

Knowledge and Practice of Environmental Management at Selected Ecotourism Destinations in Edo State

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ABSTRACT

The purposeful activity goaled to maintain and improve the state of an environmental resource affected by human activities is environmental management (EM). EM in ecotourism destinations is essential not only for the conservation of the environmental resources therein but also to maintain a long term environmental quality that aids sustained ecotourists interests/satisfaction; surrounding local communities involvement as well as the environmental image of the destination. This research assessed the view of employees and visitors about EM of Okomu National Park (OKNP) and Ogba Zoo and Nature Park (OZNP) in Edo State; identified the waste disposal and treatment methods as well as the EM standards/tools employed. The primary survey instrument was questionnaire {two hundred and thirty six (236): fifty (50) and one hundred and thirty eight (138) for visitors and forty two (42) and six (6) for employees in OKNP and OZNP respectively}. Questionnaires to the visitors were distributed using the simple random sampling technique while employees were purposively selected. Data analysis includes the use of descriptive (frequency and percentage tables; bar charts) and Chi Square analyses. Most of the respondents have heard about EM at one time or the other – the dominant medium of awareness being radio/television. Majority asserted that every employee (95.2% and 100%) and visitor (96% and 81.9%) should be aware of EM in OKNP and OZNP respectively. Waste generated onsite is disposed by landfill/land treatment (48.5% and 33.3%), incineration/burning (30.3% and 50%), chemical treatment (9.1% and 16.7%) and biological method (6.1% and 0%) in OKNP and OZNP respectively. Waste is not recycled neither is the hazardousness determined at both sites. OKNP employed EM standard/tools as reported by employees include environmental monitoring (54.8%), public environmental report (40.5%), Environmental Management System (35.7%); written environmental policy (31%), eco-labelling (26.2%) while OZNP has not fully delved into the use of any defined standard/tool. The concept of EM is not strange to the respondents as they understand what it means, recognise its need in the sites and admit that it is imperative for all staff and visitors likewise to be conversant with it. It is recommended that an extensive waste management plan should be put in place which focuses on reduce, reuse, recover and recycle. Also, the Zoo should employ the use of EM standards/tools which can aid in identifying, quantifying and evaluating defined impacts of actions taken at the site.

Keywords: Environmental Management, Ecotourism, Waste Management Plan

INTRODUCTION

The word environment simply means our surroundings and the natural world. There are three main types of environment (Alamai and Hussaini, 2014; Inamdar-Willets, 2014):

1. **Physical environment:** it is also known as the abiotic environment. It is the non-living component of the environment like land/soil, water, air, atmosphere - all of which affect living things. It also includes the climate factors such as sunbeams, rain water, precipitation, moisture, pressure and wind speed.
2. **Biotic environment:** it is also known as biological environment and organic environment. The biological environment is the environment which involves the living party of the earth - plants, trees, animals, mammals, underwater, living beings including human beings and micro organisms like bacteria and fungi. The living beings are highly dependent on each other (e.g. photosynthesis)
3. **Social or cultural environment:** this involves the cultures and lifestyle of humans. The social or cultural environment means the environment which is created by man through his different social and

cultural activities and thinking. The historical, cultural, political, moral, economic aspects of human life constitute to the social or cultural environment.

In other words, the environment encompasses the relationships of the human environment, such as the social, cultural and economic environment with the biophysical environment. The manipulation, decision and use of environmental resources by organizations and individuals is termed environmental management. It involves actions taken to regulate and protect the health of the natural world. It is a purposeful activity goaled to maintain and improve the state of an environmental resource affected by human activities (WCDM, 2012). Environmental management basically involve; control / prevention of pollution; conservation of natural resources, i.e. natural habitats, flora, fauna, water and energy; and necessarily requires involving local communities in identifying sensitive or problem areas and in monitoring environmental and social impacts (Inamdar-Willets, 2014). Environmental management aims to ensure that ecosystem services are protected and maintained for future human generations, and also maintain ecosystem integrity through considering ethical, economic, and scientific (ecological) variables (Pahl- Wost, 2007).

