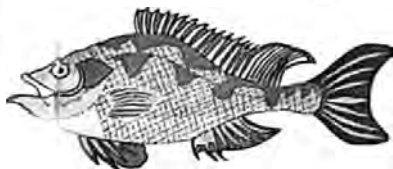
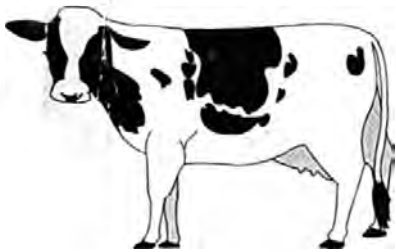




# JOURNAL OF ENVIRONMENTAL EXTENSION

ISSN: 1595-5125

*Sharing Concerns for the Future*



For online access, go to:  
AFRICAN JOURNAL ONLINE (AJOL)  
<http://www.ajol.info>

CONTRIBUTION OF JOS WILDLIFE PARK TOWARDS CONSERVATION EDUCATION IN  
PLATEAU STATE

\*Ijeomah, H. M., \*Ayodele, I.A. \*Alarape, A. A. and \*\*Edet, D. I.

\*Department of Wildlife and Fisheries Management, University of Ibadan.

\*\*Department of Forestry and Wildlife Management, Cross River University of  
Technology, Calabar.

ABSTRACT

The study explored the contributions of Jos Wildlife Park towards conservation education in Plateau State, Nigeria. Data for the study were collected through observation, review of records, oral interview and structured questionnaires. Data obtained were analysed using descriptive statistics in the form of tables, frequency of counts and percentages. A total of 100 questionnaires were administered.

Results showed that 90% and 9% of the respondents were students and teachers respectively. 44% and 31% became aware of the park through students and teachers respectively while 21% knew of the park through electronic media. 68% and/or 79% visited the park purposely to see animals and learn respectively. 72% and 12% of the respondents indicated that observing wildlife species and conservation lectures were the peak of their enjoyment in the park. 81% of the respondents prefer being conducted round the park by tour guides to ensure that learning is incorporated. 94% of the respondents are willing to visit the park again.

The study further showed that the number of educational visitors increased progressively from 3,844 in the year 1998 to 14,838 in the year 2001. Also, the study revealed that visitors who crave to observe and learn about endangered, threatened, rare and abundant species of wildlife and their environments flock the Jos Wildlife Park on daily basis. Suggestions on how to sustain continuous conservation education were made.

INTRODUCTION

Consistent pressure on the fragile ecosystem due to the selfish interest of man has several implications. If ecosystem destruction continues, important seed pollinating and dispersing species could eventually vanish from earth. Today nearly 40% of all Hawaii known endemic bird species have become extinct and three quarters of the remaining bird species threatened or endangered while 40% of remaining bird and plant species endangered. In Ivory Coast alone Elephants (*Loxodonta africana*), a keystone species (Paine, 1966; Howe, 1984; and Terborgh, 1986) disperse the seeds of 37 tree species, only 7 of which have back-up carriers. If Elephants die out, so will 30 kinds of tree species with all the animals that depend on them including two squirrels (Tangeley and Miller, 1991). Moreso, Raven (1976) reported that the extinction of each tropical plant species potentially leads to the loss of another ten to thirty insect species.

Presently, in Nigeria about 37 out of the bird species that occur in Nigeria are seriously threatened. The endemic species, Anambra waxbill (*Estrilda caerulescens*), Ibadan Malimbe (*Malimbus ibadanensis*), the Jos Plateau Indigo bird (*Vidua charlybeata*) and its breed parasite, the rock fire-flinch (*Lagonosticta sanguinodorsalis*) are all threatened. Even the Sclaters Guenon (*Cercopithecus sclateri*) and

the Grey-necked peacocks (*Pecarhantes spp*) found in Nigeria are globally threatened (Nigeria Conservation Foundation, 2002). The losses to people and nature are already great but it is not too late to change course towards conservation. However, conservation centers such as zoos, national parks, forest and game reserves, strict nature reserves and game sanctuaries were established. Along this line the Jos Wildlife Park was established for the purpose of conservation, education, tourism, breeding of endangered species and reintroduction into the wild. In order to get the much needed support and contributions of the people of Plateau State and beyond the park adopted conservation education as a tool in the relentless pursuit of its management objectives.

