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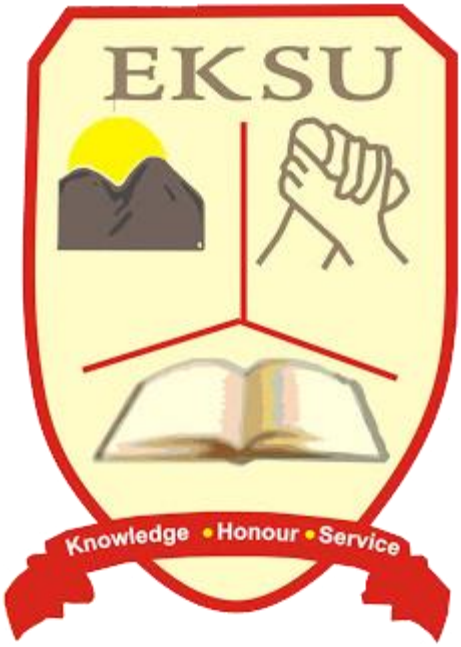

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The Effect of T.A. Afolayan Wildlife Park on Environmental Awareness among Federal University of Technology Akure Community

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Abstract

The need to promote sustainable and positive environmental knowledge, attitude and behaviour among residents of the Federal University of Technology, Akure (FUTA) community necessitated the assessment of T. A. Afolayan Wildlife Park on environmental awareness. The effects of the park were assessed by the use of a structured questionnaire to obtain information from 377 respondents in the community. The responses were analyzed using descriptive statistics, Chi-square andT-test. Majority of the respondents were male, Christians with mode age group at 20-40years. Most of the respondents (87.3%) were aware of the park's existence butonly 52.8% of them hadvisited and most of these agreed that the visitation had influenced their environmental knowledge. The respondents' knowledge was tested on environmental related issues while their attitudes and behaviour were assessed. Significant relationships existed between respondents' behaviour and level of education ($p<0.01$) and religion ($p<0.05$) while the relationship between the level of education ($p<0.01$) and the behavioural intentions was significant. There was a significant difference in the respondents' environmental knowledge ($p<0.01$), attitude ($p<0.01$), behaviour ($p<0.01$) and behavioural intentions based on the visitation to the park. Attitudinal and behavioural changes have been positively influenced by environmental issues as a result of the knowledge acquired in the park. More awareness campaign is therefore recommended to the park management.

Key words: Environmental awareness, attitude, behaviour, wildlife, Park visitation

Introduction

The environment includes all living and non-living objects and it has influenced and shaped our lives since time immemorial. The environment is the source of our food, water, air and all necessities of day to day life such that it constitutes a life-support system. Besides, it has, through the process of natural selection and elimination, caused the evolution of the biological spectrum indicated by the biosphere as it exists today. Today, the environment has become the concern of all- the academicians, intellectuals, scientists, policymakers and government across the continents (Millennium Ecosystem Assessment, 2005).

Over the past 50 years, humans have changed the natural ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet the rapidly growing demands for food, fresh water, timber, fibre, and fuel. The environment which has benefits for mankind, animals and some other species is not well maintained and preserved due to ignorance of the people. Therefore, the knowledge of this environment should be a general one that everyone

in different sectors should contribute to its application.

The Environmental Protection Agency (EPA) currently emphasizes formal environmental education whereas informal environmental education (for example, visiting a National Park) may also be an effective method of environmental education (Wallace, 2006). It is uncertain whether environmental awareness is dependent upon experiencing the environment first hand or if abstract learning is sufficient (Wallace, 2006). This study, therefore, explores the influence of T. A. Afolayan Wildlife Park on people's environmental awareness within the Federal University of Technology Akure community.

