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SUSTAINABLE WILDLIFE CONSERVATION AT OKOMU NATIONAL PARK, NIGERIA

Abstract

The purpose of this study is to investigate the various sustainable preservation measures at Okomu National Park, Benin, Nigeria, identify the various challenges of the Park and suggest the way forward. Ethnography was adopted where research methods like key-informant interview, focus-group discussion, field observation, and electronic documentation were used to elicit data from the field. Relevant documentary sources were not left out either. Data gathered were analysed using descriptive and narrative analytical methods. This revealed a range of management measures that were grouped into two main categories (i.e. Educational measures and Technical measures). Major challenges like poaching and community violence were identified, with the major causes arising from host communities. At the end the study made a useful contribution to the sustainable management of parks for ecotourism development, by introducing the HoPSuP Model as a management practice to encourage a healthy host-park relationship in Nigeria and some other developing nations.

Keywords: *sustainability, wildlife, conservation, national park, challenges, HoPSuP model.*

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1. Introduction

The International Union for the Conservation of Nature and Natural Resources, sees a National Park as “Natural area of land and/or sea, designated to protect the ecological integrity of one or more ecosystems for present and future generations ...provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.” (IUCN, 1994. In Nathaly, 2004, p. 9). In the Common Future Report (1987), The World Commission of Environment and Development argues that species and ecosystem preservation is a prerequisite for sustainable development. It went further to recommend that all nations should preserve at least 12% of their terrestrial wilderness through the creation of a complete network of rigorously protected areas like National Parks. “National parks of today face many pressures and as a result require some form of management. They are not areas defined by an impermeable boundary, but rather a porous one that interacts with the areas surrounding it” (Searle, 2000, p.39). In some Parks or areas of Parks, access is intentionally denied to limit disturbance (Samuel et al, 2011; Usman & Adefalu, 2010). The park managers thus try to identify measures suitable for each park to foster sustainable conservation in the protected area.

However, National Parks in Nigeria are constantly faced with various challenges that threaten their sustained growth and existence. Members of the host community around many National Parks see the Park as a means of livelihood, thereby destroying the natural flora or fauna of the park. Tourists and other visitors on their own part, either directly or indirectly, abuse the environment, thereby causing destruction of the natural habitat of plants and animals at these parks. Take for instance the case of the Yellowstone National Park, where elephants were killed and the tusks removed to be sold for money (Mohammed et al, 2013). Does it mean that Parks do not have sustainable conservation measures? However, this paper aims to evaluate sustainable conservation measures at Okomu National Park and examine the challenges and opportunities of this particular Park in the midst of these challenges. It is expected that at the end the study would have contributed to the efficient, sustainable conservation at Parks in Nigeria and beyond. However, it will be pertinent at this juncture to have a brief review of previous studies on Parks, their sustainable preservation, challenges and prospects. Samuel, *et al.* (2011), state that the origin of park management could be traced to the establishment of the Yosemite Grant in 1864 which was the first public recreational wild conserved area. He went further to identify poaching as amongst the major challenges of park management. Ijeoma and Ogbara (2013) cited under funding and non-involvement of host communities as challenges to management of Kainji Lake, National Park in Nigeria. Also Abimbola, *et al.* (2011) affirms that host communities cannot be jettisoned from the sustainable management at Parks since they have significant contribution to make to the sustainability of the Park. Ijeomah, and Odunlami (2013) were of the opinion that amongst the management challenges of Yankari National Park Bauchi is the politicisation of policies and other issues in the Park. Anadu (1987) draws attention to the major threats to nature conservation in Nigeria, and reviews critically the measures adopted for the protection of wildlife. The major problems he mentioned include habitat degradation (through uncontrolled logging, agricultural projects, industrial plantations, highway and urban development, and exploitation of fuel wood), over-hunting and poaching. Steps taken so far to protect wildlife include the creation of one National Park and eighteen Game Reserves, enactment of wildlife laws, signing of international treaties, and manpower development. He then states that these measures have, however, failed to produce the desired effect owing largely to public apathy, low level of funding, inadequate game laws and weak enforcement of existing legal provisions (Anadu, 1988). These studies lay a good foundation for the commencement of the current study, which is aimed at concentrating on the sustainable preservation, challenges and opportunities at Okomu National Park, Benin City, Nigeria.