Colebourn and Gibbon (1990) maintains that conservation is for the people but that can only be realized if the people are well informed and understand the benefits of conservation in their everyday life. However, all institutions need to be incorporated in creating awareness to ensure that the resources entrusted on us by the past generations are wisely utilized. Else, with incidences of environmental problems such as deforestation; desertification; flooding; erosion; air, water, oil, and noise pollution; ozone layer depletion, drought and biodiversity imbalances; the life span of an average Nigerian who is already traumatized, depressed,

brutalized and rejected by obnoxious economic reforms will further be in jeopardy (The Environment, 2004). Moreso, Orams (1995) maintains that ecotourism should attempt to move tourist experiences beyond mere enjoyment to a more active role which incorporates learning, attitude and behavioural change towards conservation.

Thus, one of the top priorities of the Jos Wildlife Park (JWLP) is to make mankind a protector (instead of predator) through conservation education. This has effectively been on since the year 1977 till date, for each generation to learn for itself the need for conservation (IUCN *et. al.*, 1980). Zoos and parks contribute towards conservation education in different ways. This could be through the use of various media in creating public awareness or the employment of trained local people and professionals as resource persons (PSTC, 2005). Other methods include comanagement, training of personnel, sponsoring conservation training and donation of materials/equipments for training. Nevertheless rendering of free consultancy services on conservation is also a way of contributing towards conservation education.

This study therefore explores:

- (1) The contributions of Jos Wildlife Park towards conservation education.
- (2) The process of conservation education in Jos Wildlife Park.
- (3) The trend of educational visits to Jos Wildlife Park.

## MATERIALS AND METHODS

The study area, Jos wildlife Park is located 4 kilometers East of Jos, along Jos-Miango road, Jos in Plateau state. It is located on latitude 9°52'N and on longitude 8°53'E. The Jos wildlife park covers an area of eight square kilometers enclosing hills, streams and varied upland vegetation with about 43 kilometers network of Safari track. The state has an estimated population of 3 million people and is bounded by Kaduna, Bauchi, Taraba, and Nasarawa states.

Data pertaining to conservation education in Jos Wildlife Park were collected through in-depth interviews, observations, review of record and files, and structured questionnaires. The experienced officers interviewed were: project manager, Assistant general manager of Plateau State tourism corporation, game guards, chief rangers, tourist information officers and educational visitors. A total of one hundred structured questionnaires were randomly administered to educational visitors.

## RESULTS

### Demographic and social characteristics of respondents

As presented in table 1 68% of the respondents are males while 42% are females. The majority (61%) of the respondents fall within the age range 10-20 years. The result further showed that majority (74%) are Plateau State residents. Most (90%) of the respondents are students while the lowest fall into the category of researcher (1%). The educational level of the respondents are as follows- secondary (35%); OND/NCE (23%), primary school (22%), Nursery school (11%) and HND and above (9%).

### Respondents experience

In table 2 it is indicated that 68% and 79% of the respondents came to see animals and/or to learn respectively. Most of the respondents knew of the park through students (44%), teachers (31%) and the electronic media (21%). Majority (89%) of the respondents sponsored their tour through individual contributions. Most (72%) of the respondents indicated that the peak of their enjoyment was seeing animals. However, about 94% of the respondents will like to visit JWLP again while 1% will not. Majority (81.0%) of the respondents like moving around the park with tour guide.

### Visitation to JWLP

Table 3 shows that the number of educational visitors increases progressively from the year 1998 (3844), 1999 (6339), 2000 (11126) to the year 2001 (14,838).

Table 4 below revealed that the year 1999 recorded the highest number of children visitors (68,096); while the year 1998 had the least number of children visitors (16,152).

Table 5 depicts that the months of April and March 1999 had 1112 and 1081 respectively as the highest average daily number of visitors to Jos Wildlife Park on monthly basis (ADNVMB) between the years 1998 and 2001; while February 1999 had 12 visitors as the lowest ADNVM followed by May 1998 with 19 visitors.

## DISCUSSION

Large numbers of people visit the park to learn and appreciate the good work of nature. A total number of 16,152; 68,096; 33,872 and 36,587 children including students on educational tour who are not adults visited the park in 1998, 1999, 2000 and 2001 respectively (Table 4). Also 3,844; 6,339; 11,126 and 14,838 (Table 2) numbers of people from various local governments in Plateau State and beyond visited the park for educational purposes.

