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A STUDY OF THE IMPACTS OF TOURIST ACTIVITIES ON WILDLIFE (A CASE STUDY OF YANKARI GAME RESERVE AS A TOURIST DESTINATION IN ALKALERI LOCAL GOVERNMENT AREA OF BAUCHI STATE, NIGERIA)

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ABSTRACT

Wildlife tourism contribute financial donation for many countries and is seen as an instrument for development which stimulate economic benefits, this paper examines the impacts of tourist activities that also comes along with it. This was achieved through first identifying the tourists' attractions, the available recreational facilities and also the activities actively engaged in by tourists in Yankari Game Reserve. Random sampling was used in administering the questionnaire, 20% of the five hundred (500) tourists for the period of 5 days which is 100 was used as the sample size. Each completed questionnaire was reviewed for completeness prior to analysis and the data collected was sorted and analysed using tables, frequencies, and percentage. The results showed that wiki warm spring host a large number of tourists mostly during the evening for sunbathing and swimming, waste was also seen littered as well as open deification and urination were detected making the spring unhygienic. The results also showed that recreation is seen as the main purpose for visitation which constitutes 44%. 47% Respondent were of the view that wildlife is not easily seen. Also the result revealed that game viewing has no control except for late evening with fewer respondents of 8%.

Keywords: *Wildlife tourism; Yankari Game Reserve; tourists activities*

INTRODUCTION

Wildlife tourism is seen as trips to destinations with the purpose of visit being to observe the local fauna. Wildlife is usually terrestrial vertebrates whose populations are monitored and managed for exploitation or conservation Ceballos-Lascurain, H.(1996). Wildlife is a general term that technically covers both flora and fauna, although in popular use, wildlife is mostly used to refer to

animals in the wild. Perhaps a classic image of wildlife for many people is a large mammal or a flock of wild birds, but the term is widely used to cover all types of animals, including all kinds of insects, and marine life. Wildlife watching is simply an activity that involves the watching of wildlife. It is normally used to refer to the watching of animals, and this distinguishes wildlife watching from other forms of wildlife- based activities, such as hunting and fishing. Watching wildlife and animals is essentially an observational activity, although in some cases it can involve interactions with the animals being watched, such as touching or feeding them. Wildlife watching tourism is then tourism that is organised and undertaken in order to watch wildlife. Tourism industry tends to use the term 'wildlife tourism' rather than wildlife watching tourism. In many cases, the two terms are identical, but wildlife tourism is sometimes also used to refer to hunting or fishing tourism and in a few cases to the viewing of captive wildlife in zoos or confined parks where the animals no longer live a wild existence (Tapper, 2006). Yankari game reserve happens to appear different from other national parks as it constitutes a number of other attractive features and facilities; it is not completely defendant on the wildlife watching alone.

Tourists engage in many types of activities while visiting game-reserves, including hiking, camping, nature observation, photography, picnicking, swimming and educational studies. The magnitude and types of activities undertaken in parks or game-reserves is dependent on many factors, including the service and infrastructure available, visitor's needs and desire, and the resourse of interest (Raheem & Olorunfemi, 2008). Visitors can impact on reserve wildlife through a variety of means, and the most direct impact of tourists have on wildlife is death resulting from vehicle accidents. In Nigeria, game-reserve managers are concerne over vehicle injury or death to all kind of wildlife. In Yankari Game Reserve bushbuck, roan antelope and hartebeest are common roadway fatalities.

Tourist can also impact wildlife through stress and behavioral modification due to proximity, noise, traffic, and harassment. The impact of visitor viewing is highly species dependent; morethan 41 per cent of viewing time in Yankari Game Reserve is spent watching elephants, antelope, lion and waterbucks, despite their low numbers. Such pressure may cause sensitive species like elephant and lion to fail hunting, or discontinue the use of habitat heavily visited by tourists. Fleeing wildlife may injure themselves or others, and the young may become orphaned and get killed. Displacement can also lead to increased competition for resources in less- visited areas (Frangialli, 2001).

Also, high concentration of tourist activities and appealing natural attractions do create waste, the disposalof which is a serious problem that automatically litter and degrade the physical appearance of the environment, springs, roadsides, and camp sites. Most African game reserves have been impacted by humans through, livestock grazing, poaching, and habitat destruction which affects the wildlife population in one way or the other (Lilieholm & Romney, 1992).

OBJECTIVE OF THIS PAPER ARE AS FOLLOWS:

To determine the facilities that promote tourism in the Reserve.

To identify the activities that tourist specifically do engage in.

To proffer the best possible solution.