The environment is the key factor on which ecotourism (ecological tourism) is built. Ecotourism means, tourism involving travel to areas of natural or ecological interest, typically under the guidance of a naturalist, for the purpose of observing wildlife and learning about the environment and at the same time focus on wildlife and promotion of understanding and conservation of the environment (Scaria, 2013). Operating in its ideal form, ecotourism provides the tourist with a quality nature experience, generates funds and support for conservation efforts, has minimal environmental impact and provides socioeconomic benefits to local host communities (Falade 2000). It has become one of the fastest-growing sectors of the tourism industry, growing annually by 10–15% worldwide (Miller, 2001).

Ecotourism is intended to offer tourists insight into the impact of human beings on the environment, and to foster a greater appreciation of our natural habitats. However, if not properly managed, it is accompanied by negative environmental impacts such as soil erosion and compaction; various forms of pollution; disturbance of wildlife; trampling of vegetation; removal of vegetation; accidental introduction of exotic species; increased frequency of fire; littering/solid waste generation and vandalism (Vianco, 2002; Kamuaro, 2007; Omonona and Kayode, 2011) with the utmost outcome being environmental degradation. The ecotourism market cannot be sustained without an adequately protected environment, which requires actions not only from the government but also the ecotourism industry to implement appropriate environmental management programmes (Inamdar–Willets, 2014). Some standards/programmes/tools of environmental management are;

- **Environmental Impact Assessment (EIA):** EIA states the effect of a proposed project on the environment, predicts the likely impact in magnitude, extent and significance, and finds ways to reduce the unacceptable impacts and provides the developer the pro and cons of alternatives, including the option not to embark on the project (Adeniyi, 2005).
- **Ecological impact assessment (EcIA):** EcIA is a sub component of EIA. It is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components; if properly implemented, it provides a scientifically defensible approach to ecosystem management (Treweek, 1999).
- **Environmental Management Systems (EMS):** An Environmental Management System (EMS) is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency (EPA, 2013). The ISO 14001 standard is the most widely used standard.
- **Others** include written environmental policy, eco-labelling, environmental audits, benchmark environmental performance, public environmental report, environmental performance indicators, environmental monitoring, environmental auditing, etc (Csaba and Nikolett, 2008; EPA, 2013).

The common philosophy and impetus behind environmental management is the concept of carrying capacity (Csaba and Nikolett, 2008). Carrying capacity refers to the maximum number of organisms a particular resource can sustain. Ecotourism, in the same vein also recognises the concept of carrying capacity as documented by Weaver and Lawton (2007) as one of the standards of ecotourism. Environmental management in ecotourism destinations is essential not only for the conservation of the environmental resources therein but also to maintain a long term environmental quality that aids sustained ecotourists interests/satisfaction; surrounding local communities involvement as well as the environmental image of the destination – ensuring sustainable ecotourism. In other words, the social, economic, cultural and environmental aspects are duly satisfied. Most significantly, the management of the environment is fundamental to the continued existence of the ecotourism industry. The environmental quality of an ecotourism destination determines the long term success of the place.

AIM OF THE STUDY

This research aims to assess the knowledge and practice of environmental management among employees and visitors at ecotourism destinations in Edo State with particular references to Okomu National Park and Ogba Zoo and Nature Park through the following specific objectives;

- evaluate the perception of employees and visitors about environmental management of the ecotourism destinations
- assess the media of awareness of environmental management among visitors and employees;
- identify the waste treatment and disposal methods employed at the sites
- assess the environmental management standards/tools engaged at the sites

STUDY AREA

Edo state is an inland state in the South-South geo-political zone of Nigeria and occupies 17,802 square kilometres. Its capital is Benin City. The study was carried out in Okomu National Park and Ogba Zoo and Nature Park in Edo state. Okomu National Park formally Okomu Forest Reserve, occupies an area of land of 197sqkm, between longitude 5°E and 5°30'E and latitude 6°N and 6°N in the Ovia South-West Local Government Area of Edo State, Nigeria. The National Park is directly under the auspices of the Nigerian National Park Service (NNPS) via the Ministry of Environment and Natural Resources.

