



Wildlife for Sustainable Development

Nigerian Journal of Wildlife Management

Nig. J. of Wildl. Mgt., 2020, 4(1): 30 - 36

©2020 Copyright Wildlife Society of Nigeria

<https://wildlifesocietyng.org/ojs/index.php/wildlifesocietyng-journal/index>

ISSN 2735-9298 (PRINT)

ISSN 2735-928x (ONLINE)

Constraints to the Management of Animals in Kano Zoo and its Implication on Zoo Visitors

¹Bichi, H. M., ^{1,2}Ogunjinmi, A. A. and ¹Daniel, M.

¹Department of Forestry and Wildlife Management, Faculty of Agriculture and Agricultural Technology, Federal University Dutsinma, Katsina State, Nigeria

²Department of Ecotourism and Wildlife Management, Federal University of Technology, Akure, Nigeria

Corresponding email: hmusabichi@fudutsinma.edu.ng, husainmbichi@gmail.com

ABSTRACT

The study focuses on the constraints to the management practices adopted in Kano Zoo and its implication on zoo visitors. Questionnaires were administered to adult visitors (n=100). There were more male visitors (77%) than female visitors (23%) while single and married were 70% and 29% respectively. A higher proportion of the respondents were tertiary education level students (39%) and civil servants (27%). The visitor's awareness of animal's management in zoological gardens was relatively high. The constraints to animal management in the zoo were lack of fund and inadequate government policies. It is very crucial that zoos intensify their efforts to meet the need of both visitors and zoo community. Furthermore, zoos must develop innovative methods to engage the public to inspire a greater interest and enhance their understanding of zoo management.

Keywords: Kano zoo, constraints, visitors, management practices

INTRODUCTION

A zoological garden, zoo park or zoo is a place where wild animals (both exotic and native species) and in some instances domesticated animals are exhibited in cages and enclosures for public viewing (Croke, 1997). In such establishment animals are given more intensive care than is possible in reserves and sanctuaries. The captive animals' propagation is one way of encouraging growth of depleted wildlife species population and so properly planned programme of zoo establishment and development is considered as one of the effective methods for conservation of wildlife. Environmental study and the conservation of the environment have become subjects of major importance all over the world, not only from the point of view of preventing pollution, but also that of conserving water supplies by protecting water shed,

conserving soil, flora and fauna. Conservation in zoos can provide an important facility for research at both pure and applied levels, in both the field and the laboratory in colleges and universities. According to MacDonald (2005) zoos maintain over 500,000 individuals of terrestrial vertebrates, representing 3000 species of mammals, birds, reptiles and amphibians. Bygott (1979) emphasized that the primary function of zoo creators is to make the visit a leaving experience. The attention and effort given to wildlife conservation and tourism in both state and federal levels have been noted. Zoos play an important role in wildlife conservation (Chris & Jan, 2010).

Generally, the establishment of zoos was borne out of the need to guarantee the safety of threatened wild animals (Uloko, 2004). The only guarantee man can provide is a largely unused

potential for developing resources to satisfy the need of people, and yet many flora and fauna species are dying out without their potential even being recognized. Borokini (2013) stated that over 600million people visit zoological gardens annually around the world hence they have great potential for global conservation awareness.

According to Borokini (2013), ex-situ ('off site', 'out of place') conservation is a set of conservation techniques involving the transfer of a target species away from its native habitat to a place of safety, such as a zoological garden, botanical garden or seed bank. Its primary objective is to support conservation by ensuring the survival of threatened species and the maintenance of associated genetic diversity. To do so, ex-situ institutions preserve the genetic or reproductive material of a target species, or take care of the living target species for the purpose of reintroduction. In its simplified form, the concept is likened to Noah's ark, wherein species are maintained in a place of safety until factors threatening their existence in the wild have been removed and reintroduction is likely to be successful.