DESCRIPTION OF STUDY AREA

The study was conducted in Yankari Game Reserve, Alkaleri local government area of Bauchi state. The Reserve lies 9^0.5 north of the equator and 10^0.30 east of greenwich meridian, it covers an area of 2,244sqkm of savanna woodland and is well stocked with elephants, baboons, waterbucks, oribidi, crocodile, hippopotamus, roan antelope, buffalo and various types of monkeys. The wikki warm spring is one of the best features of the game reserve, the part is inhibited by a variety of birds, including the huge guddle bill stock, goliath heron, bate leur eagle, vultures, kingfishers, bee-eaters and more. It is excellent for bird- watchers (Fada, 2005).

Most of the villages around the perimeter of the reserve are of recent origin and were founded by hunters. The site of dukke, once a large settlement seven miles (11km). South-east of mainamaji on the rack to wikki, is of special interest in that it has 132 interconnected shafts sunk 9 to 15 feet apart through a sandstone layer 2 to 10 feet thick into underlying clay. The wikki camp itself is also on the site of an old village, as evidenced by the present of baobab trees and potsherds. Stone age implements have been discovered on khalban Hill and Sha'aman Hills, and near the site of Dukke. A few stone implement of neolithic age were found two miles north- east of wikki, and potsherds and grinding stones at the Barkono pass. A number of fairly well preserved half-buried pear-shaped pots were found in swampy forest just north of Barkono Pass. Numerous postsherds well found at Wikki, in the stream bed, at the top of the cliff above the spring, and around the camp.

From Bauchi access to the Reserve is by the Bauchi to Gombe trunk road for a distance of 25 miles (40km) untill the village of Dindima is reached, just after crossing a bridge over the river gongola. From Dindima sign post directs visitors along a secondary road and, after a further 18 miles (29km), the Mainamaji base camp at the entrance to the reserve is reached. There is still, however, another 27 mile (43km), to travel inside the reserve before reaching the visitors' camp at "Warm spring" Wikki, bringing the total distance from Bauchi to 70 miles (112km). Thewhole distance is easily motorable by all types of vehicles during the open season, and the journey can be done comfortably in less than two hours from Bauchi (Olorumfi, 2008).

Topography

The river Yashi, which is crossed by the access road just before Mainamaji, enters the reserves from the north and joins the river Gaji to flow through the middle of the reserve in a generally southerly direction. A few minor tributary streams with seasonal flow drain into the main valley of the Gaji, but in general there are very few streams in the area and only the Gaji is perennial. This has an important bearing on the distribution of the fauna during the later parts of the dry season. The land slopes gently from the western boundary to the Gaji valley, and rises again almost imperceptibly towards the eastern boundary. There is also a slight general decrease in elevation from north to south. There are few prominent topographical features, though a few isolated Hills occur here and there, and slopes in the immediate vicinity of the Gaji valley are locally relatively steep.