Ogba Zoo and Nature Park; formally Ogba Forest Reserve, is an urban secondary forest growth comprised of zoological section and botanical gardens covering about 750acres between longitude 5°35'E and 45°63'E and latitude 6°17'N and 57°37'N in the Oredo Local Government Area of Edo State. Ogba Zoo and Nature Park is currently managed by BENZOPA, a Non Governmental Organization in partnership via a lease agreement with the government primarily to promote conservation and ecotourism in Edo State.

MATERIALS AND METHODS

The study population comprised of employees and visitors to Okomu National Park (OKNP) and Ogba Zoo and Nature Park (OZNP). The instrument of data collection was structured questionnaire (comprised of open and close ended questions). The questionnaires were of two types; Questionnaire A for visitors and Questionnaire B for employees – both eliciting information on environmental management awareness and practices.

A total of two hundred and thirty six (236) questionnaires were used: fifty (50) and one hundred and thirty eight (138) for visitors and forty two (42) and six (6) for employees in OKNP and OZNP respectively. Questionnaires to the visitors were distributed using the simple random sampling technique. The employees at OZNP were purposively selected as they were deemed to be in the position to provide the information required while OKNP employees represent 25% of the total staff strength. Interviews were conducted with key informants at both sites – Conservator of Park, Head of Ecotourism Department, Research Unit Head, Conservation Educators in OKNP and Zoo Director, Technical Director in OZNP.

Data analysis includes the use of descriptive (frequency and percentage tables; bar charts) and inferential statistics (Chi Square analysis).

RESULTS

Visitors' knowledge and practice of environmental management

Most of the respondents of both sites have heard about environmental management (Table 1). Majority of the respondents (96% and 81.9% at OKNP and OZNP respectively) asserted that every visitor should be aware of environmental management. 89.8% and 67.2% of the respondents at OKNP and OZNP acclaimed that it is the responsibility of the sites to educate visitors on environmental management while 2% and 5.2% said otherwise. However, 8.2% and 27.6% were in doubt. All respondents ascertained the presence of tour guides in OKNP. Majority (76.8%) of OZNP respondents claimed the absence of tour guides while 23.2% said otherwise. it was learned from an interview with the Zoo Director that ecotour guides are subject to request by the visitors.

The greatest percentages of respondents (58% and 57.2%) at both sites dispose of waste in waste bins/ dumping ground on site. 26% dispose of it on the ground in OKNP and 34.8% in OZNP. 14% and 5.1% claim they take their waste home at both sites. 58% of respondents at OKNP rated the site's level of environmental management

as medium- in other words, fair. 34% rated it as high and 4% each as low and none. In OZNP, 55.5% rated it as medium, followed by the low rating of 31.3% and 9.4% (high). 3.9% of the respondents claimed the site has no environmental management rating.

Employees' knowledge of site's environmental management practices

All the staff of both sites has heard about environmental management and believe that it is important for every employee to know about it as indicated on Table 2. There is no specified maximum number of visitors into both sites as claimed by all and majority (76.3%) of employees at the Zoo and National Park respectively.

81% and 83.3% of the respondents in OKNP and OZNP indicated that there is at least one person with explicit responsibility for environmental issues at the sites. OZNP however do not have an environmental department as claimed by all the respondents. On whether or not there is a specific budget allocation to environmental issues, 52.4% of respondents at OKNP indicated positive, 26.2% responded in the negative while 21.4% was not sure. At OZNP however, 33.3% each affirmed, negated and in doubt.

57.1% of respondents at OKNP asserted that programmes exist for staff training on environmental issues while 7.1% claimed otherwise. 35.7% of the respondents was however not sure whether such programme exist. In OZNP, a larger percentage of the respondents (66.7) claimed that no programme exist for staff training on environmental issues. Majority of the respondents (40.5% and 50%) at both sites are not sure whether the site has any environmental certification or participate in environmental programmes. This is closely followed by the percentage of respondents (38.1% and 33.3%) that affirmed are those that affirmed environmental certification/participation while 21.4% and 16.7% respectively claimed otherwise at OKNP and OZNP.

Waste generated is not recycled as claimed by all the respondents of both sites. The result also revealed that no method exists to determine hazardous and non-hazardous wastes onsite. The result on waste disposal method is presented on Fig 1. Waste generated is being disposed majorly by landfill/land treatment method (48.5%), followed by incineration/burning (30.3%), chemical treatment (9.1%) and biological method (6.1%) in OKNP. In OZNP, the bulk of the waste is disposed through burning as claimed by half of the respondents, followed by landfill/land treatment (33.3%) and chemical treatment (16.7%).