Materials and Method

Description of the study area

The Federal University of Technology Akure (FUTA) is located in Akure South Local Government area of Ondo state, Nigeria (Fig.1). The University campus is located along Akure-Ilesha express way with immediate surrounding communities like Aule, Ibule, and Ipinsa. The study area is accessible to almost every part of the state with a federal highway passing through it. The University campus covers 5,801.60 square kilometres with a student population of 20,332 students during the 2012/2013 academic session and 28,332 students in 2013/2014 academic session (Oyinlola and Popoola, 2015). This population figure is shared among the undergraduate and postgraduate degree programmes in the institution.

T. A. Afolayan Wildlife Park, FUTA

The Wildlife Park is located between the mini and the main campuses and it lies between latitude 7.2935 N and 7.2963 N and longitude 5.1425 E (Fig. 2). The park started and was open to the public in 2010. The park covers a total area of 270.350 m^2 and was formerly inhabited by people described as Obanla, who used the place for farming before being relocated. The area receives an average annual rainfall of 1, 650 – 1, 700 mm. The study area is under lain by crystalline basement complex rocks which impose a partially rugged topographic relief on the area. The lower elevation is 95 m above sea level while the higher elevation is above 140 meters above sea level (Afolayan and Agbelusi, 1987). The Wildlife Park operates both in-situ and ex-situ conservation. Fauna species found in the park (both in captivity and the wild) include crocodiles (*Crocodylus niloticus)*, ostrich (*Struthio camelus*), crowned crane (*Balearica regulorum*), parrots (*Psittacus erithacus*), baboons (*Papio anubis*), monkeys: patas (*Erythrocebus patas)*, red-capped mangabey (*Cercocebus torquatus*), mona (*Cercopithecus mona*), tortoise (*Geochelone sulcata*), red flanked duiker (*Cephalophus rufilatus*), etc. Flora species found in the park include false-iroko (*Antiaris africana),* okuro *(Albizia zygia),* iroko *(Melicia excels),* bamboo *(Bambusa vulgaris),* guava *(Psidium guajava), Alchornea latifolia,* red silk cotton tree *(Bombax buanopozensa)* etc. Also found in the park are cultural and historical relics from the former inhabitants of the park. Present in the wildlife park are also hills, waterholes, picnic sites, and children playground (Adetola *et al.,* 2012)