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Methodologically, information used for this research was majorly sorted through ethnographic methods of data collection. These involved the use of some research instruments like include in-depth interviews, key informant interviews, field visitations, and participant observations. Ethnography is a subset of qualitative research method where a researcher is expected to have a contact and direct interaction with the research subject. In this, the researcher is to spend some time with research subject under investigation for detailed understanding of the activities and culture of the subject under investigation (Okpoko & Ezech, 2011). This method was used by Nwankwo (2013), amongst some other previous studies, in conducting a study on the safety and security measures in the heritage industry of the Eastern region of Nigeria. It was also used by Okorafor (2002) in his study, on the population of the Igbo people of Southeast Nigeria. The method was quite helpful in these studies and some other studies that were focused on case studies. Electronic documentation used in the process includes a video camera, photo camera, and tape recorders. For the field observation, participant observation was also used to extract information during the study in the Park. Also, another research method was used to confirm and complement the efforts of ethnography. This was documentary evidence where liberal sources, internet sources and some other informal documentary sources like diaries, monographs, unpublished manuscripts, etc., was used in supporting evidence from the ethnographic study.

Summarily, in an attempt to achieve its objective, the paper commenced with the brief information on the Okomu National Park, and activities of other Parks in Nigeria, coupled with their historical antecedents and challenges over time. Also, the paper discussed sustainable preservation measures of the Park under two broad categories; educational and technical measures. This was followed by a descriptive and narrative analysis of the various challenges of the Park under investigation. Finally, before the conclusion, HoPSuP Conservation Model was introduced to check various challenges that were identified as threats to the sustainability of the Park and some other similar Parks around the world, especially at the developing nations.

2. Literature Review

2.1 A brief historical background of National Parks in Nigeria.

The history of the creation of National Parks in Nigeria dates back to 1979 when Kainji-Lake National Park was established in accordance with Decree 46, as Nigeria's premier National Park. For about 12 years, Kainji Lake National Park remained the only Park in the country until in 1991 when Act 46 of 1979 was abrogated and replaced with Decree 36 of 1991 which established the National Park Service with five (5) National Parks in the country; i.e.

- Chad Basin National Park - 2,258 sq. km - Borno/Yobe States
- Cross River National Park - 4,000 sq. km - Cross River State
- Gashaka-Gumti N. Park - 6,731 sq. km - Adamawa/Taraba States
- Kainji Lake National Park - 5,382 sq. km - Kwara/Niger States
- Old Oyo National Park - 2,512 sq. km - Oyo State

In 1992, Yankari Game Reserve was upgraded to the status of a National Park as Yankari National Park; bringing the total to six Parks in that category. However, with the promulgation of Decree 46 of 1999, now Act 46 (Cap65LFN2004), two additional Parks were established (Source: National Park Service Headquarters Abuja, 2014). They include;

- Kamuku National Park - 1,121 sq. km - Kaduna State and
- Okomu National Park - 181 sq. km - Edo State.

This brought the number to eight (8) National Parks with the National Park Service (Administrative Headquarters) in Abuja. Also, one of the Parks, Yankari National Park, was

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returned to the Bauchi State Government in June, 2006 via the National Park Service Amendment Act 2006, following request for the transfer of the ownership and Management of the Park by the Bauchi State Government. This development, however reduced the number of Parks in the country to 7 National Parks located in all the major ecological zones of the country except the marine ecosystem (Ijeoma & Odunlami, 2013). The objectives, functions and powers of the National Park Service as spelt out in Part II, Section 6, 7 and 8 of Decree 46 of 1999 (now an Act), include but not limited to conserving the outstanding scenic, natural, scientific, recreational and other values in the National Parks and wildlife protected areas in order to ensure the continued existence of wildlife and their sustainability for the benefit of the nation.

Figure 1: Map indicating the various National Parks in Nigeria and their locations
(Source: NigeriaSat-1 Imagery of 2007)

However, The Okomu National Park, formerly the Okomu Wildlife Sanctuary is about 777 sq.km of the forest which was gazetted in 1912; while in 1935 an extension of 411 Sq.km was made to the North and East. The Forestry Department of the then Bendel State Ministry of Agriculture and Natural Resource assumed management responsibility of the reserve in 1970. Also, when Bendel State was divided into Edo and Delta States in 1991, the control of Okomu Forest Reserve was transferred to Edo State. Okomu was legalised as a Forest Reserve in 1912 by Government Order 397. It was later reconstituted as a Native Administration Forest under the Benin District Council in 1950 (Ajayi, 1998). The Reserve was said to come under the management of the State Government in 1970, who managed it for the host community. The State Government granted a 99 year lease of 1500 ha from area, BC 9 to a palm oil company and another 2000 ha from area, BC 10 to a rubber company for development of oil palm and rubber tree plantations. Although both of these areas were termed as a “De-reservation” there was no evidence that the lease was ever legally gazetted. It is therefore not known how much this has affected the statutory rights of occupancy.