Medium of awareness about environmental management

The media through which visitors came to know about environmental management is reported on Table 3. OKNP respondents indicated people to the tune of 37.5%, followed by radio/television (27.1%), internet (20.8%) and lower percentages of 4.2% each for newspaper and conferences/seminars and school and 2.1% for all the media. Majority of OZNP respondents identified with radio/television as the dominant medium (52.1%); followed by people (20.2%), internet (4.2%), conferences/seminar (3.4%) and school (2.5%).

The dominant medium is radio/television with 38.1% among OKNP employees; followed by 19% each for conferences/seminars and people; internet (9.5%), newspaper (9.5%) and other media (4.8%). Half of OZNP respondents came to know about environmental management from radio/television and 16.7% each though people, internet and other means.

The most popular medium among all the respondents is radio/television followed by words of mouth from people especially family and friends.

Environmental management standards/tools

OKNP employed environmental management standard/tools (Table 4) as reported by employees include environmental monitoring (54.8%), public environmental report (40.5%), environmental management system (35.7%); written environmental policy (31%), eco-labelling (26.2%) and to a lower extent environmental audits, benchmark environmental performance and the use of environmental performance indicators at 11.9% each and EIA at 4.8%.

Interview with the technical director at OZNP reveals the use of written environmental policy, eco-labelling, environmental audit, environmental monitoring and environmental management system.

Visitors' suggestions on increasing environmental management awareness

This is represented on Table 5. Respondents at OKNP advocated for orientation and awareness (32%), provision of educational materials (16%) and well informed ecotour guides. The view of respondents at OZNP is more diverse as it includes the use of mass media (14.9%), signages (18.4%), provision of waste bins at all strategic locations onsite (8%) and keeping the environment clean (2.3%) in addition to the suggestions of OKNP respondents.

DISCUSSION

The idea of what environmental management is not strange to the employees and visitors to OKNP and OZNP as all have heard about it at one time or the other and opine that staff and visitors be conversant with the concept (Table 2). The dominant medium of awareness is radio/television. This signifies the importance of mass media in the dissipation of environmental information. It not only consistently pass information but also reach out to every group/class of people- the young and the old; rich and poor; educated and uneducated; skilled and unskilled; etc. Most visitors also see it as the responsibility of the site to educate visitors on environmental management. This is in agreement with UNEP report (2008) that tourism can contribute to conservation through environmental awareness raising thus increasing public appreciation of the environment and propagation of environmental problems when it brings people into closer contact with nature and the environment. While there is an environmental department in OKNP (Ecology and Resource Management Department), it is absent in OZNP but there is at least one staff responsible for environmental issues. The employees are being trained from time to time as claimed by 52.4% of OKNP respondents while majority of OZNP respondents indicated otherwise.

One of the foremost attribute of environmental management is the control/prevention of pollution (Inamdar - Willet, 2014). Majority of the visitors' dispose of waste generated on-site in waste bins (58% and 57.2% in OKNP and OZNP respectively). Chi square test of significance however showed no significant association exist between having heard of environmental management by visitors and the method of waste disposal at $P > 0.05$ (Table 7 and 8). This signifies that the disposal of waste by visitors on site has nothing to do with their knowledge of environmental management but might be subject to reasons such as the availability of waste bins on site, personal discipline or home training. Both sites do not recycle wastes generated and likewise, no method exists to determine whether or not the wastes are hazardous. Wastes are mainly disposed of by incineration/burning and landfill/land treatment especially for biodegradable wastes (Fig 1) – which can result into air pollution and leachate, landfill gas, use of land resources respectively (Inamdar - Willets, 2014).

Furthermore, the sites level of environmental management was rated by visitors as fair (58% and 55.5%) high in OKNP (34%) and low in OZNP (31.3%). The availability of ecotour guides and the rating of site's environmental management were subjected to Chi square test of relationships; while there was no measure of association for OKNP because of the constant presence of tour guides, there was a significant association at $P < 0.05$ in OZNP. This affirms that the availability of well informed ecotour guides in ecotourism establishment is a step towards a sustainable environmental management. This is in line with Weaver and Lawton (2007) report on the standards of ecotourism in which environmental education (through ecotour guides) is part of the ecotourism package.