Majority of these are children and teachers from various schools of learning. Table 5 shows the average monthly number of visitors that have been patronizing JWLP per day per month including adults and children from all walks of life.

The progressive increase in number of educational visitors from the year 1998 to 2000 could be attributed to creation of consistent awareness, visitors satisfaction and befitting reception given to the educational visitors by the park management. The effect of this could be justified by the fact that 94% (table 2) of the respondents commented that they would visit the park again. Moreso the study revealed (in table 2) that most of the respondent (44%) became aware of Jos Wildlife Park through students which implies that the experiences of their visit are being reflected upon even outside the park environment thereby generating more interests. This would have prompted personal financial contribution of 89% (table 1) of the respondents (irrespective of their dependent status) to ensure they participated in the educational tour.

The months of July of 1998; 2000; and 2001 had relatively high educational visitors of 973; 1053; 3064; and 5409 respectively (table 3). This could be due to the fact that schools in plateau state most likely embark on educational tours before vacation, particularly during long vacation; which generally commenced between July and August. Plateau State tourism corporation, PSTC (2005) reported that it has become part of the educational culture in Plateau State. Similar high numbers occurred in August 2000 and June 2001 with 3157 and 3554 number of educational visitors respectively (table 3). Though in this case there may have been no uniform vacation. Many institutions possibly private schools probably vacated earlier in the case of June 2001 and later in the case of August 2000 vis-à-vis the state schools. It can also be related to the number of educational visitors from post secondary schools.

Table 5 revealed that between the years 1998 and 2001, visitors were in the park everyday. An average of 33 people visited the park everyday in the month of February 1999. In essence the actual total number of visitors in February 1999 is 336. February had the least daily average number of visitors on monthly basis (DANVMB). February is not a festive period and it may be economically difficult for many people who spent much money in the months of December and January. Besides, the workers of Jos Wildlife Park embarked on an industrial action (in February, 1999), which led to discouragement from and restriction of

visitors to the park. March and April of 1999 had DANVMB of 1,081 and 1,112 respectively. These appeared to be the highest in these years of study and can be attributed to the fact that religious festive periods of the Christians and Muslims coincided. Thus, each day of March and April 1999 had an average of 1,081 and 1,112 number of visitors respectively while their respective total monthly number of visitors are 33,506, and 33,349. The sum of the DANVMB for 1999 appeared to be the highest among the four years studied (Table 4). Moreso, the change of government from military to civilian and subsequent increment of workers' salary influenced visitation to recreation centres. Besides, it could be attributed to improvement in management as the park may have suffered neglects during the military era. The DANVMB for the months of September (45) and October (63) 2001 were lower than those of 1998 (Sept.: 97; Oct.: 96), 1999 (Sept.: 102; Oct.: 110) and 2000 (Sept.: 75; Oct.: 89) due to the impact of ethnopolitical crisis experienced during those period in Plateau State. The crisis also has much effect on children visitation (Table 4) and educational visitation (Table 3) within both months.

In February and June 1999 (Table 3) educational visitors exceeded children visitors, which implies that many adults especially those from tertiary institution may have taken part in educational visits. In order to make conservation education easily accessible to everyone, the park management charges a reduced fee of N20 and N10 on secondary and primary pupils respectively while adults pay N50 which is relatively very cheap when compared to the entry fees to the Yankari National Park and the University of Ibadan Zoo that is N100 per adult and N50 per students. Moreso, the management occasionally organizes exhibitions in schools to educate pupils on conservation. The JWLP receives and trains students on attachment on yearly basis to enable them teach others. Moreover, the management of Jos Wildlife Park encourages and sponsors the training of their staff to ensure that qualitative conservation services are given to the public.

On the 18th of July 2002, the researchers witnessed the presence of 532 students accompanied by 82 teachers from eleven different schools in Plateau State. Also, in December 1997, the park management invited Mr. Andy (an European), who was on voluntary service to be educating tourists on the importance of conservation to mankind.