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Moreover, in 1982, Oates and Anadu were said to have carried out a survey of the conservation status of all the forest reserves in Ondo, Ogun, and Bendel States (Ajayi, 2001). After their studies, they recommended that a Wildlife Sanctuary be set up in the core of Okomu Forest Reserve to protect the unique flora and fauna of the tropical forest ecosystem. In particular, it was thought that the creation of the Sanctuary was the last hope for the protection of endemic and endangered species of wildlife, including the endemic white-throated guenon monkey (*Cercopithecus erythrogaster*), of which there is an estimated population of about 3000. The creation of the Sanctuary was gazetted in June 1988. In 1993, the Edo State Government requested the Federal Government to take over the management of the Okomu Wildlife Sanctuary as a National Park. Okomu Wildlife Sanctuary was then among the seven protected areas around the country accepted for upgrading into a National Park by the Governing Board of the National Park Service in 1994. The formal handing over ceremony of the protected area by the Edo State Government to National Park Service took place on 26th May 1999, and this coincided with the signing of Decree 46 of 1999 (now Act of the National Assembly, Cap 65 of 2004), which established the sanctuary as a National Park into Law on the same day.

2.2 Brief information on Okomu National Park

The Okomu National Park is located in Edo State of Nigeria about 75km West of Benin City, the State Capital. The Forest Park has an area of 1082 km and is situated between the rivers Osse and Siluko to the East and West respectively and between Longitude 5°E and 5°30'E and Latitude 6°N and 6°N. It is the largest in Edo State. The climate of Okomu is tropical, with well-marked rainy and dry seasons. The mean annual rainfall is 2100mm falling mainly between March and October with the highest rainfall occurring in June, July and September. The park has relatively high humidity that is not less than 65 percent during the afternoons in every period of the year. The mean monthly temperature is 30.2°C. Moreover, the Okomu Forest Reserve consists of semi-deciduous, humid, lowland rainforest and is representative of this rapidly disappearing ecosystem of South-Western Nigeria. Freshwater swamp forests, are found along the rivers in the Park. The African mahogany family (Meliaceae) is well represented, including *Khaya ivorensis* (African mahogany), *Entandrophragma angolense* (Tiama), *Entandrophragma cylindricum* (Sapele), *Guarea cedrata* (Light Bossé or scented Guarea), and *Lovoa trichilioides* (African Walnut) and a host of other plant and animal species (Ajayi, 2001).

Figure 2: The Vegetation of Okomu National Park

Figure 3: The Map of Okomu National Park

(Source: Okomu National Park, Benin City)

3. Sustainable Preservation Measures at Okomu National Park

Park managers have been advised to understand possible adverse effects at the Parks and address them through appropriate planning and efficient management strategies (Buckley, 2003; McNeely & Thorsell, 1989 in Wearing & Neil, 2009; Ogunjinmi, Onadeko, & Jayeola, 2010). Also, it is worthy to note that the overriding aim for Park managers is to sustainably manage tourist movement in the Park so as to strike a balance between use and conservation in the Park (Zarska, 2006 in Wearing & Neil, 2009). “Common issues associated with tourism in natural areas that need to be considered by managers include visitor crowding, conflict between different user types, littering, user fees and information distribution” (Eagles and McCool, 2004; Lucas, 1984 in Wearing & Neil 2009). However, “an important consideration for management involved in ecotourism activities in natural areas is ecological planning to prevent intensive usage from causing future damage” (Cengiz, 2007 in Wearing & Neil, 2009). It is essential to note that even when ecotourism is deployed in order to supply protected areas with economic benefits, the Park needs to be strictly managed, monitored and controlled through protective measures to prevent degradation of the site by tourists and the host community as these are part of the two key players at every protected area. The management of the Okomu National Park and the National Park Service in Abuja has delineated various measures in combating issues of park exploration, and abuse which emanates both from within and outside the Parks territory. During the ethnographic studies in the park, the following information was collated.

