: walks in the countryside; natural history holidays; watching of animals in the wild; visits to National Parks and protected areas; giving of money to wildlife organisations; and reading about wildlife. And in the same manner as for the GKBI, statistically significant relationships were found across the different categories of tour operator. Again the "birders/wildlifera" performing best (mean = 17.3), those in the "independent" group, next best (15.13) and the "generalist" visitors, the poorest (13.91)³² (Figure 7.7).

²⁸ F = .0000, R square = .1588

²⁹ F. prob. .0000

³⁰ F. prob. .0001

³¹ F. prob. .0001

³² F. prob. .0000

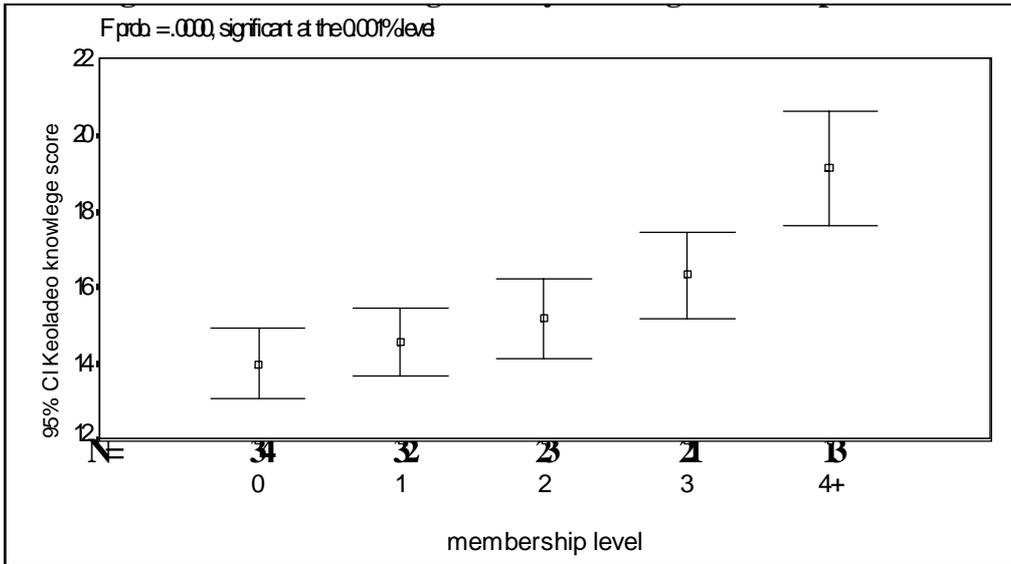


Figure 7.6. Keoladeo knowledge score by wildlife organisation membership

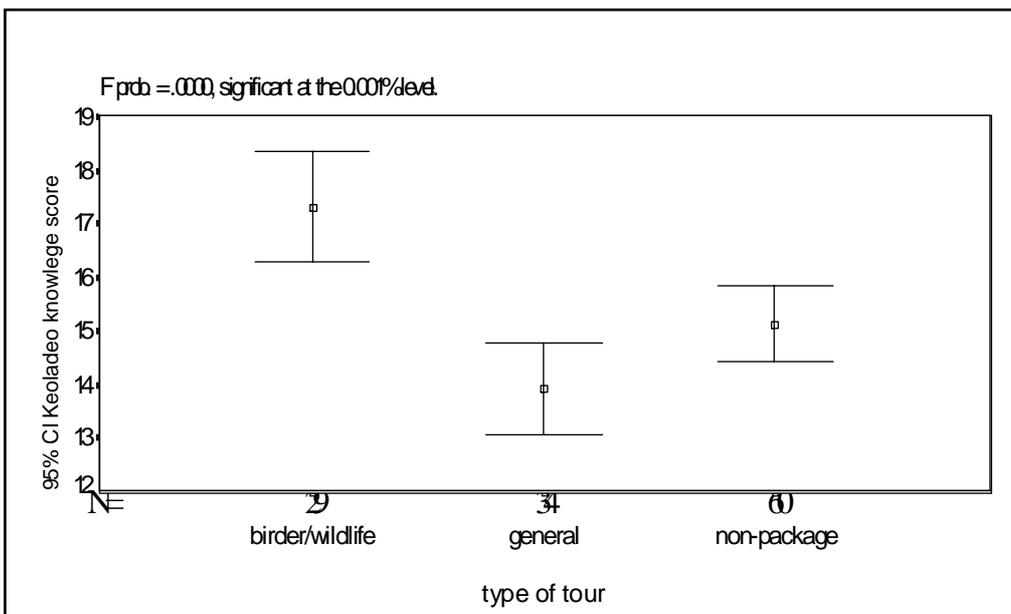


Figure 7.7. Keoladeo Knowledge Score by tour operator.

Activity	Mean KKSs for the different frequency categories of wildlife-related activities.				F. prob
	hardly ever/never	once /year	once /month	once /week	
Watch animals in the wild	12.73	13.92	16.04	17.12	.0000
Visit Nat. Park /protected area	12.89	14.88	16.09	17.88	.0000
Read about wildlife	10.48	10.83	11.49	12.32	.0026
Go for walks in countryside/coast	-	13.27	14.48	15.96	.0023
Go on natural history holidays	13.92	15.67	15.33	17.67	.0298
Give money to wildlife orgs.	10.54	11.69	11.97	11.15	.0328

Table 7.11. Significant variation of frequencies of Keoladeo Knowledge Score (KKS) by frequency of different wildlife-related activities.

There were only two significant correlations between the KKS and activities associated with the trip. These were a positive relationship with the reading of materials from book shops and libraries before the trip³³ and a positive relationship with the recognition of the tour guide as an important source of learning on the trip³⁴.

³³ F. prob. .0009

³⁴ F. prob. .0433

7.3.6.4 Sources of learning

Some data of interest were generated by the questions concerning learning prior to, during and following the Keoladeo trip. Substantially better scores on the questions concerning the origin of the Park, and the presence of porcupine and nilgai were obtained by those respondents who indicated that they had read materials from book shops and libraries before visiting Keoladeo³⁵. However, these respondents also performed significantly worse in recognising tourism to be the threat to the Park that it is³⁶. Those who had read the tour materials also obtained significantly better scores concerning the presence of the nilgai³⁷, for correct identification of Keoladeo as a Ramsar site³⁸ and for the recognition of the water hyacinth as a threat to the park³⁹.