Geology and Soil

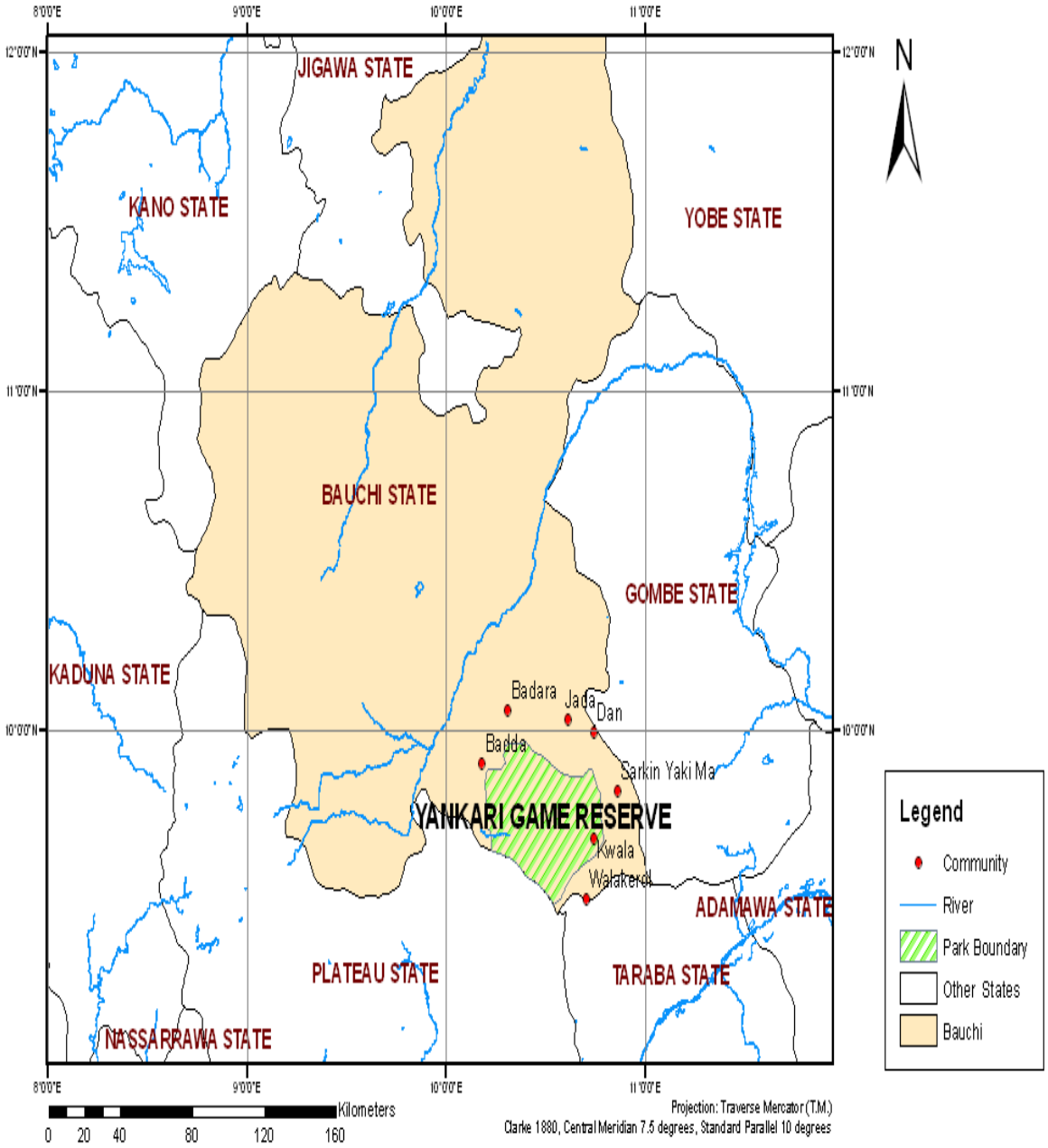
The whole of the Reserve is situated on sedimentary rocks, and outcrops are rare. West of the River Gaji are tertiary sandstone, while to the east are the other cretaceous deposits of shales and sandstones. It is probable that the escarpments on the western fringes of the Gaji valley, clearly defined at Wikki and at the sir Gawain falls, mark the eastern limit of the tertiary rocks.

Climate

The annual rainfall in the game reserve is about 40 inches(1016mm), with peak rainfall occuring in july and August. The months from November to March inclusive are virtually rainless.

Vegetation

With the exception of specialised sites of higher than average moisture status, along the central river system, the reserve supports rather open savannah woodland with grasses dominant in the field layer. The discontinuous canopy of the trees is 10-30 feet (3-9 metres) in height, with occasional stems up to 40 feet (12 metres), and there are scattered shrubs. Two families predominate, combretaceae and leguminosae; thorn-bearing species such as Acacia are rare. On eroded slopes, and on the verges of gulleys and escarpments bordering seasonal water courses, are very characteristic and pleasing belts of woodland dominated by pteleopsis habeensis (Hausa: lallen Giwa), a tree specie recorded in Nigeria only in the Yankari Game Reserve. It is common on the camp site at Wikki, but is leafless throughout the dry season and early rain. The marshlands themselves, which are prominent features of the central river system, are partly treeless with a dense ground vegetation of grasses and sedges and occasional low thickets of the thorny shrub Mimosa Pigra(Hausa: Gumbi). Elsewhere the riverian swamps support closed evergreen forest in which several interesting species occur (Jarengol, 1973).



Source: Yankari Game Reserve 2018

METHODOLOGY OF THE STUDY

The research involved a tourist survey in addition to secondary information from Yankari Game Reserve officials. The field survey instrument is addressed to tourists as users of the service to investigate their activities at the reserve.

Methods

Sampling technique

Random sampling was adopted as the sampling technique for administering questionnaires to the tourists in the game reserve.

Sample size

The research was conducted under the period of five (5) days and the approximate number of tourists recorded was five hundred (500) tourists. Taking 20% of the total number of the tourists within the period as the sample size, 100 tourists were administered with the questionnaire. Using field assistants, the questionnaire was administered at the main reception of the park after the visitors had completed their visit and were about to check out.

Materials and processes

Two types of data were collected, these were Primary and secondary data.