Figure 1: Map of FUTA showing T.A. Afolayan Wildlife Park

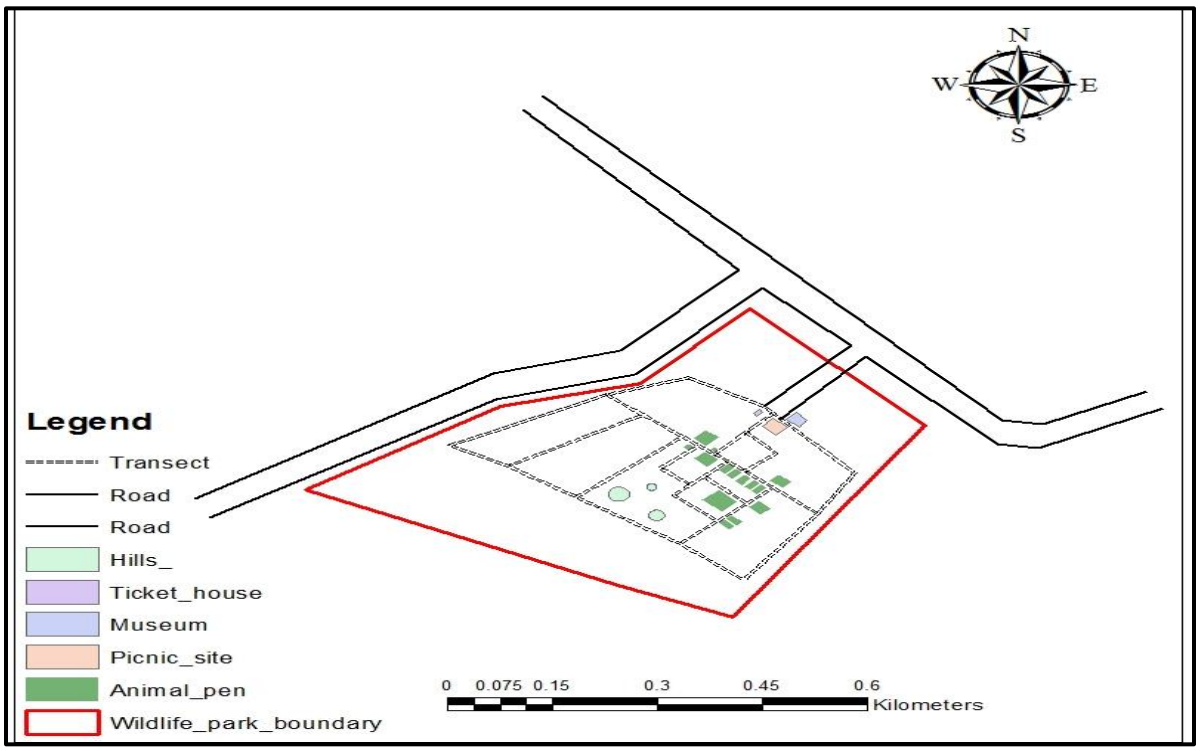

Figure 2: Map of T.A. Afolayan Wildlife Park, FUTA

Methods of Data Collection

The population for the study was FUTA community; which consistent of staff and students. The population statistics of the students was obtained from the Student Affairs Division while the statistics of staff was collected from the Directorate of Establishment and Human Resources, Federal University of Technology, Akure (FUTA). There were 16,330 students and 2,331 staff in FUTA during the study period in 2016 and these cut across seven (7) faculties from which a sample population of 377 respondents was drawn (Table 1) using the Krejcie and Morgan (1970) sampling technique. The questionnaire copies were distributed randomly to respondents in the community and the environmental knowledge, environmental attitude, behaviour and behavioural intentions were measured using Likert-Scale ranging from strongly disagree=1, disagree=2, neutral=3, agree=4, strongly agree=5 while environmental behaviour was measured as yes=1, no=2. Descriptive statistical tools such as charts, frequencies, mean, percentage and standard deviation were used analyse the data while the inferential statistical tools used were Chi-square and T-test analysis.

Table 1: Population of FUTA Community showing sampled population across the faculties

S/N	Faculty	Population			No of departments	Total	No per faculty (respondents)
		Students	Academic staff	Non-academic staff			
1	SAAT	2657	155	138	8	2950	63
2	SEET	2902	173	87	6	3162	68
3	SEMS	1721	81	42	5	1844	39
4	SET	2831	131	64	7	3026	65
5	SMAT	1239	64	29	6	1332	28
6	SOS	4776	248	113	8	5137	109
7	SHHT	204	-	6	3	210	5
	TOTAL				43	18661	377

SAAT- School of Agriculture and Agricultural Technology, SEET- School of Engineering and Engineering Technology, SEMS- School of Earth and Mineral Science, SET- School of Environmental Technology, SMAT- School of Management Technology, SOS- School of Sciences, SHHT- School of Health and Health Technology

Results and Discussion

Socio-demographic characteristics of respondents

The socio-demographic characteristics of the respondents are shown in Table 2. Most of the respondents were male (56.5%), this is because of the higher percentage of males in the University as revealed by the Directorate of Academic Planning in the University. A larger percentage of the respondents (56.8%) fell between the age group of 20-40 years. Furthermore, 85.7% of the respondents were single, 79.6% practiced Christian religion, 92.6% were students and 7.4% were staff with the highest percentage (93.4%) as HND/B. Tech/B.Sc. holders.