3.1 Educational Measures

It is recognized by Buckley and Pannell (1990; in Wearing & Neil, 2009) that “education as a management option may be the most effective of all management techniques, particularly in natural areas where it may well be the only option”. The educational measures were aimed at educating the general public on the importance of the National Park and why conservation is necessary. So many programmes were designed in this regard. The first among them is what they tagged “**Catch them Young**” which was designed to educate the pupils and students in primary and secondary schools in the vicinity of the park, about the importance of a National Park. According to the Head of Planning, Research and ICT, this program was initiated to enable the young ones at a very little age know the reason why indulgence in poaching is wrong. He went further to say that this has yielded very positive result as a good number of such students return home to also educate their parents and siblings about what the staffs from the park taught them in schools. This has gone a long way in bringing the issue of poaching in the Park to a minimal level. Poor audience and limited time were amongst the challenges of this particular programme as was observed in some schools. Also, another programme is **Community Awareness Program/Community Initiative**, which is aimed at making members of the host community appreciate the existence of the Park in their vicinity. This, as said by some staff, does not mean that the community members do not know about the existence of the National Park, but rather to make them appreciate it and treat it as theirs; telling them the need for preservation and what the community stands to lose if the park and its species become extinct. This awareness is carried out once in a while and there is no stipulated date for the conduct of the community awareness. The leaders of these communities are consulted by the Conservator of Park to fix a date for such programme. Basically, the only challenge is the fact that visiting a community for an awareness program is not done empty handed; kola must be presented to the elders and this is not often available, as such, finance could be said to be the major challenge of this measure. To proffer solution to this measure, publicity is required to educate not just the host communities, but a wider range of the public just as mentioned in a Newspaper interview with the Conservator of Okomu National Park, Oladipo Ojo Cornelius, who said “To change the perception of people, we need a huge publicity fund which we don’t have and to which corporate organizations can help us endorse and assist”. Wearing and Neil (2009) opine that “even the best-planned management procedures will fail without public support”. A strong base of public support for the aims and objectives of protected areas is one of the first prerequisites for their management. “From public support, come the political will, financial support and staffing necessary to achieve the aims and objectives of management. For this reason it is essential that the natural areas management provide information that seeks to change behaviour, not just awareness” (Forestell, 1990 in Wearing & Neil 2009).

Figure 4: Presentation of kola nut to the Community Elders during awareness campaigns

However, another educational measure is the formulation of **Conservation Club at schools** by the Conservation Education Unit of the Park. These clubs, visit schools to educate pupils and students about the need for conservation and especially on the consequences of park misuse. People are also encouraged to have Plant Nursery in their homes and sometimes at their schools. The conservation education unit also carries out outreach programs on radios as well as television stations where people are educated on the need for conservation of the environment and a greener environment. This programmed lack adequate sponsorship detail to encourage its continuity.

3.2. Technical Measures

These include technical measures that are in place at Okomu National Park but the Park management is yet to harness their potentialities. One of them is **Carrying Capacity Management** which is fundamental in ensuring environmental protection and sustainable development at a Park. It is the maximal use of a site with less negative effects on the resources, reducing visitor satisfaction, or exerting an adverse impact upon the society, economy and culture of the people living in the area (Saka et al, 2012; Wearing & Neil, 2009). Carrying capacity is very important in every protected area as over use of resources can lead to depletion; as such, it is used to limit the level of use in an area especially on facilities. For instance, the first tree house in the National Park was removed due to overuse, every visiting tourist; no matter their number, would want to climb the Tree House at once and this led to a partial destruction of the Tree House. This eventually led to the reconstruction of a 140ft high Tree House, which was made with hardwood and to accommodate more visitors at the same time (Ijeoma & Odunlami, 2013). This carrying capacity may be followed using 'User Fees' to limit the number of tourists who uses the facility. **Visitor Impact Management (VIM)** is another technical measure at Okomu National Park but not adequately applied. "VIM process involves a combination of legislation/policy review, scientific problem identification (both social and natural) and analysis and professional judgment" (Payne & Graham, 1993 in Wearing & Neil 2009). This is where the National Park Service Act has a role to play in the management measures as the act provides guidelines and policies on what is acceptable and not acceptable within the confines of the Park. VIM helps the park in identifying unacceptable changes occurring as a result of visitor use and developing management strategies to keep visitor impacts within acceptable levels. This is somewhat related to carrying capacity, but the Visitor Impact Management is in line with policies which may either be governmental or Park Policy. It addresses visitor impacts using a wide range of alternative management techniques. The problem associated with the VIM technique at Okomu National Park is poor implementation of relevant laws and policies, coupled with non-periodic review of existing laws and policies to reflect current trends.