This survey also engaged visitors in identifying ways in which the site can boost visitor's knowledge of environmental management (Table 5). With great representation are ecotourists that advocated for orientation/awareness on site as well as the provision of educational materials and ecotour guides. OZNP visitors also suggested the use of mass media - this will aid in educating potential visitors to the site. These suggestions by visitors showed that they have visited the site not only for the fun of it but also are sensitive to the sites environment and consequently, interested in its sustainable management. By definition, ecotourists are characterised as being environmentally sensitive, culturally conscious, conservation inclined and socio-economically responsible.

The ecotourism market cannot be sustained without an adequately protected environment, which requires actions not only from the government but also the ecotourism industry to implement appropriate environmental management programmes (Inamdar–Willets, 2014). One of such actions is the determination and maintenance of the visitors' carrying capacity of an ecotourism destination. The common philosophy and impetus behind environmental management is the concept of carrying capacity (Csaba and Nikolett, 2008) - which refers to the maximum number of organisms a particular resource can sustain. Weaver and Lawton (2007) in the same vein also recognises this concept and documented it as one of the standards of ecotourism. Both sites have yet to determine the visitors' carrying capacity of the sites, therefore, whether or not this limit is been exceeded is unknown.

The use of environmental management standards/tools is peculiar more to OKNP than OZNP. This may be partly due to the fact that the earlier is a declared establishment under the auspices of the Nigerian National Park Service (NNPS) and Ministry of Environment and Natural Resources gazetted to protect her endemic and endangered wild animal species (Okunbuwa, 2008). This suggests that environmental management standards/tools such as written environmental policy and environmental monitoring is key in achieving its purpose of establishment. This however does not mean that OZNP is exempted from the use of environmental management standards/tools because of its occurrence under a private form of management (BENZOPA) but rather infer that the use of these standards has not been fully employed.

CONCLUSION AND RECOMMENDATIONS

As much as the concept of carrying capacity is vital for the sustainability of any environment based venture and acknowledged by the management of both sites, the maximum number of visitors have not been established. Both the employees and the ecotourists have heard about environmental management (the dominant medium being radio/television), understand what it means, recognise its need in the sites and admit that it is imperative for all staff and visitors likewise to be conversant with it- with more emphasis on the fact the sites management should educate every visitor on environmental management using various techniques such as the presence of well informed tour guides, availability of educational materials and provision of an environment free of pollution. The most significant weapon employed in OKNP and to a lower level in OZNP, is the availability of ecotour guides that provides environmental education to the visitors. While staff training on environmental issues is not the order of the day in OZNP, there is however a staff with specific responsibility for environmental issues. OKNP is actively into staff training.

Wastes generated on-site are mostly disposed of in waste bins at strategic positions at the sites. Waste treatment method at both sites is mainly through incineration/burning and landfill/land treatment. No technique exists to determine whether or not wastes generated are hazardous and likewise, recycling is not practiced. The use of environmental management standards/tools has been employed in OKNP with more emphasis on environmental monitoring, public environmental report, Environmental Management System (EMS) and written environmental policy. The use of Environmental Impact Assessment (EIA) for developmental projects has however not been duly looked into. OZNP on the other hand, has not actively employed any of the environmental management standards/tools.

The habitual nonchalant attitude to the protection of environmental resources of the nation has led to a great loss in biodiversity and in other for this trend not to continue, it is imperative that all hands be on deck if sustainability is ever going to be an option especially at ecotourism destinations. It is therefore recommended that the visitors' carrying capacity of the sites should be determined which would invariably aid in the management of ecotourists number. The engagement of various medium to propagate environmental management and ecotourism such as radio/television, signboards will educate potential visitors even before the actual visit. This will also increase their awareness about sites and by implication, increase ecotourist number. The use of environmental management standards/tools should also be employed by the Zoo to identifying, quantifying and evaluating the impacts of defined actions on the environment as well as enhance their image as that which cares for the protection of nature.