Ex-situ techniques target plant and animal populations. Techniques vary according to the characteristics of the species to be preserved, which dictates the type of material to be preserved (e.g. whole animals, pollen and seeds). Ex-situ collections of plants are established by storing seeds, conserving pollen and through the storage of plant shoots in conditions of slow or suspended growth (in vitro conservation). Ex-situ techniques applicable to animal populations include the storage of embryos, semen/ovule/DNA, or captive breeding through the establishment of field gene banks and livestock parks. Lively debate surrounds ex-situ techniques, with much deliberation over when ex-situ measures are appropriate and justified. In particular captive breeding and reintroduction programs have sparked controversy due to, among others, the difficulty in establishing self-sustaining captive populations the high costs involved in captive breeding programs (Balmford *et al.*, 2007), the poor success of reintroduction attempts, and the negative genetic effects of domestication on reproductive rates. Some species are however more susceptible to captive-breeding programs than others. For example, the global loss of amphibian species is mainly

tackled through captive- breeding because the small body size, low maintenance requirements, repeated breeding and high fecundity of frogs allows a rapid build-up of captive populations. The role of zoos in captive breeding is probably of only limited value in conserving wildlife (Hancocks, 2001; Dixon and Tracers, 1994), however, in the light of three major constraints. The first is that there is limited space available for captive breeding, or devoted to holding threatened species (Bartos & Kelly, 1998). The second constraint is the high cost of producing captive bred animals in zoos. For instance, in Australia it has been estimated to cost on average \$6,546 for each native animal produced for reintroduction (Perth Zoo, 2000). Reintroduction of captive bred wildlife requires monitoring and improvement if it is to have a significant conservation impact (Mallinson, 2003). A third constraint is the availability of secure suitable habitat. Alibahai and Jewell (1994) estimate that it costs more than 16 times as much to maintain a black rhino in captivity that to protect enough appropriate wild habitat to support it.

MATERIALS AND METHODS

Study Area

The Kano Zoo is the largest zoo established in Nigeria; covering a land area of 100ha, in which only 25ha were put into used and the remaining 75 ha as rangeland. It was officially opened in 1972 by the then Military Governor of Kano State, Audu Bako, as Kano Zoo which, was later changed to Audu Bako Zoological Garden, Kano. Kano state has a Sudan savannah vegetation, and occupies an area of about 43,000 km² lying between 10°30' North and latitude 12°03' north and longitude 8°32' East and is about 1549 feet above the sea level. In the immaculately clean and tidy zoological garden, there is a collection of 60 different species and 200 individuals of animals at present. The zoo is open seven days a week and there is a restaurant with a Cool Spot to relax. It is strategically located within the garden. It opens from 7:30am in the morning to 6:30pm in the evening. The gate fee was a hundred naira (Nigeria currency) per adult and fifty naira per child while organized group-like associations or clubs may pay in groups or sometimes gain access without payment.

Data Collection Method

Sampling and Research Design

This study was conducted at Zoological Garden, Kano State between May and June 2017. Data was collected using simple random sampling. A total of one hundred (100) visitors were sampled. Visitors survey was conducted in order to appraise the level of management of animals in the zoo. Questions were asked from the visitors about conception about zoos in general and the main reasons for visiting the zoo. The instrument was pretested. The questionnaire was divided into two sections. The first section was on demographics of the visitors and the zoo keepers. These questions have been routinely used in other studies in previous studies to understand the background of the participants and to assess which proportions of the public are being surveyed (Reade & Waran, 1996). Visitors were asked about their age, highest education level, income frequency, and occupation. The second section asked questions on the management of animals at the Kano Zoological Garden.

Procedure of Data Collection

Data were collected at five different locations within the Zoo between 8: 00am to 5:00pm. The site locations for administering the survey within the zoo were selected to ensure that visitors had viewed several exhibits on their way, out to determine whether the exhibit influenced opinions. The curator of the zoo was interviewed to obtain information on the zoos conservation policies.

Data analysis

The responses from the questionnaires were appropriately collected and subjected to

percentage analysis using SPSS version 20 statistical package. Bar charts were also used in the presentation of result.

RESULTS

Demographic Information

The study indicates that 77% of the visitors were male and 23% female. Most respondents were between the age of 18-28 years old, representing 64% of the sample. Only 4% of respondents were within age 59-68 years old and above. A considerable proportion (70%) of the respondents was single and only a relatively lower proportion (29%) was married. Divorcee were represented by 1%. Also, respondents with tertiary level of education were 68%, with a handful of secondary level (26%), primary (3%) and non-formal education (3%). Majority of the respondents were students (39%) while 27% were in full time employment. In addition, 22% of the respondents were into business and 12% were farmers. Almost half of the respondents got their income monthly 42%, while 29% is on the daily basis few of the respondent were on weekly 21% and only 8% were receiving their income on the yearly basis.