Moreover, **Trail System Design (TSD)** is also one of the technical measures at Okomu National Park. It is an indirect management action that may not only be effective in the redistribution of use, but also for improving the quality of visitor experiences by, setting the level of challenge, the scenic quality and opportunities to observe and learn about natural communities and processes (Lucas, 1984). In protected areas, trails are the link between visitors and the natural ecosystem, so most of the adverse impact caused by visitors can be concentrated on trails (WenJun et al, 2005). The natural trail in Okomu National Park provides tourists with a sense of nature as it is though a natural trail but often maintained for easy flow of movement. The trail leads to various attractions in the park like the river, the tree house, and the buffalo watch zone including a host of others. The design of trail systems may be an important factor in improving the quality of the ecotourists' experience as they rely on trails to provide an experience in themselves, rather than just a route to attractions. For

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example, the artificial maintenance of trails, such as the establishment of wooden, trails, flagstone trails and bridges can create a point of interest, particularly if signage and construction to reflect cultural aesthetics (WenJun et al., 2009). This is the case of the hanging bridge in the National Park as it is not just a path of crossing but also an attraction for adventure lovers. In the Okomu National Park, the trail system is designed to reduce the impacts of tourists trampling on very important plant species in the park which may also lead to bio resource depletion/loss. McNeely and Thorsell, (1989, p. 37 in Wearing & Neil 2009) note that “this indirect management technique/measure can act to increase the visitor’s enjoyment of the area and also to stimulate modes of behaviour which enhance the environmental quality of the site”. Finally, the least, but not the last technical measure at Okomu National Park is the **Anti-Poaching Patrol**, which is aimed at apprehending and prosecuting persons involved in poaching activities in the park. In the Okomu National Park, the team is made up of Rangers who are assigned to different stations or segments of the Park, but at different times of the day patrol round the Park. Culprits are charged to the court using the stipulations of the National Park Service Act. This measure has been very useful as a number of the culprits when caught have felt so ashamed and desisted from such act. One of the major challenges of this measure is that some time poachers are fully armed to challenge Park Rangers in the forest. These could cause members of Park Rangers to sustain serious injuries in the discharge of their duties. Some of the Rangers interviewed in the cause of this study advocated that the Park management should provide them bullet proofs and proper ammunitions to protect their lives in the Park.

Figure 5: Rangers on night patrol in the Park.

However, these measures which include educational (catch the young, community awareness programme/community initiative, and conservation club) and technical (carrying capacity management, visitor impact management, trail system design and anti-poaching patrol) measures, are intertwined towards ensuring sustainable preservation in the Park. For instance, educational measures are aimed at combating the menace of ignorance, both on the part of the host communities and visitors/tourists to the Park. Ignorance has been identified as amongst the major threats to the sustainable existence of parks (Ejidike & Ajayi, 2013; Ijeomah & Odunlami, 2013; Samuel et al, 2011). Technical measures on the other hand, were aimed at ensuring efficient control and monitoring in the Park to evade biodiversity depletion (fauna and flora). They control both legal and illegal activities of human beings in the park, to ensure sustainable growth and preservation in the Park (Saka et al, 2012; Wearing & Neil,

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2009). Although this current study was focused on wildlife conservation, it is evident that various plants in the Park equally aid in sustainability and safety living in the wildlife. For instance, activities like logging, debarking of woods, etc., were seen as threats by the wildlife in the Park. Disturbances from logging and debarking of woods could scare away the wildlife, even beyond the boundaries of the Park. These animals and birds, according to Cengiz (2007) and oral sources, are more comfortable in a serene environment, hence they feel a sense of safety and natural habitation in the environment.

4. Challenges of Okomu National Park

Most of the challenges observed are already enshrined in the National Park Service (Amendment) Act of 2006 Sections 29-41, which stipulated several offences and their penalties. As pointed out by the Range Officer in Iguowan Range, Mr. Festus Imasuen and some other staff members noted that the major challenge witnessed in Okomu National Park is "Poaching". It was defined by the Assistant Head of Department of Ecological Resource Management Mr. Ajibi Peter as any illegal activity carried out in the park that causes the destruction of the natural habitat of flora and fauna. This includes illegal hunting, illegal logging, farming encroachment, fishing, illegal trafficking of live animals, debarking of wood and a host of other illegal activities perpetuated to the detriment of natural resources in the Park. For instance *Illegal Hunting* which is an unauthorised hunting of animals in the Park, can take so many forms; while some hunters hunt by setting traps on the trails of these animals, some hunt in groups at night after spotting the resting place of these animals others hunt using guns. Although the hunting with guns has been reduced as the hunters on their part have noticed that the sound of their guns scares the animals away as well as it draws the attention of the Rangers to that direction. The works of the anti-poaching patrol and prosecution has been proved very useful and tremendously important as it has helped to combat this challenge.