An extensive waste management plan should be put in place by the sites which include the segregation of wastes and labelling of bins (e.g A = Nylons/Papers, B = Tins/cans, C = Organic wastes, etc), determination of whether wastes are hazardous and non hazardous and the use of appropriate waste disposal methods for each category. Waste recycling is a concept to be considered especially at the Zoo where tons of non-biodegradable wastes are generated. The plan should focus on reduce, reuse, recover and recycle.

The government should also take more interest in the environmental management of the sites, establish programmes and policies that encourage environmental management as well as channel funds to this effect. The world's environment day, world's wildlife day or world tourism day should not be an abstract celebration of jamboree and propagandas but that committed to practical issues of the environment and sustainable development- bringing people to the knowledge of why the environment needs to be managed. In fact, everyday should be the world's environment day where we are all cautious of how our activities impact the environment; working keenly to prevention/ control of pollution and making the environment safe for us all.

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Table 1: Visitors knowledge and perception of environmental management (EM)

Factors	Variables	Frequency		Percentage	
		A	B	A	B
Have you heard about EM?	Yes	47	119	94.0	86.2
	No	3	19	6.0	13.8
Every visitor should be aware of EM	Yes	48	113	96.0	81.9
	No	1	5	2.0	3.6
	Not sure	1	20	2.0	14.5
It is the responsibility of site to educate visitors on EM	Yes	44	90	89.8	67.2
	No	1	7	2.0	5.2
	Not sure	4	37	8.2	27.6
Are you accompanied by an ecotour guide?	Yes	50	32	100.0	23.2
	No	0	106	0.0	76.8
Disposal of waste generated onsite	Waste bin/ Dumping site	29	79	58.0	57.2
	On the ground	13	48	26.0	34.8
	Take it home	7	7	14.0	5.1
	Others	1	4	2.0	3.5
Site’s level of EM	High	17	12	34.0	9.4
	Medium	29	71	58.0	55.5
	Low	2	40	4.0	31.3
	None	2	5	4.0	3.9

A = Okomu National Park; B = Ogba Zoo and Nature Park

Source: Field survey (2015)

Table 2: Employees knowledge of environmental management practices

Statement	Variables	Frequency		Percentage (%)	
		A	B	A	B
Have you heard about environmental management before?	Yes	42	6	100.0	100.0
	No	0	0	0.0	0.0
Is there a specified maximum number of visitors	Yes	9	0	23.7	0.0
	No	29	6	76.3	100.0
Should every employee know about environmental management?	Yes	40	6	95.2	100.0
	No	2	0	4.8	0.0
Is there at least one person with explicit responsibility for environmental issues?	Yes	34	5	81.0	83.3
	No	3	1	7.1	16.7
	Not sure	5	0	11.9	0.0
Does the site have an environmental department?	Yes	28	0	66.7	0.0
	No	9	6	21.4	100.0
	Not sure	5	0	11.9	0.0
Specific budget dedication to environmental issues	Yes	22	2	52.4	33.3
	No	11	2	26.2	33.3
	Not sure	9	2	21.4	33.3
Training of staff on environmental issues	Yes	24	2	57.1	33.3
	No	3	4	7.1	66.7
	Not sure	15	0	35.7	0.0
Environmental certifications/ participation in environmental programmes	Yes	16	2	38.1	33.3
	No	9	1	21.4	16.7
	Not sure	17	3	40.5	50.0
Recycling of waste	Yes	0	0	0.0	0.0
	No	42	6	100.0	100.0
Determination of hazardous/ non-hazardous waste	Yes	2	0	4.8	0.0
	No	40	6	96.2	100.0

A= Okomu National Park; B= Ogba Zoo and Nature Park

Source: Field Survey (2015)

Table 3: Media of awareness about environmental management

Variables	Percentage (%)		Total
	OKNP Employees	OZNP Visitors	
People	19.0	37.5	93.4
Radio/Television	38.1	27.1	167.3
Internet	9.5	20.8	50.4
Newspaper	9.5	4.2	13.7
Conference/Seminar	19.0	4.2	26.6
School	0.0	4.2	6.7
Others	4.8	2.1	23.6

Source: Field Survey (2015)

Table 4: Environmental management standards/tools employed by sites (Multiple Choice)