Some of the self-declared important sources of learning during the visit were positively correlated with a number of correct knowledge questions about the Park. Thus a disproportionately higher proportion of those who acknowledged the Park guides as important sources, correctly identified Keoladeo's National Park status⁴⁰ and the same was true in respect to the lack of threat from grazing⁴¹ and grass cutting⁴². Interestingly enough, there was also a significantly positive correlation with incorrect⁴³ answers from these respondents with respect to the threat from tourism. This was also the case with those who identified tour guides as an important source of learning. This group also performed significantly better on the questions about the presence of the nilgai⁴⁴, the sambhar⁴⁵ and of the threat posed by feral cattle⁴⁶. However, it tended to exclude those who identified observation as a source of learning⁴⁷, and the respondents who did select observation as important had a disproportionate tendency to correctly identify tourism as a threat⁴⁸.

The final group of statistically significant cross-tabulations of interest were those between activities preceding and following the trip. These provide a some insight into some of the types of people who visited Keoladeo. Table 7.12 and Table 7.13 summarise these data, and suggest that those visitors who prepared well for the trip, also were consistently involved in a range of bird-related activities following the trip.

³⁵ Park origin χ^2 , significant at the 0.5% level
porcupine χ^2 significant at the 1% level
nilgai χ^2 significant at the 0.1% level

³⁶ χ^2 significant at the 5% level

³⁷ χ^2 significant at the 1% level

³⁸ χ^2 significant at the 1% level

³⁹ χ^2 significant at the 1% level

⁴⁰ χ^2 significant at the 1% level

⁴¹ χ^2 significant at the 5% level

⁴² χ^2 significant at the 0.05% level

⁴³ In this research tourism was taken to be a threat to the Park, although many would argue that this is not the case.