However, *Illegal Logging* has to do with the illegal falling of trees for timber or other industrial and/or domestic use. This could also be witnessed in the form of deforestation where trees are fell down without afforesting. Different methods of tree felling and transportation of lumberable trees from the Park has been adopted by many. Some transport the logs using vehicles, but covering the top with various things to cause distraction while others transport through the rivers in other not to be noticed. This was more pronounced during the regime of NCF (Nigeria Conservation Foundation) owing to the limited number of Rangers, but today, Rangers (Patrol Team) are distributed evenly in the park and virtually all routes are covered and as such transportation of trees has not been so easy. In the works of Mohammed et al. (2013), from the results it could be ascertained that Kainji, Kamuku, the Cross River and the Old Oyo National Parks showed a steady decline from 1995 to 2007. For example, the Kainji National Park lost 1,672 sq. km of forest cover within the twelve year period. This amounted to a loss of about 139 sq. km of forest per annum. The decline in the forest cover in the old Oyo National Park appears even more dramatic. This park lost a total of 3,547 sq. km of forest cover during the twelve year period representing a loss of about 296 sq. km of forest cover per annum. Gashaka Gumti National Park recorded a rejuvenation of forest cover to the tune of about 2,185 sq. km between 1995 and 2001, perhaps, due to a mounted reforestation program during the period. However, about the same amount of forest cover in the park (1,927 sq. km) was degraded by the year 2007, owing to the challenges of poaching activities. Government efforts at conservation achieved the greatest success at the Okomu, Yankari and the Chad Basin National Parks which stayed virtually unchanged in the real extent. This result proves that the management of Okomu National Park in conjunction with the activities of its rangers has to a greater extent combat illegal logging.

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Figures 6 & 7: A scene of illegal logging and loggers transporting logs of wood through the waterways

Moreover, there is also the issue of *Farming Encroachment* in Okomu National Park. Members of the host communities who share boundaries with the park have always made efforts to farm within the park as its soil was claimed to be fertile as it has not been cultivated. The Patrol team would make it a point of duty to hide themselves around the illegal farm lands in the park to wait for the culprits who are to be arrested and charged with the specific penalty and the farmland destroyed to discourage continued farming. The same is applicable to *Illegal Fishing* in some areas of the park that are surrounded by rivers. The members of the surrounding communities of the Park do conduct illegal fishing secretly, in the rivers within the park. This affects the growth and sustainability of aquatic life in the Park. The inhabitants of the various communities are expected to fish in their own waters, but must not exceed their boundaries during such activities. There is also the problem of *Debarking of Wood* which has to do with the removal of the bark of a tree by people for certain medicinal purposes. Most of the trees in the Park do not survive on removal of their barks and this is the reason why the Conservation Education unit educate people on the need to have plant nursery in their homes hence any tree in the National Park has been termed 'Reserved'. Before embarking on nursery planting, once the nursery can only be got from the Park, an approval must be sorted for from the Park Authority.

More so, there is issue of *Illegal Trafficking of Life Animals* in the Park. This is an illicit movement of animals like antelopes, dickers, white throated monkey among others. According to the National Park Service Act, it is wrong to hunt down, capture or traffic animals found in the park because they have Laws protecting their existence. The only condition stipulated by the National Park Service Act in the movement of Animal from one place to another is usually from one Park to another as donation of a particular specie and sometimes for mating but it is rarely practiced. Members of the host communities are sometimes joined by some dubious employees of the Park in perpetuating this evil. The last but not the least is *Threats from Members of the Host Community*. Interviewed Rangers and other staff of the Park attest to the fact that people, terrorizing the Park and its endangered species are no other people but members of the surrounding communities. Aside from the fact that they poach within the park's territory, they still expect so many things to be done and put in place by the Park management. For example, the youths make demands on behalf of the host community and when it is not done by the management of the National Park, they threaten violence and give a deadline on when they expect the demands met. In the case whereby the Park did not meet the demands, they become violent either by attacking Park facilities, Rangers or Animals in the park. Such demands include- pipe-borne water, electricity, treatments, among other things.