Primary Data: This is generated from the field work through the following methods.

a. Questionnaires

b. field observation

Field observation: This involved the observation of the present situation with the view of being familiar with the various parts of facilities provided to tourists coming to site. Field observation using ranking techniques matrices, and checklists for attraction inventory, infrastructure assessment, special events and service quality performances.

Questionnaire: Questionnaire was administered to individual tourists in the study area with the aim of acquiring information about his/her socio-demographic attributes and on their assessment of Yankari Game Reserve as tourist attraction.

Source of Secondary Information on Yankari Game Reserve

Bauchi State Tourism Board – is a parastatal under the state ministry of information, culture and tourism. It is charged with the responsibility of conducting and monitoring of tourism activity in the state. The following information obtained were map of the study area, Yankari development plan, records on wildlife resources and infrastructural facilities. Information obtained from these organisations includes trend of tourist records to parks.

Internet – The internet is a global network connecting millions of computers. The information obtained includes safari destinations in Africa, (wildlife resources, infrastructural facilities and maps).

Data Analysis

The data collected were cleaned and edited, the data were then analysed and presented on tables through descriptive statistic using frequencies and percentage to find out the current situations Yankari Game Reserve as tourist destination.

RESULTS AND DISCUSSION

One hundred (100) questionnaires were distributed but only eighty-seven (87) were collected and analyzed.

Table 1: Age of respondent

Age	Frequency	Percentage
12 – 19	**23**	**26%**
20 – 27	**14**	**16%**
28 – 35	**28**	**32%**
36 – 43	**17**	**19%**
50 and above	**5**	**5%**
Total	**87**	**100**

Source: field survey, 2018

Age

From the above table 23 respondents which represent (26%) are between the ages of 12-19 years, 14 respondents which represent 16% are between 20-27 years, 28 respondents which represent 32% are between 28-35, 17 respondents which represent 19% are between 36-43 while 5 respondents which represent 5% of all the respondents are 50 years and above. Deduction to be made from the above pattern of respondents' distribution is that individuals of the ages of 28-35 constitute the highest percentage of tourist in Yankari Game Reserve during the period under review while those of between the ages of 50 and above constitute the least percentage.

Table 2: The distribution of tourist according to category

Category	Frequency	Percentage
Academic research	**13**	**14%**
Conferences	**6**	**6%**
Seminars	**7**	**8%**
Excursion	**22**	**25%**
Recreation	**39**	**44%**
Total	**87**	**100**

Source: field survey, 2018

Category

From the table above 13 respondents of academic research represent 14%, 6 respondents represents 6% of the conferences, 7 respondents representing 8% of seminars and 22 respondents represents 25% of excursion while recreation has 39 respondents which stand for 44%. Deductions to be made from the above category of respondents are that recreation constitutes the highest number of percentage which has to with tourist engaging in wildlife viewing and swimming and other activities while those involve in seminars and conference has the least percentage respectively.

Table 3: Distribution of respondent base on whether the wildlife is rich enough

Variables	Frequency	Percentage
Very rich	**35**	**40%**
Fairly rich	**41**	**47%**
Poor	**11**	**12%**
Total	**87**	**100**

Source: field survey, 2018

Variables

The above table presents the distribution of respondent according to their ability to see for themselves the wildlife and assess whether is rich enough to encourage tourist, 35 respondent represents 40% as very rich, 41 respondents shows 47% which says its fairly rich and 11 respondents which is 12% says its poor. Deduction made from the table is that those who respond as fairly rich constituting the highest percentage and poor with least percentage, this shows that the wildlife is moderate.

Table 4: An assessment of the condition and level of facilities in the reserve

Variables	Frequency	Percentage
Very good	**30**	**34%**
Good	**46**	**52%**
Bad	**8**	**9%**
Appalling	**3**	**3%**
Total	**87**	**100**

Source: Field Survey, 2018

The above table shows 30 respondents representing 34% accepting the condition of facilities to be 'very good', 46 respondents which represents 52% believe it to be 'good' while 'bad' has 8 respondents with 9% and 'appalling' having 3 respondents with 3%. The facilities are in good shape but not to satisfaction.

Table 5: Distribution of respondent according to number of days spent during visit

Days	Frequency	Percentage
1 – 4	**76**	**87%**
6 – 10	**8**	**9%**
1 week and above	**3**	**3%**
Total	**87**	**100**

Source: Field Survey, 2018

The table below shows that 76 respondents which represents 87% have been in Yankari Game Reserve for the current visit between 1-4 days and, 8 respondents which represents 9% have been there in Yankari Game Reserve for between 6-10 days while 3 respondents which stands for 3% have been in Yankari Game Reserve for the current visit for a period of 1week and above, no respondents have been in the Yankari Game Reserve for the present visit for more than five weeks. Deduction to be made from the above pattern of respondents' is that almost all the respondent tourists found in Yankari Game Reserve during the period stayed for not morethan two weeks during the current visit.

