

Biodiversity Conservation, Tourism and Development in Okomu National Park, Edo State, Nigeria

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Abstract

The increased rate of species extinction as a result of expanding human population, resource exploitation and land use threatens biological diversity. Biodiversity by definition refers to the life forms on earth. This includes the millions of plants, animals and micro-organisms, the genes they contain and the intricate ecosystems they help to build into the living environment. About 1.4 million species have been identified but biologists now believe that the total number could be up to 80 million. This implies that numerous species may never be identified before they go extinct. Biodiversity Conservation methods such as the creation of National Parks help to minimize the rate of extinction.

The Okomu National Park in Edo state plays this crucial role and also serves as a very important tourist attraction while catering the needs of tourists and locals ranging from farmers to herb gatherers, park rangers and regrettably even loggers and hunters amongst others. Observations during a study tour in 2013 indicated that the sustainability of the park is significantly threatened and this has been further demonstrated by its low patronage by tourists the number of which was 26 in April 2012.

The survival of many species in Okomu National Park as is the case with other conservation areas depends on effective

management and collaboration amongst all stakeholders. Highly critical in this regard is awareness and acceptance by the local community. This paper examines various sustainable development issues and contexts around the development of the park, spanning the pre-colonial, colonial and post-colonial era.

Keywords: Biodiversity, Tourism, Eco-tourism, Sustainable Development, National Parks

Introduction

This paper examines the Emergence of Biodiversity Conservation, Tourism and Development in Okomu National Park, Edo State, Nigeria from a historical perspective spanning the pre-colonial, colonial and post-colonial era with a special focus on the sustainable development of this highly significant rain forest area.

Historically, the forest belts of Southern Nigeria had always been very important to the locals who had depended on it for both cultural and utilitarian purposes since the earliest periods of trace-able history. During pre-colonial times, traditional means were used to protect the over-exploitation of forest areas. The advance of colonialism however brought about the use of modern laws to gazette extensive portions of land as conserved forests.

In more recent times, the sanctity of either sacred forests and/or conserved areas had become very much abused in Nigeria where we now witness an exceptional spate of logging and poaching. At the same time, recent developments including the depletion of forest resources across the land have inevitably made the few remaining, conserved archetypes of our vegetation zones into tourist attractions where in the case of Okomu, tourists expect to experience the original nature of our rain forests in Nigeria.

Unfortunately, the expectations of tourists may not be adequately met due largely to the depletion of flora and fauna that has penetrated even this conserved area. This in turn has led to a reduction in tourist patronage with dire consequences on revenue from tourism, needed for further protection of the conserved area.

Study area

Okomu National Park is a 181 km.sq reservation area located in Ovia South-West Local Government Area of Edo State, Nigeria at about 60 km north west of Benin city. The park is named after the Okomu River.



Plate 1: Okomu national park location in southern nigeria

Historical background

Pre-colonial

During the pre-colonial era in Africa, biodiversity conservation was actualized through traditional methods that were based on the indigenous knowledge of the people. This involved the declaration of extensive tracts of land as sacred forests whose resources must not be exploited by the human community. This ensured the survival of large populations of rare species of flora and fauna alike. The prevalent culture ensured that development was generally sustainable. For instance, nearly all the products of the African societies were biodegradable. There were various cultural practices and festivals that ensured pilgrimages and cultural cum religious tours of various locations within or around the respective sacred

forests at appropriate times of the year. Thus biodiversity conservation, tourism and sustainable development went hand in hand from generation to generation.

According to Wikipedia (2014), the earliest known history of Okomu National park particularly with regard to human activity dates back to the pre-colonial era. A layer of charcoal and pottery below the forest, indicates that it had once been cleared before it then regenerated over the last 700 years. By the start of the 20th century the forest survived only in disconnected blocks, which were under intense pressure from human activity. It took the intervention of the British colonial administrators to set up a series of forest reserves to manage what remained, including controlled extraction of valuable trees such as *Khaya senegalensis* (African Mahogany).

Colonial

In order to conserve the remnant of the Nigerian lowland forests that once formed a continuous 50-100 km wide belt from the west of the River Niger to the Dahomey Gap in Benin, the colonial administrators gazetted about 777 km² of the forest in 1912 while in 1935 an extension of a further 411 km² was effected to the north and east of the forest bringing it to a total of 1188 km² of forest reserves out of which an area of 200 km² was gazetted as a wildlife sanctuary, also in 1935 (Wikipedia, 2014). This sanctuary was a critical rainforest ecosystem that is the habitat for many endangered species of flora and fauna. It was the last hope for the survival of many tropical populations. The activity of the colonial administrators effectively controlled the advancing depletion of the Okomu forest.