It is what we see that we can appreciate. People visit the Jos Wildlife Park to satisfy their natural curiosities. It hoped that visitors leave the park with a positive change of mind towards

the support of conservation because of the impact of the park and the park officials on their psyche as they become environmentally informed prior to educational visit, the park management is notified to ensure that adequate preparation is made for the reception of the visitors. Visitors on arrival to the park, after buying tickets, they are received at the Tourist Information Post (TIP) and an official is assigned to the tourist or group of tourists to take them around and educate them on the expected conducts while in the park; park facilities, potentials, reason for setting up the park and the importance of the park to the state and mankind. However, they move from one section to another till the entire section of the park is covered. On getting to each animal enclosure, the official starts by asking the tourist if they love seeing that animal species live or they would have love to see them only in pictures. He then teaches everything about the animal species. The status of the animals, whether endangered or threatened, where the animal is found, how the animal was procured, its ecology, breeding, feeding, how hunting and bush burning affects the animal, the decimating factors in the wild, why the animals could be rescued, reasons why the animal is being kept right from the time of our forefathers to the present generation and for the in-coming generation.

As tourists listen with keen interests, they always raise several questions concerning the state of the park environment and the animals. Both adults and children ask questions. Nevertheless, children and students, because of their nature do ask more questions based on the stories they have heard and lots of films they may have watched concerning wild animals. Students on getting to their homes and schools continue extending the knowledge of conservation education as they interact with people.

The study revealed (Table 2) that 68 percent and 79 percent of those on educational visit came to observe the animals and/or learn respectively. Majority of those educational tourists knew of the park through fellow students and their teachers. Besides, tourists make watching of the animals and conservation lectures a priority because they rarely have that kind of opportunity. About 81% of the educational visitors love being taken round the park by park officials.

Moreover, the JWLP also carries out environmental awareness through the mass media; television, handbills, leaflets, radio, etc. In fact conservation education in JWLP is continuous. This has made Jos wildlife park a household name in Plateau State and even

globally. When environmental education started in Britain it seemed ineffective but later the effects were evident. Similarly, in Nigeria, when the late environmental activist and social crusader, Kenule Saro-Wiwa was relentlessly creating awareness towards environmental protection in Ogoni, his mission looked unrealizable. But consequent upon his consistent environmental education, the Ogonis became environmentally informed and empowered. Thus, they collectively and forcefully expelled "the purveyor of pollution", Shell British Petroleum, from Ogoni land on January 4, 1993. That day was declared the greatest day in the history of the Ogoni (The Guardian, 2004). However, a nation of about 500,000 people mobilized themselves and marched through the communities, towns and kingdoms celebrating their freedom from pollution and fear. In the same vein the effects of the environmental awareness by JWLP is already manifesting to the extent that the Miss World Pageant Organizers visited JWLP on the first of February, 2002 because of the effect of the awareness created previously.

#### CONCLUSION

The Jos wildlife park serves as project sites where many academic researches are conducted especially in the fields of zoology, wildlife, forestry and conservation biology because of its combination of both intensive, semi intensive and extensive systems which makes collection of various kinds of information concerning wild animals possible. Also it is particularly a site for carrying out (conducting) experiments on endangered wildlife species due to their accessibility. It is linked with local and international conservation centers, therefore easily accesses current information concerning animal species which are disseminated to the public. The park has been breeding and donating animal species especially endangered ones such as Lion (*Panthera leo*), Leopard (*Panthera pardus*), Pigmy hippopotamus (*Choeropsis liberiensis*) etc. to many conservation centers in Nigeria. Due to the effects of their consistent awareness programmes many species of animal have been rescued, donated and/or sold to the Jos Wildlife park management by the members of the public. Generally, the management of the park uses both electronic and non-electronic media in creating awareness. However the use of radio and television have proved most effective because of low literacy level of the people. Moreso, the use of radio is very efficient even in rural areas where there is no electricity. But concerning visits on educational purpose interpersonal interaction among students and

their teachers is most effective as students are always, together and reflect on their experiences.

The process of conservation education in Jos Wildlife Park entails the park project manager enlightening the educational visitors on potentials and conservation objectives of the park starting with conservation lectures. Afterwards they are taken to all the units of the park for observations of these potentials and a more detailed study of the units.

The trend of educational visits increases progressively from the year 1998 to 2001. This pattern corresponds with number of educational visits recorded in July of all the years. The number of visits for educational purposes in July 1998 (973) and July 2001 (5409) are the highest. Even though July 1999 and 2000 are not the highest, their educational visitors of 1053 and 3064 respectively are relatively high. This is because educational tours before vacations, particularly long vacation are gradually becoming a culture in Plateau State as a result of awareness created by Jos Wildlife Park management. Thus, most schools in Plateau State finish their examinations in July and embark on educational tour before vacating in August. The numbers of educational visitors in November in the four years are also high as the students make use of the free periods before December vacation.