Respondents' view and knowledge on T.A. Afolayan Wildlife Park

Table 3 reveals that 87.3% of the respondents were aware of T.A. Afolayan Wildlife Park in FUTA amongst which 52.8% had visited the park. This is in agreement with Wallace (2006) who found out that more than half of the respondents (51%) have visited a National Park in America. Also, 40.3% of the respondents considered the conservation of wildlife in the park important and 32.6% were of the opinion that the park was living up to expectation in the area of conservation. Moreover, 37.9% of the visited participants were moderately knowledgeable about environmental issues prior to their visit while 44% of the respondents had their environmental knowledge influenced by their visit. Fig. 3 shows that 22.1% of the respondents visited for education and research reasons. This supports Ballantyne and Packer (2002) who suggested that motivations to parks and zoos are synergistic with educational impacts but disagrees with Falk *et al.*, (2007) that people come to protected areas and zoos mainly for entertainment

Table 2: Socio-demographic characteristics of respondents

Variable	Frequency N=377	Percentage (%)
Gender		
Male	213	56.5
Female	163	43.5
AGE		
Less than 20 years	152	40.3
20-40 years	214	56.8
41-60 years	11	2.9
Marital status		
Single	323	85.7
Married	53	14.1
Divorced	1	0.3
Religion		
Christianity	300	79.6
Islamic	75	19.9
Traditional	2	0.5
Occupation		
Student	349	92.6
Academic staff	18	4.8
Non- academic staff	9	2.6
Level of Education		
OND	7	1.9
HND/BTECH/BSc (staff/undergraduate)	352	93.4
MSc and above (graduates)	18	4.8

Table 3: Respondents' view and knowledge on T.A. Afolayan Wildlife Park

Variable	Frequency (N=377)	Percentage (%)
Are you aware of T.A. Afolayan Wildlife Park in FUTA		
Yes	337	89.4
No	40	10.6
Have you ever visited T.A. Afolayan Wildlife Park		
Yes	205	54.4
No	172	45.6
What is your view on conservation of wildlife in the park		
Not visited	172	45.6
Extremely important	48	12.7
Very important	104	27.6
Moderately important	49	13.0
Unimportant	1	0.3
Extremely unimportant	2	0.5
Do you think the park is living up to expectation in the area of conservation?		
Not visited	174	46.2
Yes	123	32.6
No	79	21.0
Indifferent	1	0.3
Level of knowledge before visiting the wildlife park		
Not visited	172	45.6
Highly knowledgeable	51	13.5
Moderately knowledgeable	143	37.9
Not knowledgeable	11	2.9
Has your visitation influenced your environmental knowledge		
Not visited	172	45.6
Yes	166	44.0