Table 6: An assessment of tourist according to designated time to game viewing

Time	Frequency	Percentage
Morning session	**30**	**34%**
Afternoon session	**26**	**29%**
Evening session	**24**	**27%**
Late evening session	**7**	**8%**
Total	**87**	**100**

Source: field survey, 2018

Table 6 shows that 30 respondents represent 34% for morning session, 26 of the respondent stands for 29% as for afternoon session while 24 respondents represent 27% for the evening session and 7 respondents represent 8% for late evening session. Deductions to be made from the above table is that the morning session has the highest percentage and late evening with the least but the difference from morning to evening session is not much which means there is no specific time or

control made for tourist to engage in game viewing and late evening is the only session when tourists participate less in game viewing.

Table 7: Rate of Tourist inflow Yankari Game Reserve by continent (2014 - 2018)

Year	Africa	America	Asia	Australia	Europe	Total
2014	13099	237	510	96	2451	16369
2015	15463	1027	1276	2	5501	23269
2016	14583	639	1104	120	3013	19459
2017	13529	585	929	110	2267	17421
2018	12099	398	661	83	1944	15185

Source: Yankari Game Reserve 2018

The table above shows the rate of tourist inflow by continent from 2014-2018, from the figure there in the table Africa has the highest number of tourist throughout while Australia having the least number.

RESULTS OBTAINED FROM FIELD OBSERVATION

This was carried out to enable us find out the available recreational facilities and the activities that tourist engaged in the reserve. From our observation we started with the camp at wikki which provides accommodation facilities, in single or double family size chalets comprising 1 royal villa, 2 vip villas, 3 vip chalets, 2 coorporate villas, 24 chalets, 36 suites. Also included is a large capacity conference hall, a clinic, water works comprising huge capacity surface and overhead tanks. Others include amenity center, comprising a reception, offices, central modern laundry, shop, museum, an African restaurant, outdoor conveniences, squash court, tennis cout, two generators, and a couple of land rover jeeps normally used by the tourists for game viewing.

Game viewing is the prior activity tourist engaged themselves in, we understand the available trucks were eight (8) and three (3) out of them were in bad shape. Wiki warm spring is the second attractive feature in Yankari Game Reserve was most of the tourist spend their day. According to Olokesusi (1990) ‘’ the spring, after which the only camp was named, is about 13.0 metre and 1.9 metres deep. It is obviously the largest in the park and it flows at the rate of 21,000,000 litres per day, it has a constant temperature of 31.10c through the year during both the day and night’’. Now, all of these features made it favourable and attract tourist which engaged them in a number of activities including: sunbathing, swimming and canoeing. At the end of the day we were able to also understand that most of the time they do take along with them food items and in some cases toiletries to the spring, we also detects

waste littered at the spring mostly made up of polythene bags. Despite providing two toilet buildings within the vicinity, some do partake in urination and defecation in the open.

CONCLUSION AND RECOMMENDATION

The research was carried out at Yankari Game Reserve to determine the impacts of tourist activities. Base on the findings obtained in the study area, it has indicated that Yankari Game Reserve and its potential is said to be experiencing a serious negative impact as a result of tourist activities. No lover of nature will love to miss watching wildlife in their natural habitat, this has lead tourist to engage in game viewing at any time, no control or stipulated time for the activity. As a result it was noticed that number of some wildlife are disturbed and when into hiding, this has disturbed their feeding pattern and the breeding success of some other species. The wiki warm spring where tourist spent their day sunbathing, swimming is becoming an avoidable area as a result of open defecation and urination that cause an unpleasant odour in the atmosphere which has also created discomfort.

RECOMMENDATION

Base on the results of the study, the following suggestions are made**:**

- It is therefore necessary for various regulatory agencies namely: Bauchi state ministry of tourism and culture, national conservation foundation (NCF), and wildlife conservation foundation (WCF), to put more effort in addressing the problem of human activities in the Reserve area.
- The Yankari Game Reserve management should make all efforts to improve on the quality of tourist's facilities for maximum satisfaction.
- They should also seek to liaise with nongovernmental organisations (NGOs) to assist in improving tourism and conservation of natural resources (fauna & flora).
- The security rangers in the reserve should be provided with sophisticated equipments to carry out their job of protecting the Reserve.
- Regulations should be put in place to update laws and enforcement with regard to control or time limit for engaging in game viewing and site sanitation.

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