Few number of educational visits were recorded in the month of December for the four years (Table 3) since most schools would have been on holidays. Contrarily, the ADVMB for December 1998; 1999; 2000; and 2001 were 256; 415; 394; and 642 respectively (Table 5) which are very high. As period of festivity more people embarked on recreation tours. The park management priority of conservation should be sustained with reaction of awareness intensified for more positive impacts.

#### REFERENCES

**Colebourn, P. and Gibbons, B (1990):** Britain's county side heritage. A guide to the Landscape, Vilters House, 41/47 Strond London WC2N5JE.

**Howe, H.F. (1984):** Implications of seed dispersal by animals for tropical reserve management, *Biological Conservation*, London, 30 :261-281

**Ijeomah, H. M (2003):** Management Ethics and Strategies towards sustainable Tourism Development in Jos Wildlife Park, M. Sc Thesis University of Ibadan, Nigeria.

**IUCN/UNEP/WWF (1980):** World Conservation Strategy: Living Resources Conservation for sustainable development, Gland, Switzerland.

**Nigeria Conservation Foundation (2002):** Important bird areas in Nigeria, Nigeria conservation foundation, Lagos

**NEST (1991):** Threatened Environment: A National Profile, Nigerian Environmental Study/Action team, Ibadan.

**Orams, M. B. (1995):** Towards a more desirable form of ecotourism, *Tourism Management*, 16, 3-8.

**Paine, R. T. (1966):** Food web complexity and species diversity, *American Naturalist*, 100:65-75.

**PSTC (2005):** Plateau State: Tourists' Haven. Plateau State Tourism Corporation Jos.

**Raven, P. H. (1976):** Ethics and attitudes, *conservation of threatened plants* (J. B. Simmons, ed.), pp. 155 - 179, Plenum Press, New York.

**Tangeley, I. and Miller, K. (1991):** Trees of life: Saving Tropical Forests and Their Biological Wealth, Beacon Press, Boston. Massachusetts.

**Terborgh, J. (1986):** Keystone plant species in the tropical forest, *Conservation Biology: The science of scarcity and diversity*, (M. E. Soule, ed.) pp. 330-344, Sinauer Associates, Sunderland M. A.

**The Environment**, Vol. 4, No. 4 August/September 2004 pp. 5-6

**The Guardian, Sunday**, November 7, 2004, Vol. 21, No. 9482, p. 45.

**Table 1: Demographic statistic of educational visitors in JWLP.**

	Variables	Frequency	Percentage
	Gender Male	68	68.0
	Female	32	32.0
Age (years)	10 –20	61	61.0
	21- 30	30	30.0
	32 – 40	6	6.0
	41 and above	3	3.0
Residence (state)	Plateau	74	74.0
	Outside Plateau	26	26.0
Occupation of Respondent.	Student	90	90.0
	Teaching	9	9.0
	Researching	1	1.0
Educational background	Nursery	11	11.0
	Primary	22	22.0
	Secondary	35	35.0
	OND/NCE	23	23.0
	HND/University degree	9	9.0

**Table 2: Experience of educational visitors to Jos Wildlife Park**

	Variables:	Frequency	Percentage
Purpose of Visit	Know about nature	40	40.0
	See animals	68	68.0
	Learn	79	79.0
	Pleasure	35	35.0
How do you know of the park	Teachers	31	31.0
	Students	44	44.0
	Parents	14	14.0
	TV/Radio	21	21.0
Who sponsored your trip	Teacher	0	0
	School management.	11	11.0
	Individual contribution	89	89.0
What did you enjoy most	Children playing around	7	7.0
	Seeing animals	72	72.0
	Lecture	12	12.0
	Natural environment	9	9.0
Will you like to come again	Yes	94	94.0
	No	1	1.0
	Don't know	5	5.0
You like moving alone or taken around by park guards	Move alone	12	12.0
	Move with park officials	81	81.0
	Don't know	7	7.0

**Table 3: Highlight of educational visits to Jos Wildlife Park**

MONTHS	YEARS			
	1998	1999	2000	2001
January	170	267	285	326
February	90	420	567	1464
March	225	327	1049	1295
April	150	237	393	544
May	117	952	312	723
June	310	840	213	3157
July	973	1053	3064	5409
August	320	398	3554	499
September	122	136	408	196
October	257	325	212	205
November	820	1062	766	641
December	290	322	303	379
Total	3844	6339	11126	14838