⁴⁴ χ^2 significant at the 0.5% level

⁴⁵ χ^2 significant at the 5% level

⁴⁶ χ^2 significant at the 1% level

⁴⁷ χ^2 significant at the 0.01% level

⁴⁸ χ^2 significant at the 5% level

Prior to trip	Post trip	significance
Read materials from shops/libraries	Went birdwatching	.003
Read tour materials	Went birdwatching	.0032
Read tour materials	Bought a bird book	.0064
Read tour materials	Gave money to wildlife organisations	.0088
Read materials from shops/libraries	Gave money to wildlife organisations	.0088
Read materials from shops/libraries	Bought a bird book	.0373

Table 7.12. Significant χ^2 correlations between activities before and after the Keoladeo trip

Activity	Activity	significance
Bought a bird book	Been birdwatching	.0002
Bought a bird book	Borrowed a bird book	.0002
Been birdwatching	Given money to wildlife organisations	.0006
Given money to wildlife organisations	Joined a wildlife organisation	.0004
Bought a bird book	Given money to wildlife organisations	.003
Borrowed a bird book	Been birdwatching	.0061

Table 7.13. Significant χ^2 correlations between activities following the Keoladeo trip.

7.4 Discussion

7.4.1 The context

The survey findings should be considered within the context of the make-up of the survey population and respondent sample. Those visitors to Keoladeo who actually received a questionnaire were either ones who had gone on trips with one of the four tour operators who collaborated with this researcher, or those who had been approached by local researchers whilst on holiday and had given their names and addresses. It is difficult to know how representative of the tour operators to the Park the small group of four was, but their willingness to participate may reflect other aspects of their operation, such as their level of conscientiousness and/or the amount/sort of information/education they provide for their clients. Alternatively, as suggested by some of those operators who did not get involved, participation might simply have been due to the presence or lack of organisational barriers e.g. how the records are kept. Evidence from the study by Jordan (1996) does suggest a somewhat higher degree of willingness to collaborate with tourism research amongst operators. So the lack of participation from the majority of operators contacted cannot be taken to necessarily indicate any particular treatment of their clients.

Another source of potential distortion of the data set was the process of the actual distribution and receipt of the questionnaires itself. Probably not all of those individuals sent questionnaires, received them. Some may have changed address, others been away etc.. Almost certainly, not all of those who received a questionnaire filled it in and returned it. A significant proportion may have been sufficiently intimidated by the knowledge questions it contained to not wish to respond. Not only is the resulting data set therefore skewed towards those people who were willing and able to take the time to complete the questionnaires, but this group is likely to be one which tends to have a greater interest in and perhaps knowledge of Keoladeo and wildlife in general. Any extrapolations from the data to the general level, must therefore be made with extreme care, despite the 35% (or more) response rate from recipients being a satisfactory one. Yet, notwithstanding the questions surrounding the representativeness of the data, they do reveal some interesting patterns and throw up some challenging issues.

7.4.2 The respondent sample

Although overall the respondent group showed a balanced spread in terms of age and gender, it was dominated by those in the higher occupationally-based social classes and by the better educated. Thus, 83% were from classes I and II and 65% had a at least a first degree and there was a positive correlation between these two groups⁴⁹. This might come of no surprise, given that such groups may well be more likely to possess both the desire and financial resources required to reach such distant and different places as India and Keoladeo.

This set of respondents may is unlikely to be representative of the overall population of visitors to the park. Not only might the better educated, higher status, visitors have positively selected themselves from amongst those who received a questionnaire, but the formulation of the survey itself may well have exacerbated this process.

The data set was also skewed in other ways. Membership of relevant organisations, for instance, was much higher than the norm, with 63% reporting membership of at least one wildlife-oriented organisation during the preceding 5 years, and for 69% of UK nationals, this membership including the RSPB. The level of participation in wildlife-related activities also appeared to be considerable, with substantial proportions of respondents in the "once/week" and "once/month" categories for visiting: the countryside (90%), watching wildlife documentaries (85%), reading about wildlife (63%), watching animals in the wild (55%) and visiting National Parks or protected areas (42%). Not surprisingly, activities which might be expected to be indulged in less often, such as the taking of natural history holidays, visiting zoos/museums and the giving of money to wildlife organisations (including paying annual subscriptions) were predominantly "once/year" activities, with respectively 70%, 58% and 48% of respondents for each represented in this category. The largest proportion of those reporting visits to National Parks or protected areas, were also in the "once/year" category (42%), it being reasonable to assume that this

⁴⁹ χ^2 significant at the 0.5% level

cohort was largely associated with natural history holidays. The appropriate correlation coefficient appears to confirm this (see Figure 7.4)⁵⁰.

