

Tourism and environmental challenges in Jos wildlife park

Ijeomah, H. M., Ayodele, I.A. and A. A. Alarape

Department of Wildlife & Fisheries Management
University of Ibadan, Ibadan.

Abstract

The study examined the environmental challenges posed by tourism in Jos wildlife park, Nigeria. Data for the study were obtained through reconnaissance survey, interview, review of records and structured questionnaires. A total of 53 respondents (39 visitors and 24 workers) were randomly sampled. Data obtained were analysed using tables, frequency counts and percentages. Out of the visitors interviewed, 62.5% indicated that the park is much polluted during festive periods. Sources of pollution and pollutants were identified as noise, dust, litter/debris, faeces and overcrowding of tourists. The visitors (67.5%) complained of reduction in the stock of animal species in the park. Majority of the respondents (92.5%) showed willingness to visit the park again. According to respondents accommodation and communication facilities are inadequate. Most of the workers (79.2%) interviewed observed that noise and other environmental impacts of tourists' activities affect the behaviour of the animals. Problems facing both the visitors and the park were identified. Recommendations on how to reduce pollution and destructive pressures in the park were made.

Introduction

Tourism is one of the most important social issues on the planet earth. However, that is in terms of poverty alleviation, revenue generation, foreign exchange earning and labour intensiveness. Nigeria has spectacular hills, wonderful beaches, springs, parks, unique nature and game reserves as outstanding tourist attractions but the tourist industry is still underdeveloped. Presently Nigeria is joining the global trend where a wind of strong awareness is blowing towards tourism development. Tourist industry managements having the aim of maximising profit embark on policies, management ethics, strategies and attitudes, which may not be environmentally or ecologically friendly. Consequently, serious environmental problems begin to plague the park due to influx of tourists whose negative impacts on the environment were not considered. These uncontrolled growth in tourism aimed at short-term benefits often result in negative environmental impacts such as noise, water reduction, changed water course, water pollution, poaching, floral and cultural vandalism, trampling, damage to archaeological sites; introduction of weeds, fungi, human wastes and litter; off the road driving and erosion which

tend to destroy the very basis on which tourism is built and thrives (WTO, 2003). These may affect the life of animal species. The behaviour; breeding; feeding habit and rate, of species also become affected.

Moreover, these negative impacts on the physical, ecological and social surroundings increase in proportion to the number of tourists. According to the World Conference on Sustainable Tourism (1995), tourism lies at the centre of the dilemma between the protection of the environment and the need for economic and social development. Thus, environmental impact of tourism has great potential for good or evil (Kamuaru, 1996). Nevertheless, for overriding global interest, human beings in their quest for economic developments and enjoyment of the riches of nature must come to terms with the reality of resource limitation and carrying capacity of ecosystems and take into account the needs for future generation (IUCN *et al.*, 1980).

Ecotourism is expected to continue growing rapidly. Hence this will require specific planning, management and infrastructure (Ayodele *et al.*, 1999) to protect the natural site of interests, which are often ecologically fragile. Article 43 of the world summit on sustainable development (WSSD) held in Johannesburg in the year 2002 seeks to promote sustainable tourism development and ecotourism, taking into account the spirit of the international year of Ecotourism 2002, the United Nations year for cultural heritage in 2002, the world Ecotourism summit 2002 and its Quebec Declaration, and the Global Code of Ethics for tourism as adopted by the World Tourism Organisation (WTO, 2003).

These are to ensure that local community needs must be factored early into global, regional and national development while maintaining the cultural and environmental integrity of the host communities. This enhances the protection of ecologically sensitive or fragile areas and natural heritages while ensuring the least negative impacts and risks for their traditions, culture and environment.

Jos Wildlife Park, a tourism outfit gazetted in the year 1972, which was officially opened to the public in the year 1977, purposely for tourism, conservation of natural resources and environmental education, has remained open till date. The park is very rich in diverse species of Flora, and abundant, rare, endangered and threatened species of Fauna displayed in cages, paddocks, pools and enclosures of various sizes while some species of animals are on free range. Thus, there is an influx of tourists and visitors annually. This study investigates the environmental challenges caused by tourism in Jos Wildlife Park (JWLP).