Variables	Frequency		Percentage (%)	
	A	B	A	B
Written environmental policy	13	1	31.0	16.7
Eco-labelling	11	1	26.2	16.7
Environmental audit	5	1	11.9	16.7
Benchmark environmental performance	5	0	11.9	0.0
Public environmental report	17	0	40.5	0.0
Environmental performance indicators	5	0	11.9	0.0
Environmental monitoring	24	1	54.8	16.7
Environmental Impact Assessment	2	0	4.8	0.0
Environmental Management System	15	1	35.7	16.7

A= Okomu National Park; B= Ogba Zoo and Nature Park

Source: Field Survey (2015)

Table 5: Visitors suggestions on increasing awareness of EM

Variables	Frequency		Percentage (%)	
	A	B	A	B
Well informed ecotour guides	2	14	8.0	16.1
Educational materials	4	12	16.0	13.8
Mass media	0	13	0.0	14.9
Signages	0	16	0.0	18.4
Orientation /Awareness	16	15	32.0	17.2
Keeping clean environment	0	2	0.0	2.3
Provision of waste bins	0	7	0.0	8.0
Others	3	8	13.0	9.2

A = Okomu National Park; B = Ogba Zoo and Nature Park

Source: Field survey (2015)

Table 6: Age and Educational status of respondents

Status	OKNP		OZNP	
	Employees	Visitors	Employees	Visitors
Age (years)				
Below 20	0 (0.0)	9 (18.0)	0 (0.0)	30 (21.7)
20-29	9 (21.4)	37 (74.0)	3 (50.0)	85 (61.6)
30-39	12 (28.6)	1 (2.0)	1 (16.7)	15 (10.9)
40-49	15 (35.7)	1 (2.0)	0 (0.0)	3 (2.2)
≥50	2 (4.8)	0 (0.0)	2 (33.3)	3 (2.2)
Missing	-	2 (4.0)	-	2 (1.4)
Education				
None	0 (0.0)	0 (0.0)	0 (0.0)	7 (5.1)
Primary	0 (0.0)	0 (0.0)	0 (0.0)	16 (11.6)
Secondary	6 (14.3)	3 (6.0)	3 (50.0)	33 (23.9)
Tertiary	36 (85.7)	47(94.0)	3 (50.0)	82 (59.4)

Source: Field Survey (2015)

Table 7: Summary of results on Chi Square test of relationships (OKNP)

S/N	Parameters	P Value	Significance	Inference
1.	Age vs medium of awareness about EM (E)	0.265	P>0.05	No significant association
2.	Education vs medium of awareness about EM (E)	0.746	P>0.05	No significant association
3.	Staff training vs should every employee be aware of EM (E)	0.685	P>0.05	No significant association
4.	Age vs medium of knowledge about EM (V)	0.948	P>0.05	No significant association
5.	Education vs medium of knowledge about EM (V)	0.975	P>0.05	No significant association
	Education vs every visitor should be aware of EM (V)	0.835	P>0.05	No significant association
6.	Age vs waste disposal (V)	0.222	P>0.05	No significant association
7.	Education vs waste disposal (V)	0.684	P>0.05	No significant association
8.	Waste disposal method vs knowledge of EM	0.487	P>0.05	No significant association
9.	Education vs should every visitor be aware of EM (V)	0.835	P>0.05	No significant association
10.	Presence of tour guides vs rating of site EM (V)	-	-	-
11.	Length of stay vs rating of site EM (V)	0.038	P<0.05	Significant association