**Table 4: Highlight of children visitation to Jos Wildlife Park**

MONTHS	YEARS			
	1998	1999	2000	2001
January	711	5,389	11,226	2,207
February	480	87	447	1,299
March	620	24,057	5,542	5,606
April	3,030	24,088	1,917	4,702
May	312	647	539	1,298
June	727	611	962	1,570
July	943	890	1,558	5,409
August	1,400	1,196	1,640	499
September	1,453	1,309	1,091	191
October	1,320	1,414	900	616
November	1,907	1,349	1,147	1,102
December	3,256	7,039	6,857	12,750
Total	16,152	68,096	33,872	36,587

**Table 5: Highlight of Average Daily Number of Visitors to Jos Wildlife Park on a monthly basis (ADNVMB)**

Month	YEAR			
	1998	1999	2000	2001
January	38	323	480	168
February	35	12	66	420
March	36	1,081	259	326
April	176	1,112	149	328
May	19	76	60	139
June	36	78	137	228
July	44	88	191	354
August	72	101	93	197
September	97	102	75	45
October	96	110	89	63
November	92	129	150	126
December	256	415	394	642
Totals	997	3627	2143	3036

**CONTENTS OF THIS VOLUME****Pages**

DEFORESTATION AND ENVIRONMENTAL DEGRADATION IN THE LOWER BENUE VALLEY OF BENUE STATE <i>Dagba, B.I., Ageende A. and S.A. Shomkegh</i>	1-4
ASSESSMENT OF DEMAND AND SUPPLY OF TIMBER PRODUCTS IN BENUE STATE OF NIGERIA: IMPLICATION FOR FOREST POLICY IMPLEMENTATION <i>B.O. Agbeja and E.E. Opii</i>	5-10
AN ANALYSIS OF AGRICULTURAL SOLID WASTE MANAGEMENT AND ITS EFFECT ON GOVERNMENT SPENDING IN IBADAN METROPOLIS OF OYO STATE, NIGERIA <i>Okunola S.O., Amao J.O. and Olarinde L.O.</i>	11-17
ASSESSMENT OF THE ENVIRONMENT-RELATED PROBLEMS AND PROSPECTS OF VEGETABLE PRODUCTION IN PERI – URBAN AREAS OF LAGOS STATE, NIGERIA <i>Oladoja, M.A. Akinbile, L.A and Adisa, B.O</i>	18-24
TREES IN THE TRADITIONAL FARMING SYSTEMS IN SOUTHEASTERN NIGERIA: A CASE STUDY OF IMO STATE <i>P.C. Aju and Labode Popoola</i>	25-31
IMPLICATIONS OF DEFORESTATION AND DESERTIFICATION IN SUSTAINABLE AGRICULTURE <i>Philomena I. Ozo-eson</i>	32-38
INTEGRATED GIS-REMOTE SENSING PROCESSING APPLIED TO VEGETATION SURVEY IN IBADAN: IMPLICATION FOR SOUND ENVIRONMENTAL POLICY <i>N.O. Adebisi and B.O. Agbeja</i>	39-44
DETERMINANTS OF FARMERS' PERCEPTION OF LAND DEGRADATION AND ADOPTION OF SOIL CONSERVATION TECHNOLOGIES AMONG RICE FARMERS IN OSUN-STATE, NIGERIA <i>Y. A. Awoyinka, T. T. Awoyemi and Adesope A.A.A.</i>	45-50
NIGERIAN'S THREATENED ENVIRONMENT: AN OBSTACLE TO RURAL POVERTY ERADICATION <i>Adisa, B. O., O.A. Adeokun and M.A. Oladoja</i>	51-59
BIOMASS GASIFICATION A STRATEGY FOR ENERGY RECOVERY AND DISPOSAL OF INDUSTRIAL AND MUNICIPAL WASTES <i>Anurag Pandey and Anupam Shukla</i>	60-64
USE OF HUMAN WASTES IN SUSTAINABILITY OF CROP PRODUCTION IN NIGERIA <i>Meludu, Nkiru T.</i>	65-69
CONTRIBUTION OF JOS WILDLIFE PARK TOWARDS CONSERVATION EDUCATION IN PLATEAU STATE <i>Ijeomah, H. M., Ayodele, I.A, Alarape, A. A. and Edet, D. I.</i>	70-76