Methodology

Study area Jos

Wildlife Park is located 4 kilometres east of Jos along Jos-Miango road, Jos, Plateau state, Nigeria. The bearing is on latitudes $9^{\circ}52'N$ and on longitude $8^{\circ}53'E$. The Jos Wildlife Park covers an area of 8 square kilometres enclosing hills, streams and varied upland vegetation with about 43 kilometres network of Safari track. The state is characterised by high lands that stand at an average height of 1,200 metres above sea level. The state has an estimated population of 3 million and is bounded by Kaduna, Taraba, Nasarawa, and Bauchi states.

Data Collection

Data pertaining to park facilities, environmental state of the park and problems encountered in the park by visitors was collected by means of observation, oral interview and structured questionnaires. A total of 40 structured questionnaires were randomly distributed among the visitors and the staff of the park.

Results

Demographic and social characteristics of respondents

Information on the socio-economic characteristics of respondents were analysed with regard to gender, occupation, marital status and educational qualification. Table 1 below indicates that all the respondents are Nigerians of Plateau State origin. Most of the respondents (79.8%) are males; (41.7%) are between the ages of 40 and 49 years, 37.5% are 20-29 years old and 20.8% are 30-39 years old. Majority of the respondents (45.8%) are holders of Ordinary National Diploma (OND) or National Certificate of Education (NCE). Furthermore, most of the respondents (72.5%) have experience of more than 5 years. Most of them are full time staff and 62.5% are married.

Table 1: Social and demographic characteristics of the staff respondents

	Variables	Frequency distribution	Percentage
Nationality of the staff respondent	Nigerians	24	100.0
	Non Nigerians	0	0.0
	Total	24	100.0
State of origin	Plateau State	24	100.0
	Other states	0	0.0
	Total	24	100.0
Age group of the staff (Years)	Less than 15	0	0.0
	16-19	0	0.0
	20-29	9	37.5
	30-39	5	20.8
	40-49	10	41.7
	Above 50	0	0.0
	Total	24	100.0
Marital status	Single	9	37.5
	Married	15	62.5
	Widowed	0	0.0
	Divorced	0	0.0
	Total	24	100.0
Education level of the staff respondents	Illiterate	0	0.0
	Primary	6	25.0
	Secondary	2	8.4
	OND/NCE	11	45.8
	HND/University	5	20.8
	Total	24	100.0
Nature of work	Full time	23	95.8
	part time	1	4.2
	Total	24	100.0
Gender of the respondents	Male	19	79.8
	Female	5	20.8
	Total	24	100.0
Time worked (years)	Less than 5	9	37.5
	6-10	3	12.5
	11-15	4	16.7
	16-20	1	4.1
	21-25	3	12.5
	26-30	4	16.7
	Total	24	100.0

Source: Ijeomah, 2003

Problems encountered in JWLP

The results of this study indicated that the major problem encountered by visitors is low income (70.8%), while the major problems facing the park are lack of funding (79.2%), government policy (66.7%) and insufficient qualified staff (54.2%). Most of the respondents (79.2%) accepted that noise and other environmental impact of tourism activities have effects on animal behaviour (Table 2).

Table 2: Problems encountered in Jos wildlife park

	Variables	Frequency distribution	Percentage
Major problems Encountered by Visitors	Awareness	5	20.8
	Low income	17	70.8
	Communication	3	12.5
	Insufficient animals	1	4.2
Major problems facing the park	Insufficient qualified staff	13	54.2
	Poor funding	19	79.2
	Lack of infrastructure	4	16.7
	Government policy	16	66.7
	Poaching/ interference	9	37.5
	Poor safari track for vehicles	1	4.2
Effect of noise and other environmental impacts of tourism activities on animal behaviour	Changes affects animals	19	79.2
	Does not affect animals	2	8.3
	No reply	3	12.5
	Total	24	100.0

Source: Ijeomah, 2003

Table 3 reveals that JWLP is much polluted (62.5%) during festivities and not polluted during non-festive periods (73.9%). Also, most respondents indicated that overcrowding (85.0%), noise (67.5%) and litter/debris (62.5%) are the major pollutants in park.

Assessment of JWLP facilities

As shown in table 4, most of the respondents (95.0%) do not lodge in hotels. All the respondents rated communication facility poor while 62.5% are satisfied with the situation in the park. Most of the respondents (42.5%) knew about the park through friends, and 92.5% indicated willingness to revisit the park.