Zoo conservation awareness

A large proportion (73%) of zoo visitors indicates that zoo plays important roles in the management of animals in the study (Figure 1). Visitors' response to role of zoo management is in Figure 2. Forty- seven (47%) participated in management of animals in zoological garden, while only (33%) did not. Majority of visitors (50%) participated in the management of animals in the zoo, while (30%) were not participated (Figure 3).

Table 1: Demographic information of visitors

Variables	Frequency Distribution	Percentage (%)
Age		
18-28	64	64.0
29-38	18	18.0
39-48	8	8.0
49-58	6	6.0
59-68	4	4.0
Sex		
Male	77	77.0
Female	23	23.0
Education		
Non formal	3	3.0
Primary	3	3.0
Secondary	26	26.0
Tertiary	68	68.0
Occupation		
Business	22	22.0
Civil servant	27	27.0
Famers	12	12.0
Others	39	39.0
Frequency of income		
Daily	29	29.0
Weekly	21	21.0
Monthly	42	42.0
Yearly	8	8.0
Marital status		
Single	70	70.0
Married	29	29.0
Divorced	1	1.0

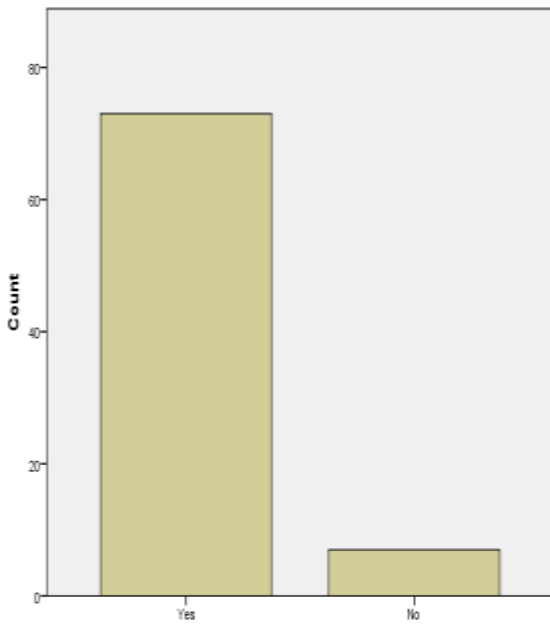


Figure 1: Visitors' awareness of animal management in the zoo

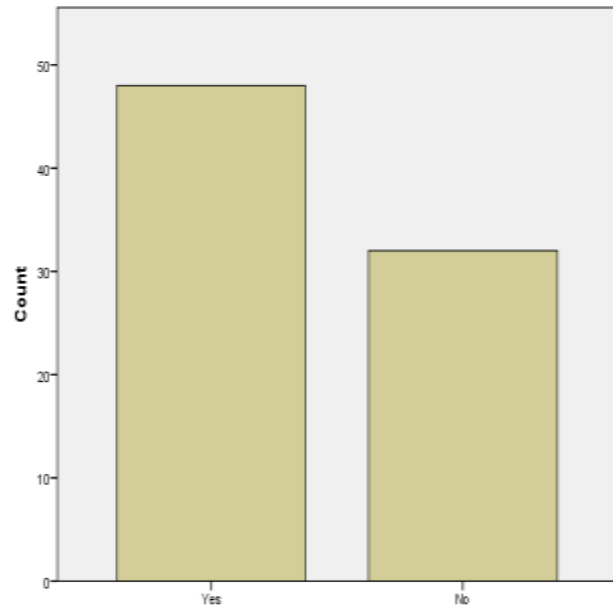


Figure 2: Visitors responses to role of zoo in the management of animals

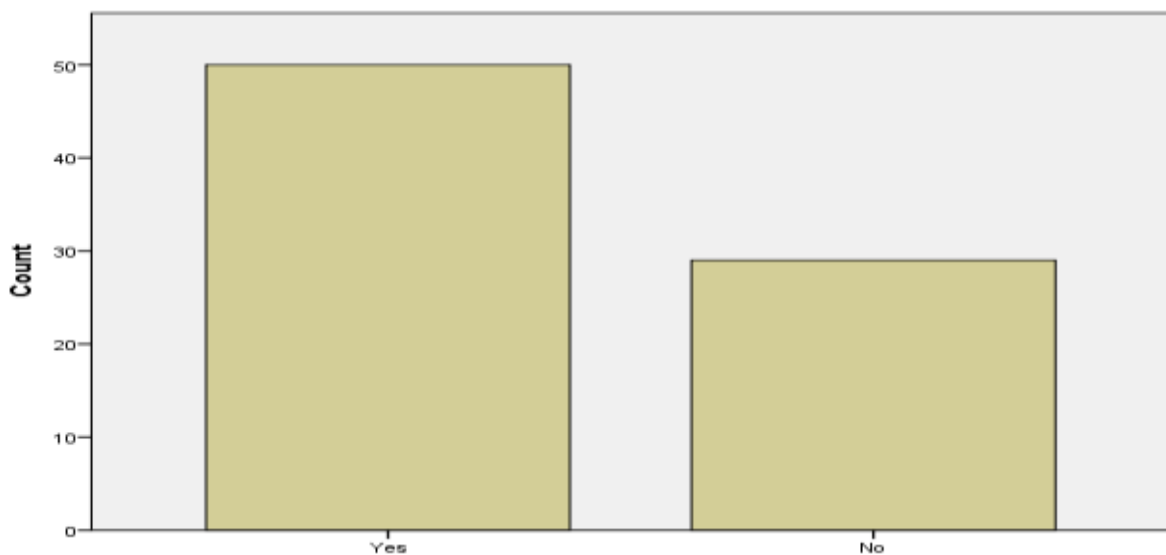


Figure 3: Visitors participation of the management of animals in the zoo

Perceived constraints of animal management by visitors

Respondents identified lack of fund (23%), government policies (19%) and lack of