Overall, membership and post-trip data indicate that the visitor group who returned questionnaires was dominated by bird watching enthusiasts. Only 20% (26) of respondents had arrived at Keoladeo with an organised specialist "birder" tour operator, but many of the independent travellers must have been bird enthusiasts who spend a substantial amount of time pursuing their interest. Finally, it is worth noting that of those who reported taking a specialist birder/wildlife tour, a disproportionately high percentage were men (79% (23) as opposed to 53% of all respondents), and there was also a positive correlation between the male gender and a higher frequency of taking natural history holidays and reading about wildlife. It appears therefore that certain of the male "birders" may have a greater commitment to the organised "birding" holidays. This may reflect a greater degree of interest and participation in ornithology amongst men generally.

7.4.3 Knowledge Scores: general

In terms of the overall focus of this survey research, the principle variables of interest are those concerned with the visitors' knowledge and activities. Given the general characteristics of the respondent group (i.e. educated, interested, involved and active), it might be reasonable to expect their scores for both the general knowledge index (GKBI) and the Keoladeo knowledge score (KKS) to be high. However, this was not the case, and quite poor performances were recorded by substantial numbers of respondents for both sets of questions.

Amongst the answers to the general knowledge questions, those concerning rates and examples of extinction and the numbers of species existing globally, nationally and locally, when looked at together, give particular cause for concern. They appear to demonstrate the lack of even a rudimentary knowledge of basic facts; facts which arguably should contextualize any discussion of the issue of biodiversity loss. Having a rough idea of how many species there are and how quickly they are being lost, is quite fundamental to any discussion of the problem. These data, coupled with the fact that the accurate naming of extinct species by this group was so weak and unimaginative, might be indicative of a wider "culture" which largely ignores the issue, fails to mark the passing of species and is stuck with a "Dodo and dinosaur" view of extinction, a view which is geographically removed and historically distant. Indeed, these data would probably have been even more disappointing if those extinct bird species identified by bird enthusiasts, and which the general public would be unlikely to come up with, had been left to one side. This certainly seems to be an area which might usefully be explored further in the interests of species conservation.

Although knowledge of species richness for the different countries was not very praiseworthy, this may have been due in part to the countries chosen. On a more positive note, there did seem to be a reasonable understanding of habitat and species diversity amongst the respondents, who after having experienced Keoladeo's varied and teeming bird and plant life, might be forgiven for overestimating the diversity of marshes. People's association of seashores with sandy (seemingly uninhabited) beaches might explain why they were underrepresented. The visitors had however, nearly all heard of "biodiversity" and most could correctly pick out the best definition. But, their knowledge of the importance of some of the key causes of biodiversity loss, was not very good, notably, that concerning the role of introduced species. Again, the conservation implications of the lack of understanding which these data might suggest are not encouraging. For instance, one need only consider the likely public outrage in response to a UK programme to eradicate the Grey Squirrel (*Sciurus carolonensis*) or reduce the population of the domestic cat (*Felis domesticus*), which are both major predators on wild birds, to realise why this finding might bear further investigation.