Table 3: State of Jos wildlife park environment

	Variables	Frequency distribution	Percentage
State during Festive season	Highly Polluted	25	62.5
	Polluted	10	2.5
	Not Polluted	5	12.5
	Total	40	100.0
Non Festive season	Highly Polluted	3	8.6
	Polluted	7	17.5
	Not Polluted	30	73.9
	Total	40	100.0
Kinds of Pollutants for those that said Yes	Noise	27	67.5
	Overcrowding	34	85.0
	Litter/debris	25	62.5
	Dust	39	97.5
	Feaces	2	5.0
Disappearance of animals spp. noticed in the park	No	11	12.5
	Yes	27	67.5
	No reply	2	5.0

Source: Ijeomah, 2003

Table 4: Assessment of JWLP facilities by visitors

	Variables	Frequency distribution	Percentage
Respondents accommodation	Lodged in Hotel	2	5.0
	No lodging	38	9.5
	Total	40	100.0
Communication facilities	Excellent	0	0.0
	Moderate	0	0.0
	Poor	40	100.0
	Total	40	100.0
Satisfied with the park	Not Satisfied	15	37.5
	Satisfied	25	62.5
	Total	40	100.0
Medium of awareness by visitors	Radio	3	7.5
	Television	9	22.5
	Friends	17	42.5
	Schools	4	10.0
	Others	7	17.5
	(Relations/pupils)	40	100.0
	Total		
Willingness to Revisit the park by respondents	Will revisit	37	92.5
	Will not revisit	1	2.5
	Not decided	2	5.0
	Total	40	100.0

Source: Ijeomah, 2003

Tourists' inflow to Jos wildlife park

Table 5 below reveals that in the year 1998 the months of December (7, 924) and April (5, 282) recorded the highest number of visitors. The months of March (33,506) and April (33,349) recorded the highest number of visitation by tourists in 1999 while the month of December had 12,860. In the year 2000, total of 65,284

tourists were in JWLP with 14,893 and 12,215 tourists recorded in the months of January and December respectively. Visitors recorded in the months of July and December of 2001 were 10,985 and 19,904 individuals respectively.

Table 5: Highlight of the monthly and annual number of visitors in J WLP

S/N	Month	Year			
		1998	1999	2000	2001
1	January	1165	10,025	14,893	5209
2	February	969	346	1,916	4,230
3	March	1115	33,506	8,033	10,104
4	April	5,282	33,349	4,473	9,830
5	May	585	2,355	1855	4,301
6	June	1067	2351	4,110	6,847
7	July	1,379	2,736	5,922	10,985
8	August	2,221	3,123	2,881	6,093
9	September	2,921	3,074	2,256	1,355
10	October	2,961	3423	2,773	1,963
11	November	2,761	3867	4,497	3,770
12	December	7,924	12,860	12,215	19,904
Total		30350	111033	65,824	84,591

Source: Ijeomah, 2003

Discussion

The Jos Wildlife Park Management makes wildlife based tourism accessible to people from all walks of life irrespective of state of origin, tribe, nation, race and purpose of visit. The entrance fee in JWLP is non-discriminatory but in Lake Nakuru National Park, Kenya, the entrance fare for non indigenes in the year 1991 was made to be 310% greater than that of indigenes (Bolton, 1997). Also, in the Galapagos Island, visitors are made to pay heavy entrance fees but with the number of visitors highly reduced by the management to control pressure (Tangeley and Miler, 1991).

Due to this management liberality, large numbers of visitors are needed to step-up revenue generation (to sustain JWLP), which may then pose environmental challenges. During festivities the number of visitors become so increased that the game guards and parks wardens find it difficult to control them. Hence police was always called upon for assistance. The areas of concentration in the park (animal

enclosures, children playing ground and the pine forest) remain congested and polluted with noise and dust. In the dry season the air becomes so dusty (especially during December festivals) that animals obviously become restless. The dust even impairs human visibility and normal breeding. In such a situation an asthmatic patient may not be safe. The vegetation in the park turns brown regaining their green colour only during the rains.