Post-colonial

The forestry department of the then Bendel State Ministry of Agriculture and Natural Resources assumed management responsibility for the reserve in 1970. In 1977, an area of 156 sq.km in BC 9 of the reserve was de-classified (de-reserved) and given up for a federal government oil palm project (Okomu Oil Palm Project). In addition, several compartments of the forest reserve have since been given to monoculture plantations such as Michelin rubber Estate and Iyayi plantations (NNPS, 2014).

A wildlife survey carried out in the then Bendel State in 1982 by P.A. Anadu and J.P. Oates revealed the following facts (NNPS, 2014):

- Okomu was the largest remaining rainforest in south west Nigeria
- Okomu contained a viable population of the rare white throated guenon *Cercopithecus erythrogaster*, a monkey endemic to southwest Nigeria, in addition to several other threatened species.
- Okomu forest reserve was the least disturbed of all the rainforests in the State.

The researchers (Anadu and Oates) then suggested that a wildlife sanctuary be gazetted in the centre of the reserve to give full protection from all forms of foreign exploitations. The proposal for a wildlife sanctuary was accepted by the State Government. The gazette constituting Okomu wildlife sanctuary covering 70 sq.km of the area originally proposed by Anadu and Oates was finally passed by Bendel State Government in August 1985(NNPS, 2014).

The Nigerian Conservation Foundation (NCF) got involved in the management of the sanctuary in 1987 (NNPS, 2014). In 1993, the Edo State Government requested the Federal Government to take over the management and protection of Okomu wildlife sanctuary as a National Park. Okomu wildlife sanctuary was 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. However, it was not until 1997 that the Federal Government decided to fund recurrent expenditure of Okomu and Kamuku as proposed National Parks.

After this intervention, the National Parks Board rehabilitated the main access road to Okomu wildlife sanctuary, renovated all the patrol posts and office buildings and provided vehicles and basic facilities, among others (NNPS, 2014). The formal handing over ceremony of the protected area by the Edo State Government to the National Park Service took place on 26th May 1999 which coincided with the signing of decree 46 of 1999 (now Act of the National Assembly, cap 65 of 2004) that established the sanctuary as a National Park into law the same day (NNPS. 2014).

Biodiversity and conservation

Biodiversity encompasses the variability of all organisms from all sources and the ecological complexes of which they are part of. This

includes diversity within species, between species and of ecosystem (Emma-Okafor et al, 2010). This term thus describes the variety and number of species of living organisms existing in a particular area, their gene pool and ecosystem.

Conservation generally refers to the process by which natural resources in a given area is protected from exploitation in order to allow it to continue to replenish itself and serve as a reservoir for future use, for research and study as well as for recreation and tourism.

Tourism and ecotourism

Tourism has been defined as a form of education and relaxation that involves travel from ones place of residence to a place of relaxation or pleasure for a period of more than twenty-four hours (Aremu, 2001). It has also been described as the science, art, and business of attracting and transporting visitors, accommodating them and catering to their needs and wants (Aremu, 2001).

Ecotourism is a sector of tourism that is based on nature travel and involves the principles of sustainability. The International Ecotourism Society (TIES in Bien, 2008 pg. 6) defines ecotourism as: “responsible travel to natural areas that conserves the environment and improves the welfare of local people.” Whatever definition is used, ecotourism should have a positive impact on both natural areas and the local community (Bien, 2008).

The concept of sustainable development

According to the Brundtland report, “our common future”, sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs.” (UNCWED, 1987 in Bien, 2008 pg. 4) “Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to the management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, and biological diversity and life support systems”(UNWTO, 2001 in Anwar 2012 pg. 15).

National Parks

According to IUCN (2014), a national park is a large natural or near natural area of land and or sea, designated to: protect the ecological integrity of one or more ecosystems for present and future generations; exclude exploitation or occupational activities that are inimical to the purposes of designation of the area and; provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Rain forest-based wild life parks have a rugged terrain that is attractive only to a limited number of tourists. Therefore tourist flow to such environments is usually on the low side. However, the tourist turn out at Okomu seems to be even particularly low and this might be largely due to the limited population of fauna that could serve as key attractions.