No	39	10.3

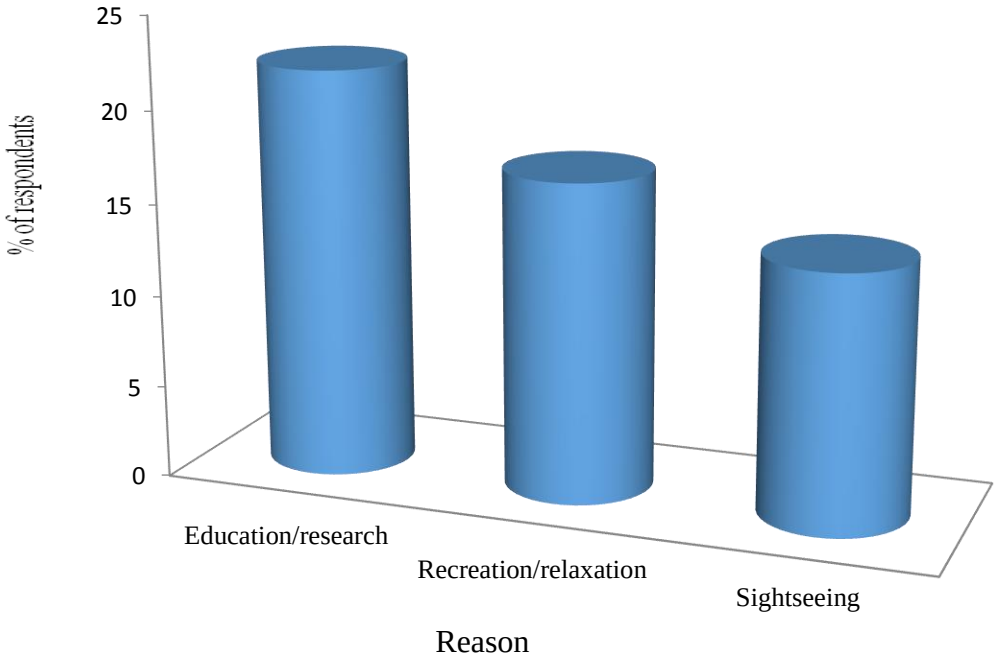

Figure 3: What is your reason for visiting T.A. Afolayan Wildlife Park

Environmental knowledge of respondents as influenced by T.A. Afolayan Wildlife Park.

The study revealed that environmental knowledge of the respondents was influenced by the wildlife park. This is evident in the highest mean response (M=2.36, SD=1.18) that endangered and vulnerable animals should be kept in captivity while the least mean response (M=1.73, SD=1.06) agreed that trees serve as a shed for protection of fragile plants and the earth's surface (Table 4). The highest mean response (M=2.49, SD=1.06) was for the feeling a sense of connection to the animals seen during their visit while the least (M=1.68, SD=1.00) agreed that plants and animals had the right to live (Table 5). The behaviour score of the respondents is shown in Table 6. The response (1.25, SD=0.44) was for the willingness to purchase materials that are not made from natural resources that are going into extinction, and the lowest, (M=1.13, SD=0.35) agreed to the conservation of wildlife resources for the future generation. The behavioural intentions of respondents that visited the park was also assessed and the highest mean value (M=3.66, SD=0.91) represented respondents' agreement to enlighten people on the need to conserve wildlife resources and the least mean response (M=3.14, SD=1.23) which is the agreement to pay more for products whose production and packaging does less damage to the environment (Table 7). The findings corroborate Wallace (2006) on the effect of National Park visitation to environmental awareness in America that those who did visit National Park Service units had higher awareness scores, primarily due to the high attitude and behaviour scores.

Table 4: Environmental knowledge of respondents as influenced by T.A. Afolayan Wildlife Park.

Variables	Mean	Standard deviation
A species that no longer exists is extinct	1.80	1.10
Endangered and vulnerable animals should be kept in captivity	2.36	1.18
Felling of trees leads to loss of valuable trees species and loss of habitat	2.20	1.24
Destruction of habitat leads to loss of threatened and endangered animal species	1.94	1.02
Zoological and botanical gardens are measures to conserve animals and plant species respectively	1.95	1.05
Trees utilize the carbon dioxide we breath out thereby giving out oxygen	1.81	1.06
Trees serve as a shed for protection of fragile plants and the earth's surface	1.73	1.06
Wildlife park provides conservation education knowledge	1.76	1.03
Ecotourism in wildlife park promotes knowledge on the Environment	1.82	1.03

Table 5: Environmental attitude of respondents as influenced by their knowledge

Statement	Mean	Standard deviation
Caring more about the wild animals	2.45	1.02
Has your visit caused you to think or care more about the protection of the natural habitat of these animals	2.34	1.06
Do you feel man is the biggest threat to species conservation	2.37	1.24
Human activities that destroy plant and animal's existence should be discourages	1.94	1.25
Plants and animals have the right to live	1.68	1.00
Feeling a sense of connection to the animals you saw on your visit	2.49	1.06

Table 6: Environmental behaviour of respondents as influenced by their knowledge from T.A. Afolayan Wildlife Park

Statement	Mean	Standard deviation
Use of environment friendly materials	1.17	0.50
Encouraging people to go on ecological or nature tourism	1.18	0.38
Planting of trees	1.17	0.37
Recycling paper, garbage and yard waste	1.21	0.41
Purchasing materials that are not made from natural resources that are going into extinction	1.25	0.44
Conservation of wildlife resources for the future generation	1.13	0.35