Since 1998, with improved management JWLP became more attractive to visitors. Thus, the impact of visitors heightens. Picnics were held in almost every part of the park without showing much consideration for the survival and conservation of the species. Hence, visitors become unmanageable. Several cases of off-the road driving were observed. According to Eltringham (1984) noise has a negative effect on the breeding success of Crocodiles and other

species. And human presence has habituation effect on primates (Bolton, 1997). Though the higher the number of visitor's the higher the revenue generation, towards proper management of the park there is need to moderate visitors inflow in such a way that will not hamper revenue generation.

Though grasses are transplanted onto bare grounds, some areas are still exposed. Sometimes, livestock invade the park environment to graze thus competing with resident animals. This may lead to overgrazing.

The animals on free range constitute some nuisance to the park. Monkeys go to fight other caged monkeys for food. The enclosures of Kobs and the desert tortoise (*Gophensis agazziziz*) are always stormed by birds that also go for the free food. Caging single individuals or single sex is not in line with conservation. Such animals ultimately die and are forgotten just like the passenger pigeon (Ayodele *et al.*, 1999). Even the warthog (*Phacochoerus aethiopicus*) died in this way. The endangered species, pygmy hippopotamus (*Choeropsis liberiensis*) is still single. However, fund has to be made available for the management to acquire desired species of animals. During the June 2002 strike, the animals were placed under maintenance ration and skeletal management activities were carried out. Most of the animals that live in pools that are not naturally sourced were put at risk due to increased turbidity.

Conclusion

The park facilities are concentrated on a very small portion of the parkland. This leads to increased visitors pressures on these facilities thereby leading to their destruction and the resultant pollution in the park. At inception, in the year 1977, Lions, Leopards, Pygmy Hippopotamus,

Hyena and other endangered species were bred and distributed to many zoos and parks in Nigeria by the park. But with the exception of the Lion that bred this year 2004 (though the cubs died) none of the endangered species has bred since 1993. And the chances of the others breeding is rare unless new acquisitions are made.

In the early years, conservation was really the priority of the management. Recently, the park has partially compromised conservation for economic reasons and this is affecting the environmental state of the park, the behaviour and sustainability of the species in the park.

Recommendations

In view of these findings, it is therefore recommended that to reduce these pollution and destructive pressures from visitors, the park facilities should be multiplied and sited at different locations. More cages and enclosures should be constructed as insufficient enclosures and cages have in many cases hindered animal acquisition. Dead animal species such as the Zebra (*Equus burchelli*), Leopard (*Panthera leo*), Rhinoceros (*Dicerus bicornis*), and Warthog (*Phacochoerus aethiopicus*) should be restocked. Moreover, more animals especially the endangered ones should also be procured. More trucks should be acquired to facilitate the provision of enough vegetative materials for the grazers and browsers. The only available truck is over utilized and this leads to frequent break down. Besides, animal species should be provided with their mates especially the gregarious ones to ease psychological stress or tension. Livestock should be checked from grazing on the parkland and human beings should be stopped from defecating in the park.

Reference

Ayodele, A. I., Ebin, C. O. and Alarape, A. A. 1999. *Essentials of Wildlife Management*, Jachin Publications, Ibadan.

Bolton, M. 1997. Conservation and the use of wildlife resources, Chapman and hall, London.

Eltringham, S. K. 1984. Wildlife resources and economic development, John Wiley and Sons Limited, New York, pp 325.

IUCN/UNEP/WWF 1996. World Conservation Strategy: Living Resources Conservation For Sustainable Development, Gland, Switzerland.

Kamuaro, 1996. Ecotourism: Suicide or development? In: United Nations NGO'S Service, Pelaides Nations, Chapt, 1211 Geneva 10, Switzerland.

Miller, K and Tangeley, I. 1991. Trees of life: Saving tropical forests and their biological wealth, Beacon Press, Boston, Massachusetts.

PSTC 2001. Plateau State, Nigerians tourist haven, Plateau State tourism Corporation, Jos.

World Conference on Sustainable Tourism 1995. World Tourism Organization, Spain.

WTO 2003. Sustainable Tourism and Poverty Alleviation, World Tourism Organization, Spain.

WTO 2003. Tourism and Poverty Alleviation: meeting the Johannesburg sustainability challenge, World Tourism Organization, Spain.