Tourist attractions in Okomu National Park

Okomu National park boasts of some key eco-tourism attractions that attracts visitors from within and outside Nigeria. Some of the attractions, amenities and activities include:

1. The tree house

The Okomu National Park has two tree houses with the main tree house standing at 140ft tall, built on a *Ceiba pentandra* (silk-cotton tree). This is perhaps the most impressive single attraction in Okomu national park that is available for tourists all year round. These trees depict the natural height that riparian forest trees attain (Plate 2). The wooden scaffold leading up the tree house is built with high level of safety assured as the climb is done completely in an enclosed structure. Once the climber reaches the top, he can relax in a wooden veranda where he can look over expansive parts of the park (more than ten kilometers afar) including a lake where animals do come to drink. This is a very good sighting spot and also, the trekking through the nature trail leading up to the tree house as well as the climbing exercises are good forms of sport for the athletic tourist.



Plate 2: Climbing through a scaffold to a tree house, an hot spot area

2. Suspended web-bridge

Along one of the most important nature trails in Okomu is the suspended bridge over Arakhuan stream (Plate 3). This stream which drains the forest is one of the most important streams in Okomu. The stream runs through a valley across which the suspended bridge makes it possible to cross while on a nature trail such that one does not need to descend down the valley into the stream. The bridge is a feat on its own. Strong trees on either sides of the valley are used as pillars holding up the massive framework of strong chords and ropes. One can comfortably walk across the bridge without any fear of falling through. At the same time, the bridge provides a beautiful view, looking down into the stream from above.



Plate 3: Crossing the suspended web-bridge by the tourist

3. Eco-lodges

The uniquely built eco-lodges are a great treat to nature enthusiasts. The structures were built on concrete stilts and thus the main building is suspended off the ground such as to reduce the impact of the structure on the ground, especially in terms of significantly altering the natural drainage system of the forest. The entire camp blends into the forest with care taken to minimize impact. Trees can be seen all around the buildings, creating a feel of closeness to nature (Plate 4).



Plate 4: An eco-lodge at Okomu National Park

4. **Flora and Fauna**

Cercopithecus erythrogaster (White throated Monkey) (Plate 5), *Cercopithecus mona* (Mona Monkey), *Philantomba maxwellii* (Maxwells duiker) and *Potamochoerus porcus* (river hog) are some of the recent mammalian sightings at the park (Ojewola 2012). Sightings of elephant dung also indicate the presence of elephants, direct observation of which has not been reported in recent times (Field observation, 2013).

However, the flora and fauna alike are suffering from the adverse effects of encroachment and poaching with key animal populations of chimpanzees, gorillas and elephants quite depleted. This may be linked with the development of infrastructural facilities such as roads, tourist facilities, increased access and other policy issues particularly the presence of borderline plantations which may have led to the increase in population around the park.

In any case, Okomu National park is known for a huge variety of flora including rare species such as *Ceiba pentandra*, *Celtis zenkeri*, *Triplochiton scleroxylon*, *Antiaris africana*, *Pycnanthus angolensis* and *Alstonia congoensis*. Forest animals in Okomu include *Osteolaemus tetraspis* (Dwarf crocodiles), *Potamochoerus porcus* (river hog), Sitatunga, Warthog, Civet cat, *Philantomba maxwellii* (Maxwell's Duiker), *Cercopithecus mona* (Mona monkey), *Galagoides thomasi* (Thomas's galago or bush baby) and *Manis tricuspis* (Tree pangolin), *Loxodonta Africana cyclotis* (forest elephant) and *Syncerus Caffer namus* (forest buffalo). Others include: *Cephalophus Monticola* (Blue duiker) *Cephalophus Niger* (Black duiker) as well as species of both nocturnal and diurnal species such as *Thornas golago* (bush baby) *Dendrohyrax dorsalis* (tree hyrax) and several species of monkeys which include *Cercopithecus erythrogaster* (white throated monkey) *C. torquatus* (Red-capped mangabey), *C. Mona* as well as *C. nicitant* popularly known as Puffy-nosed monkey.

Avian species includes *Pitta angolensis* (Angolan Pitta), *Psittacus erithacus* (Grey Parrot), *Aceros corrugatus* (Wrinkled Hornbill), *Haliaeetus vocifer* (Fish Eagle), *Picoides sp.* (wood-peckers), *Bubo virginianus* (Great Owl), *Tockus nasutus* (Grey Hornbill), *Ceratogymna atrata* (Black-casqued Hornbill), *Ceratogymna elata* (Yellow-casqued Hornbill), *Rhaphidura sabini* (Sabine's Spinetail), *Neafrapus cassini* (Cassin's Spinetail), *Telacanthura melanopygia* (Black Spinetail), *Nigrita fusconotus* (White-breasted Negrofinch), *Nigrita bicolor* (Chestnut-breasted Negrofinch), *Nigrita*

luteifrons (Pale-fronted Negrofinch) and *Chrysococcyx flavigularis* (Yellow-throated Cuckoo).



