ATTITUDES TO **BUSH MEAT** TRADE AND WILDLIFE CONSERVATION
AT A MARKET TOWN IN LOWLAND RAINFOREST, RIVERS STATE, NIGERIA

**ABSTRACT**

**Aims:** The study was undertaken to investigate the attitudes of residents (involved and not involved) to the **bush meat** trade and conservation at a market town in rural lowland forest, Rivers State, Nigeria.

**Methodology:** Against the background of meteoric rise in and alarming increase in the number of endangered and threatened mammalian species in Nigeria, studies were initiated at the main bush meat market town, Omagwa, in Rivers State, Nigeria. Questionnaires were administered to a number of respondents: 103 (not involved in the trade), 42 (Vendors), 37 (Hunters), 08 (Middle men).

**Results:** Although some of the hunters had been in the trade for many years, more than 50% entered the occupation within the last 10 years. Nearly 70% of them were involved in other occupations before they became hunters; only 30% were unemployed before they ventured into hunting. More than 35% of vendors were civil servants. The attitudes of those not involved in the trade were diverse, but nearly 50% thought it was a threat to wildlife. **With regards to** conservation, nearly 50% offered very positive suggestions on wildlife management. Among hunters, about 60% suggested ways of conserving wildlife, although they were of the view that to enhance the trade, hunting **needed** to be intensified. Vendors were totally in support of conservation by different means.

**Conclusion:** All 190 respondents, with the exception of an individual not involved in the trade, were keen to ensure that future generations would have too many opportunities to behold the diversity of wildlife at Omagwa. It was therefore clear that they were interested in **sustainability**, one of the main goals of conservation, despite some contradictory statements. Suggestions on wildlife management policies are presented, beginning with enlightenment on the concepts of conservation, sustainability, wellbeing, etc., and other inter relationships.

**Keywords:** Attitudes, Occupation, **Bush meat** Trade, Wildlife Conservation, Nigeria
INTRODUCTION

The IUCN published its World Conservation Strategy (WCS) in 1980. It was prepared with financial backing from UNEP and the WWF and benefiting from comments by FAO and UNESCO. The WCS had a clear practical objective: “to stimulate a more focused approach to the management of living resources and to provide policy guidance on how this can be carried out\(^1\). Conservation has three main objectives: to maintain essential ecological processes and life-support systems, to preserve genetic diversity and to ensure the sustainable utilization of species and ecosystems. The sustainability concept has been extensively discussed\(^{[1-5]}\). The number of animal species listed as threatened or endangered has increased from 1700 in 1988 to 3800 in 1996, to 5400 in 2000\(^4\). A recent IUCN Red Book of threatened Animals reported that about 25% of all known species of animals are at risk of extinction\(^6\). The terms: Critically Endangered (CR), Endangered (EN), Vulnerable (VU) are degrees of threat. Critically Endangered is a species that faces extremely high risk of extinction in the wild in the immediate future. Endangered, refers to a species that faces very high risk of extinction in the wild in the near future. Vulnerable is when a species faces high risk of extinction in the wild in the medium-term future\(^7\). There are several reasons for the conservation of endangered or threatened species: utilitarian (Importance in Medicine, Agriculture, Industry, Ecotourism, etc.); maintaining the functions of ecosystem and the biosphere, justification (biological diversity adds to the quality of life, providing landscapes that can appeal to some people); moral justification (based on the belief that species have a moral right to exist, independent of our need for them) and cultural justification (specific species are of great importance to “indigenous people”\(^4\)). Humans have become an important cause for the alarming increase in endangered and threatened species. This occurs in several ways: through intentional hunting or harvesting (for food, commercial purposes, sport or to control a species that is considered a pest), through disruption or elimination of habitats, through pollution of the environment, and through introduction of exotic species, including new parasites, predators or competitors of some native species.

The numbers of threatened mammalian species in Nigeria rose from 26 in 1996 to 29 (Endangered- 13, Vulnerable -16) Animals\(^6\). In Nigeria, there has been no update of the 1993 Endangered Species Decree. The non-enforcement of Conservation laws and the unrestricted entry into the commercial Bush meat trade
are threatening wildlife in Nigeria. More than 1.2 metric tonnes of Bush meat, excluding elephants are harvested in a month in Nigeria\textsuperscript{[7]}. Of the eleven primate species listed that occur in Nigeria, 81.82\% were threatened by hunting and 18.18\% were affected strictly by habitat destruction\textsuperscript{[8]}. It was against this background that studies were initiated at the main Bush meat market town, Omagwa, in Rivers State. Results from earlier studies include information on species composition, abundance, cost and the resilience of the Greater Cane Rat, \textit{Thyronomys swinderianus}\textsuperscript{[9-11]}. The present study focuses on attitudes of residents (involved and not involved in the trade) to the trade and wildlife conservation.

MATERIALS AND METHODS

\textbf{Similar to this study’s setting}, Stromayer and Ekobo\textsuperscript{[12]} placed active hunting communities in the dense humid lowland forests of South Cameroon into three categories: (i) villages on the highway, (ii) people living along logging roads leading to the main highway, and (iii) people living in defunct logging towns. The Bush meat market town, Omagwa, 4°98'N, 6°91'E, is in the first category of the Stromayer and Ekobo\textsuperscript{[12]} grouping. It is situated on the busy interstate highway that connects two State capitals, Port Harcourt (Rivers State) and Owerri (Imo State). It is located in rural, lowland rainforest with no industries, major businesses, etc. The Port Harcourt International Airport is at the periphery of the town.