Table 7: Behavioural intentions of respondents

Statement	Mean	Standard deviation
I would pay more for products whose production and packaging does less damage to the environment	3.14	1.23
I am prepared to suffer some apparent inconveniences for the sake of a better today and tomorrow (not using tissue paper, plastic bags etc)	3.18	0.97
I am prepared to buy goods and services made using responsible or sustainable practices only even if they are slightly more expensive, wherever available.	3.26	1.03
I am willing to contribute as a volunteer towards the cause of cleaner and better environment in anyway whatsoever.	3.37	1.02
If a tree is fell, three should be planted to replace it	3.59	1.20
I am ready to tell people about T.A. Afolayan wildlife park	3.51	1.03
I am prepared to enlighten people on the need to conserve wildlife resources	3.66	0.91
I am willing to make people change their orientation about unsustainable use of wildlife resources	3.61	1.00

Hypotheses Testing

The level of education and religion of the respondents had significant relationship with their environmental behaviour (Table 8). More Christians visited the park; which agrees with Ogunjinmi (2014) who analysed ecotourists' profiles, trip characteristics, and motivations in Nigeria National Parks and found out that about 60% of visitors to Nigeria National Parks practice Christianity and educated visitors frequented the park more and the level of education was significantly related to environmental behaviour. Similar studies by Eagles and Cascagnette (1993) opined that ecotourists are well educated. It was also revealed that behavioural intentions of respondents are significantly related to their level of education. This implies that education influences how a person relates to the environment. There was significant difference in the respondents' environmental knowledge ($p<0.01$), attitude ($p<0.01$), behaviour ($p<0.01$), and behavioural intentions ($p<0.01$), based on their visitation to T. A. Afolayan Wildlife Park (Table 9). This means that there were differences between those that visited the park and those that did not as shown in their responses to environmental issues. This is attested to by Chin *et. al.,* (2000); Wallace, 2006) that the effects of environmental awareness are displayed in the environmental knowledge, attitude, behaviour and behavioural intentions of individuals. It can also be affirmed that T.A. Afolayan Wildlife Park has more environmental influence on those that visited the park than those that did not visit.

Table 8: Relationship between respondents' socio-demographic characteristics and their environmental knowledge, attitude, behaviour and behavioural intentions.

Variables	Chi square value	Significance	Decision (S=significant, NS=not significant)
Knowledge			
Education	132.12	0.29	NS
Religion	47.59	0.91	NS
Gender	33.73	1.00	NS
Status/ occupation	40.22	1.00	NS
Attitude			
Education	76.57	0.14	NS
Religion	42.21	0.11	NS
Gender	13.04	1.00	NS
Status/ occupation	16.27	1.00	NS
Behaviour			
Education	146.38	0.00	S
Religion	24.88	0.04	S
Gender	11.83	0.62	NS
Status/ occupation	4.64	1.00	NS
Behavioural intentions			
Education	166.51	0.00	S
Religion	57.30	0.58	NS
Gender	63.06	0.37	NS
Status/ occupation	50.26	0.81	NS

Table 9: Differences in respondents' environmental knowledge, attitude, behaviour and behavioural intentions based on visitation to the park.

Variables	Visited	Not visited	Mean difference	T
Environmental knowledge	17.38	0.87	16.52	25.04^{**}
Environmental attitude	8.48	0.43	8.05	48.24^{**}
Environmental behaviour	7.09	0.27	6.82	27.48^{**}
Behavioural intentions	27.32	24.90	2.43	3.80^{**}

** $p<0.01$, significant

Conclusion

The study assessed the effects of T.A. Afolayan Wildlife Park on environmental awareness among the residents of FUTA community. From the results, majority of the respondents were male, Christians, with their mode age group as 20-40 years and were mostly educated. A high percentage of the respondents was aware of the park and visited mainly for research and education purposes. Majority of the park visitors agreed that their visitation to the park had influenced their environmental knowledge and behaviour. As a result of the knowledge acquired, their attitude towards environmental issues and behavioural intentions has been positively influenced by their visitation. More awareness campaign is therefore suggested to the park management for effective actualization of the park's environmental conservation education mandate.

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