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Figure 8: Vandalism by the Youths of the host community with threat Notes

Although seemingly taxing, the Park management has tried in their own little ways to carry out things to please the various communities that surrounds them adopting the community Initiative measure whereby the head of various communities are consulted in some issues. For example, the employment schedule of the Okomu National Park is so designed that 80% of the indigenous forms the workforce. In the case of any vacancy, the various heads are consulted to present their sons and daughters who qualify for such positions and it is until they have no candidate for employment before the position goes public. Visitations to the heads of the community are always organized as they are most of the time consulted in decision making as well. Also in its own way, the Park has provided bore holes in strategic areas in the community as well as donations are frequently made to schools to facilitate learning.

Figure 9 & 10: Donation of Pipe-Borne Water and learning facilities to the host community.

5. The HoPSuP Conservation Model for Park Management in developing nations

HoPSuP is a conglomeration of interdependent paradigms for sustainable conservation of parks. The acronym stands for Host Community (Ho), Plant and animal species (P), Sustainability (Su) and Profitability (P). The main thrust of this Model is to provide efficient and sustainable guide for park managers in Nigeria and other developing nations towards a complete preservation and sustainability at the parks. The model was developed after a study on some Nigerian Parks including the Okomu National Park, Nigeria. Observations from the challenges of most of these parks have motivated the suggestion of this model towards ensuring sustainable park conservation.

Figure 11: HoPSuP Model process for sustainable conservation at Parks.

5.1. Basic Suppositions of HoPSuP Model

i. *The Host Community (Ho):* they are the traditional owners of the park and its contents. Previous studies have revealed that the 70% of challenges to park management in the developing nations like Nigeria is generated from the attitudes of host communities. While some of these attitudes are organized, some are individualized in approach. Most of the parks in Nigeria including the Okomu National Park have similar hostility from the host communities. Some of these include poaching activities of all kinds, vandalisms arising from long agitations, park visitors' embarrassments and abuse of the rule of law with respect to park management. Most of these attitudes always arise from misconceptions of park motives, perceived threats from the existence of parks in their localities and perceived stakeholders' neglect by the park management. These parks can only achieve a complete conservation when these hostilities from host communities are controlled. The suggested way is the constitution of Park/Community liaison committee. The committee is expected to be made up of the representatives of the park, national security operatives (i.e. the Police, etc) and representatives from different socio-cultural groups from the host community (i.e. Youths, women, elders, traditional heads, and age grades). This is expected to improve the synergy and understanding between the park and members of the host community. Members are to meet periodically to review policies and actions, at the same time discuss issues from

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feedbacks and act as an advisory board to the park management and community leadership on issues relating to park conservation and sustainability, and environmental sustainability. In a situation whereby more than one community is involved, all the communities involved should be adequately represented in the committee. This is expected to bridge the gap between the park and the host, and encourage sustainable park conservation. Park managements are expected to work closely with these committees with equity, justice, fairness, sincerity and respect for individual differences and values.

ii. *Plant and animal species (P)*: these are the major subject of discussion in park management in any part of the world. Deaths, disappearance, destruction and neglects on the sustenance of these would likely shorten the life span of an already established park. They are the major reason for the designation of a large portion of land as a conservation area. Park managers are expected to be exposed to new ideologies, current findings, constant studies, constant trainings and new trends towards improving the conditions of fauna and flora in the park. Periodic monitoring is essential including medical care for these flora and fauna species in the park. A documentation and analysis of each of these fauna and flora species would go a long way in bridging the gap between them and park staff and visitors.

iii. *Sustainability (Su)*: This paradigm addresses present and future implications of perceived benefits. One of the reasons for establishing park managements is to ensure the sustainability of these fauna and flora species so that they can serve both today and future generations. It is a reserve of park managers to factor in this paradigm in the consideration of perceived benefits and actions, and in every activity of the park. Every activity or measure that is not compliant to the sustainability of the park should be termed *anti-park conservation*. Intentions, suggestions and actions should be adequately processed with this paradigm. For instance, some measures like incessant transfers from different managements nearly crippled park activities at Yankari National Park in the last two decades owing to unnecessary transfers between Bauchi State government and Federal government of Nigeria. Most of these transfers were made by considering the implications for the sustainability of fauna and flora species in the park.