Plate 5: *Cercopithecus erythrogaster*-The white throated guenon, symbol of Okomu

5. Other Activities

There are several other activities that visitors and campers can embark on in Okomu National Park. Some of these include outdoor camping, hiking, swimming, canoeing, photography, game viewing, walking, bird watching, research and field studies among others.

Challenges

As is the case in most parks across the country presently, there is the problem of encroachment by farmers and incessant poaching by hunters. The activities of Niger- Delta militants increased security risks at the park with clashes between the rangers and the militants (Ojewola, 2012). Logging has also remained an issue that refuses to go away as loggers can be seen leaving the park with felled trees (see Plate 5).



Plate 5: Logging in the buffer-zone to the park

Data made available by the park management indicated that tourist` patronage has been very low (see Fig 1) and this has led to low internal revenue generated by the park. From the data provided, in the year 2012, there seem to be a positive relationship between popular holidays and tourists visit with the peak period of that year being in July, March and December. Presumably, the March visit may have happened during the Easter holidays while the July visit was probably part of the summer vacation and the December visit may have been as part of the usual Christmas holiday (Fig. 1).

The lowest visits happened in April, October and June. However, the park rangers informed us that the best time to visit the park is between November and March when conditions are most favorable for recreation. Essentially, these are the dry months, most ideal for hiking and game viewing especially in a tropical park. It is probable that tourists are oblivious of the fact that game viewing is more ideal in the dryer months and this may affect tourist inflow.

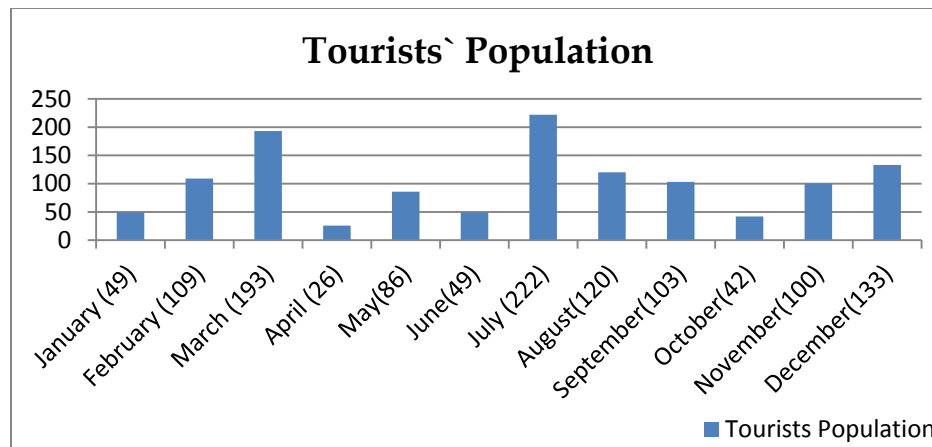


Fig 1: Okomu national park tourist influx 2012(source; field study)

Managing the challenges

Security has been beefed up in Okomu National Park with soldiers manning posts and settling in camps throughout the camp in order to complement the efforts of the park rangers. This would help to checkmate the activity of militants in the area. The management embarks on publicity drives to re-orientate the community on conservation issues as well as to drive for an increased tourist patronage.

Recommendations

1. Further research should be carried out on the subject matter.
2. More cultural approaches should be imbibed in the management of parks and nature reserves.
3. Relevant bodies and law enforcement agents should put more effort into curbing poaching, logging and encroachment into reservation areas.
4. Tourists and tour operators should plan more visits for the dryer months if game viewing is a very important part of their desired experience.

Conclusion

Biodiversity conservation, tourism and sustainable development have been a part of our society since pre-colonial times. The post- colonial

era has ushered in a particularly challenging era for biodiversity conservation with various threats emerging. Apart from the usual threats of poaching, logging and encroachment by locals, the park came under additional threats from militants but this has been effectively checked with the continued presence of soldiers in the park, beefing up security. The sustainability of the Okomu National Park remains a challenge that must be met by the collaboration of all stakeholders.

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