information (12%) as the major constraint to management of animals in Kano Zoo (Figure 4).

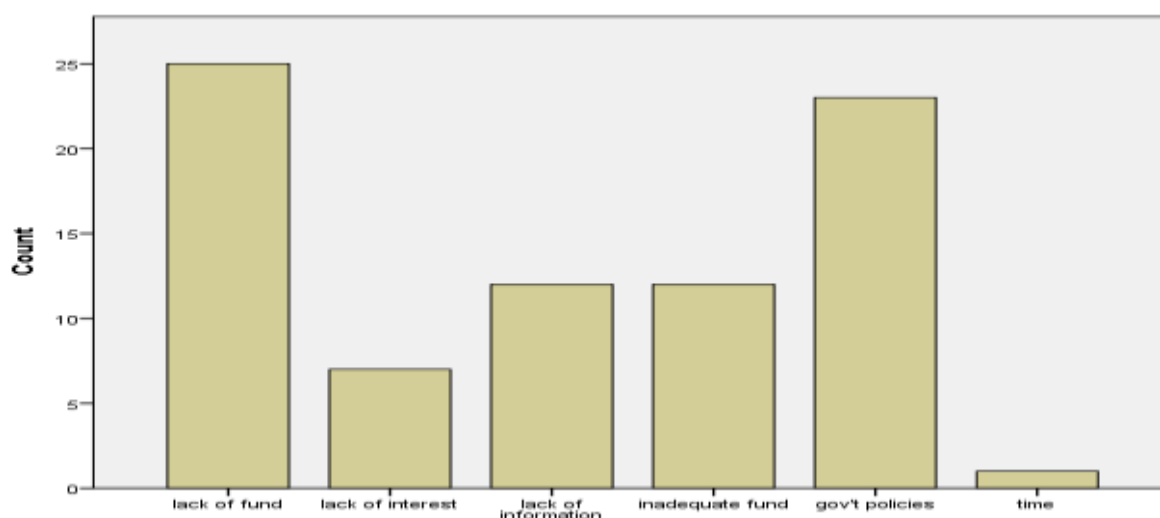


Figure 4: Visitors contribution to management of animals in the zoo

DISCUSSION

There were more male visitors than female as recorded in this study with majority single and were between 18-28 years. These findings are similar with the findings of Uloko and Iwar, (2011 at Markudi Zoological Garden and Manatarium on Conservation Education Benue state. Also, the higher number of males compared to females may be due to women's more involvement in household chores and home-keeping thereby having limited time for zoo entertainment. Large proportion of the visitors were aware of the management of animals in zoos and a considerable proportion acknowledge the roles of zoos in the management of animals. Visitors play a very important role in the management of animals.

This study revealed that the visitors perceived that lack of funding as the main challenge. Some of the visitors are of the opinion that government policy constitutes the major hindrance to management of animals in the zoological garden. These could be due to the large number of unemployment among potential visitors in the study area because majority of the respondents were students. On the other hand, several visitors fingered the lack of information as the major constraint. Suggesting that, the zoos method of information dissemination to the public is inadequate.