iv. *Profitability (P)*: This paradigm focuses on harnessing the profit tendencies of parks. Profitability is a necessary factor that supports the life span of a park. A park needs to be structured in a way that it will yield profits to the investors so as to encourage future and sustained investments in park activities. This is achieved by factoring in the research, educational and tourism potentialities of the park and how to harness them for the overall good of the park and its environment. Most of the parks in Nigeria suffer today as a result of poor funding from the government who constantly exhibit lackadaisical attitudes to park funding because of the perceived wasteful funding. Most parks have not been able to contribute to their financial demands from the Internally Generated Revenue (IGR). They have always relied on the government who are the major financiers of these parks in the case of Nigeria. A particular government may decide not to factor in tourism in its agenda for the people, thereby allowing parks under such government regimes to suffer financially. It's necessary expected that park managements should as much as possible design means of improving on the IGR of the park and try as much as possible to ensure that the park can be financed and sustained from within without waiting for subventions from the government. This can be through research and other educational activities, sponsorships and advertisements, super-structural developments like accommodation units of different class, international and local conference halls, restaurants and fast-food joints, recreational centres, gymnastic halls, outdoor sporting facilities, supermarkets, souvenirs, and other possible products and services that may be needed by visitors to the park. Such activities should support the sustainability programme of the park.

Finally, HoPSuP Model is not aimed at jettisoning other conservation models like the ones discussed in this paper, it is aimed at complementing these already existing measures by serving as a proactive measure to sustainable conservation at parks. This model is aimed at guiding future park managers in ensuring sustainable park conservation and at the same time maximizing the economic significances of the park. The application of this model and its assumptions would enhance the relevance and purpose of parks in Nigeria and other developing nations. This model is open to critiques and its application is suggested to other parks from developing nations.

6. Conclusion

The study identified various conservation measures at Okomu National Park which include trail system design, formation of conservation clubs, visitor impact management, community awareness programme, etc. These measures were found to be effective although with so many challenges combating their sustainable contribution to the Park under investigation. Some of the inherent challenges in the Park include intense poaching activities of all kinds, threats from host communities, etc. Despite these challenges the Park still has some opportunities for a sustainable growth which include revenue generation, education and research opportunities, community development initiatives, etc. However, HoPSuP Model was designed in the course of the study as a management tool for park managers and managements towards a sustainable and efficient management at parks. Sustainable conservation and growth at parks can only be achieved by critically applying this model at the parks towards turning various challenges into opportunities for the sustainable growth of parks. In addition to that, some recommendations are also necessary at this point towards ensuring the sustainability of the Okomu National Park and other parks in the developing nations. For Instance Ajayi and Hall are of the opinion that poaching and other illegal activities in the reserve were to be combated by game guards who were empowered under the law to arrest offenders for prosecution (Ajayi & Hall, 1979). This can be achieved through further empowerment of the existing Park rangers. In the case of being attacked and injured in the forest, rangers should not walk alone at different parts of the forest. Easy communication amongst rangers should be facilitated through the use of radio system while on patrol. Moreover, it is extremely important to note at this juncture that the success of any sustainability formula for parks depends majorly on the collaboration and involvement of the host community who are the major stakeholder (Nwankwo & Anozie, 2013). Community participation and initiative need to be strongly adopted as it will go a long way in tackling a good number of challenges encountered in the Park. Just as noted by Ajayi, (2001), “the management must evolve an institutional and legal framework for community participation”. The management of the Park needs to develop an institutional and legal framework for community participation in the decision-making process concerning management principles and practices that will enhance forest conservation and resource utilization. Conservationists on the other hand need to realize that the forest and its game cannot be conserved sustainably by excluding indigenous population through neglect and isolation. They need to work with the people to achieve conservation goals. Finally, the younger generation from the surrounding communities and other parts of Nigeria and beyond should be inculcated the need for conservation and preservation of biodiversity. In achieving the aforementioned, the school curriculum should be so designed by the Ministry of Education to accommodate the teaching of preservation and conservation as a subject from primary through secondary schools in the country (Nwankwo & Okafor, 2014).

Finally, the study was able to diversify studies in ecotourism by navigating the challenges of wildlife parks and ecotourism development in Nigeria. This introduced a new area of research in Wildlife Park and ecotourism. Also, the HoPSuP Model is another major contribution of the study to sustainable wildlife tourism in the developing nations. This Model

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is expected to check future challenges at these parks by encouraging synergy, purpose, trust and responsibility amongst host communities and the management of these parks, more especially at the developing nations like Nigeria. However, the major limitation of this study was its inability to sample some other parks in Nigeria during ethnographic studies, as a result of paucity of funds. This would have encouraged a comparative study of conservation measures and challenges at these parks. In this regard, it suggests that future studies need to concentrate on some other parks and also attempt the application of HoPSuP Model for a sustainable wildlife park management and ecotourism development. At the end, this would have established various strengths and weaknesses of this model in Park management and sustainability, and further make room for augmentations where necessary.

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