E=Employees, V=Visitors

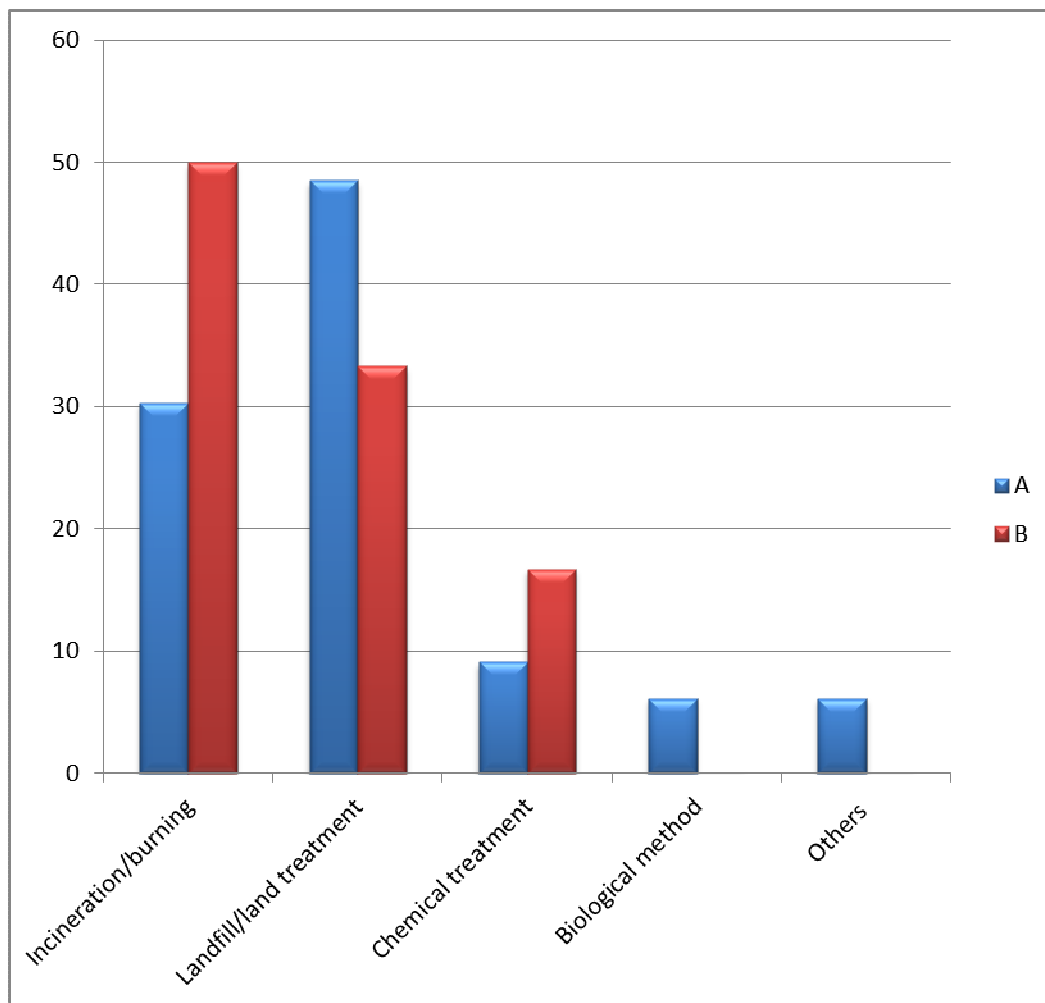
Source: Field Survey (2015)

Table 8: Summary of results on Chi Square test of relationships (OZNP)

S/N	Parameters	P Value	Significance	Inference
1.	Age vs medium of awareness about EM (E)	0.908	P>0.05	No significant association
2.	Education vs medium of awareness about EM (E)	0.857	P>0.05	No significant association
3.	Staff training vs should every employee be aware of EM (E)	-	-	-
4.	Age vs medium of knowledge about EM (V)	0.002	P<0.05	Significant association
5.	Education vs medium of knowledge about EM (V)	0.989	P>0.05	No significant association
	Education vs every visitor should be aware of EM (V)	0.009	P<0.05	Significant association
6.	Age vs waste disposal (V)	0.016	P<0.05	Significant association
7.	Education vs waste disposal (V)	0.709	P>0.05	No significant association
8.	Education vs should every visitor be aware of EM (V)	0.009	P<0.05	Significant association
9.	Waste disposal method vs knowledge of environmental management	0.682	P>0.05	No significant association
10.	Presence of tour guides vs rating of site EM (V)	0.015	P<0.05	Significant association
11.	Length of stay vs rating of site EM (V)	0.005	P<0.05	Significant association

E=Employees, V=Visitors

Source: Field Survey (2015)



A= Okomu National Park; B= Ogba Zoo and Nature Park

Fig 1: Waste Disposal/ Treatment

Source: Field Survey (2015)