CONCLUSION

The enclosures of the animals were well designed and there is provision of enrichments in

some of the cages and holding fences. The animal enclosures were always clean, the clean and wash the cages and holding fences with hypo, liquid soap, detergent and water on a daily basis depending on the nature of the animals and the design of the cages/enclosure. The animals are fed on a daily basis and some species at day interval depending on the animal and what they feed on, and the availability of the nutrient content in the feeds.

The important finding from this study is that, with or without recreational aspects, the education and research aspect of the visit is more important. If the aim is to educate the public, zoo management should use educational methods that are presented as new innovations. However careful consideration must be given to designing and promoting holding facilities that will facilitate learning and viewing of the animals for further analysis and easiest description of the animals.

Management should thus focus their marketing communication strategies by highlighting the opportunity the zoos offer to have education, fun, relaxation, and spend quality time with other people. The focus should be placed on students, family or group activities that can be organized in the zoo. Other recreational activities should also be considered in the zoo like club, holiday programs and opportunities for children parties and friends of the zoo fun run/work. All these activities should result in attracting more visitors to the zoo, and they would ultimately lead to learning more about the animals and

conservation, and having educational research while doing so, thereby addressing the altruistic social orientation for ensuring the happiness of the visitors.

Acknowledgement

The authors are grateful to the management of Kano Zoological Garden for the data collected and also to the respondents who provide us with available information that made this work successful.

REFERENCES

- Alibahai, S.K. & Jewell, Z.C. (1994). *Saving the Last Rhino: In-situ Conservation of Captive Breeding*. Published Report for the Rhino Foundation.
- Balmford, A., Leader-Williams, N., Mace, G.M., Manica, A., Walter, O., West, C. & Zimmermann, A. (2007). Message Received? Quantifying the impact of Informal Conservation Education on Adults visiting UK Zoos. *In Zoos in the 21st Century; Catalysts for Conservation?* Eds. A. Zimmermann M. Hatchwell L. Dickie and C. West, Cambridge, UK: Cambridge University press, pp. 120 – 136.
- Bartos, J.M., & Kelly, J.D. (1998). Towards best practice in the Zoo Industry: Developing key Performance Indicators a Benchmarks for progress. *International Zoo Yearbook*, 36, 143– 157.
- Borokini, T.I. (2013). The State of ex-situ Conservation in Nigeria: *International Journal of Conservation Science* 4.2:197 – 212.
- Bygott, I.D. (1979). Male Lions in Large Coalitions Gain Reproductive Advantage. *Nature*, 282,834-835.
- Croke, V. (1997). *The Story of Zoos Past, Present and Failure*. Scribes, New York.
- Chris, R. & Jan, S. (2010). The Zoo as Ecotourism Attraction – Visitor Reactions, Perceptions and Management Implications: The Case of Hamilton Zoo, New Zealand. *Journal of Sustainable Tourism*, 12(3):245 – 267.
- Dixon, A. & Travers, W. (1994). *The Zoo Inquiry*. World Society for the protection of Animals and the Born Free Foundation, Horsham, West Sussex, UK.
- Hancocks, D. (2001). *A Different nature: the Paradoxical World of Zoos and their Uncertain Future*. Berkeley: University of California Press.
- Hunter-Jones, P. and Hayward, C. (1998) Leisure consumption and the United Kingdom (UK) Zoo. *Tourism and Visitor Attractions Leisure Culture and Commerce*. pp. 97–107.
- MacDonlad, D. (1985). *The Encyclopaedia of Mammals I and II*. Guild Publishing, London.
- Mallinson, J.J.C. (2003). *A Sustainable Future for Zoos and their role in Wildlife Conservation*. Human Dimensions of Wildlife, 8(1), 59 – 63.
- Perth Zoo (2000). *Annual Report, 1999 – 2000*. Perth, Western Australia: Zoological Board of Western Australia.
- Reade, L. & Waran, N. (1996). The modern zoo: How do people perceive zoo animals?. *Applied Animal Behaviour Science*, 47: 109–118.
- Uloko, I.J. (2004). *An ecological basis of for the management of the Makurdi Zoological Garden* MSc Thesis, University of Ibadan.Pp 1 – 60.
- Uloko, I. J. & Iwar, M. I. (2011). Impact of Makurdi Zoological Garden and Menatarium on Conservation education in Benue State: *Journal of Research in Forestry, Wildlife and Environment* 3(2): 24-31