Although overall GKBI figures might be disappointing, there is some consolation to be derived from its associations with other variables. Thus, the fact that higher GKBI's were associated with higher levels of wildlife organisation membership and certain wildlife related activities is encouraging. It is worth noting that the highest GKBI's seem to correlate with more frequent reading about wildlife, watching animals in the wild, visiting National Parks and protected areas, and the taking of natural history holidays (see

⁵⁰ Spearman correlation coefficient = 0.371 sig. .000

Table 7.10). The respondents do seem to developing a slightly better understanding of biodiversity in connection with or alongside these activities, and the importance of reading about the subject **and** experiencing it may be supported by these data. However, it should also pointed out that the correlation of higher GKBI with those visitors taking "birders/wildlifera" tour operators to Keoladeo and with the male visitors, suggests that this highly committed subgroup is partly or largely responsible for this pattern in the data. Interestingly enough, there was a notable lack of correlation of GKBI with the frequency "watch TV programmes about wildlife", despite it being declared the most important source of learning about wildlife (Table 7.1) and was participated in significantly more often by the "birders/wildlifera"⁵¹ These data suggest that television viewing may not be such a valuable educational source as the respondents themselves think.

An index of the respondents' general knowledge of biodiversity considered in relation to other variables thus reveals a number of areas which could be investigated further in *vis a vis* conservation issues. It also provides a useful point of reference for comparison with the respondents' performance on the Keoladeo knowledge questions. But, in addressing the question of the educational value of nature tourism, it is the Keoladeo data which are of central interest.

7.4.4 Learning at Keoladeo National 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 as the result of pure guesswork (i.e. 14.0). The obvious immediate inference to draw is that amongst the respondent group, very little learning had occurred at the Park. This might well have been true, however, a closer examination of the data relating to knowledge of Keoladeo, sources of learning about wildlife, and the relationship between variables, leads to some rather more optimistic conclusions.

As with the general knowledge of biodiversity index, there is an association of the Keoladeo Knowledge Scores with certain of the respondents' wildlife-related activities (see table 7.11.). But in this case the relationship seems stronger. Thus, a comparison of regression analyses between the overall Wildlife Activity Index (WAI) and each of the general knowledge of biodiversity index (GKBI) and the Keoladeo knowledge score (KKS) gives a substantially stronger correlation between WAI and KKS than between WAI and GKBI⁵². It is logical to deduce that there is something in the nature of the set of wildlife activities undertaken by respondents, that relates more closely to learning at Keoladeo than to general knowledge about biodiversity. The association of higher KKSs with higher membership levels and with the "birders/wildlifera" tour operators, gives a clue to the answer, in so far as it points towards those probably more interested and committed persons who select a specialist tour. But then a very similar pattern was also found in relation to the GKBI. More revealing are the specific correlations between KKSs and the "sources of learning" prior, during and following the trip.

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 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 (see Table 7.4 and Table 7.5). 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 into 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 respondents⁵³. Although some of these memberships may have been taken up after the trip, this seems

⁵¹ F prob = 0.011

⁵² R square = .24929 (Signif F = .0000), as opposed to .05912 (Signif F = .0105).

⁵³ χ^2 significant at the 0.001% level

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 shops⁵⁴ and of the tour materials⁵⁵, both of which were also significantly correlated with the Keoladeo knowledge score. Not surprisingly, a comparison of KKS means by membership of the RSPB found a significantly higher knowledge score for members/ex members (16.72 as opposed to 14.43).

7.4.5 Visitor education: conclusion

This albeit small survey of visitors to an individual nature tourism site revealed unexpectedly low levels of general knowledge about biodiversity and produced little evidence in support of the view that Keoladeo in itself provides a powerful educational experience, that it constitutes some sort of "ecotourism". 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 general knowledge of biodiversity index and 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 a zoo or museum) 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 detailed 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.

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 instead, experiences in and with the environment. This bodes well for nature tourism, and very nearly half of the respondents to the questionnaire (62) returned 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 "do practical conservation work", and it is worth being reminded that those respondents who most frequently participated in it tended to be the less well formally educated, a group also under-represented in the respondent sample.

This study has thrown up some interesting points, but has only really scratched the surface. If wildlife sites are to begin to explore their potential as ecology/biodiversity educational centres and "ecotourism" is to be accredited any meaning of real value, then a great deal more research has to be carried out in this area. And if we are to start to develop the sort of understandings and support referred to in Article 13 of the *Convention on Biological Diversity*, this research needs to begin sooner rather than later.

⁵⁴ χ^2 significant at the 0.5% level

⁵⁵ χ^2 significant at the 0.05% level

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