Questionnaires were administered across all villages at Omagwa; 390 were administered but only 190 responded. They were administered over a 6-month period (February-July) to cover both the dry and rainy seasons and ensure adequate coverage. Those not involved in the trade were 103, while those involved were: Hunters (42), Vendors (37), Middlemen (8). Responses were sought on educational qualifications, occupation, previous employment, ways of improving the trade, attitude to conservation, the need for future generations to see the diversity of wildlife at Omagwa, etc.

RESULTS

The past employment profile of those (Hunters, Vendors, Middlemen) involved in the Bush meat trade at Omagwa was very diverse. Among the eight middlemen, their previous employment chart was: unemployed, 1 (12.5\%); Civil servants, 2 (25\%); students, 2 (25\%); Taxi driver, 1 (12.5\%); restaurant supervisor, 1 (12.5\%);
Among the vendors, the previous employment profile was: 4 Engineers (10.81%); 13 Civil servants (35.14%); 7 Traders (18.92%); 2 Bankers (5.41%); 3 Clergy (8.11%); 1 Welder (2.7%); 2 Drivers (5.41%); 1 Health professional (2.7%); 1 Caterer (2.7%); 1 Farmer (2.7%); 1 Auto Mechanic (2.7%); and 1 Bicycle mechanic (2.7%). The hunters stated that they had been in the business for several years: 2 for 20 years and above (4.76%), 16 for 10-19yrs (38.1%), 22 for 2-9yrs (52.38%), and 2 for <2yrs (4.76%). Fourteen (33.3%) of the hunters were unemployed before entry into hunting, while 28 (66.67%) were in diverse occupations prior to their entry into commercial hunting. Among the 103 residents of Omagwa not directly involved in the Bush meat trade, all but one were interested in their children’s children being in a position to enjoy nature’s gift of diverse wildlife at Omagwa. In respect of attitude to the Bush meat trade, views were diverse (Table 1).

In response to suggestions on how to restore dwindling wildlife populations, those not involved in the Bush meat trade were virtually split: approximately 50% had no suggestions, other than to ascribe the trade to the non-availability of job opportunities and the other group had very useful suggestions on the conservation of wildlife (Table 2). In response to the need for conservation, the hunters offered a variety of views. The majority view was positive (Table 3). In the community, the vendors were the most conservation-conscious group, as reflected in their responses (Table 4). They were resolute in their beliefs that future generations should see the wildlife diversity at Omagwa. The 8 middlemen were unanimous in the view that future generations should have the opportunity to view the diverse wildlife in the forests at Omagwa. Their views on avenues to improve the trade were concentrated on increased sales.

Table 1: Attitudes of residents not involved in the Bush meat trade

<table>
<thead>
<tr>
<th>Responses</th>
<th>Numbers/Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gift of nature</td>
<td>20 (19.42%)</td>
</tr>
<tr>
<td>2. Tradition of community</td>
<td>2 (1.94%)</td>
</tr>
<tr>
<td>3. Resulting from unemployment (Alleviating poverty)</td>
<td>26 (25.24%)</td>
</tr>
<tr>
<td>4. Good but threatens wildlife</td>
<td>34 (33.01%)</td>
</tr>
<tr>
<td>5. Threatens wildlife</td>
<td>17 (16.5%)</td>
</tr>
<tr>
<td>6. Abhor the trade</td>
<td>4 (3.88%)</td>
</tr>
</tbody>
</table>
Table 2 Attitudes of residents not involved in the **Bush meat** trade to wildlife conservation

<table>
<thead>
<tr>
<th>Responses</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bush meat</strong> trade is a job opportunity and thus the Government</td>
<td>49</td>
</tr>
<tr>
<td>should not interfere</td>
<td></td>
</tr>
<tr>
<td>Conserve wildlife populations, selective hunting, reduce deforestation</td>
<td>51</td>
</tr>
<tr>
<td>and bush burning, Government should establish reserves, enforce existing</td>
<td></td>
</tr>
<tr>
<td>environmental laws, prosecute those involved in the trade, enlightenment,</td>
<td></td>
</tr>
<tr>
<td>Government should establish forest management committees</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Responses of hunters to the need for conservation to forestall wildlife extinctions

<table>
<thead>
<tr>
<th>Responses</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunt only mature wildlife, enforce laws, enlightenment, stop bush burning, governments should protect forests</td>
<td>27</td>
</tr>
<tr>
<td>Need for loans to change occupations to save wildlife</td>
<td>8</td>
</tr>
<tr>
<td><strong>No extant laws against hunting</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4. Responses of vendors to the need for conservation to prevent wildlife extinction

<table>
<thead>
<tr>
<th>Responses</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforce existing conservation laws</td>
<td>20</td>
</tr>
<tr>
<td>Afforestation/reduction in bush burning</td>
<td>8</td>
</tr>
<tr>
<td>Selective hunting</td>
<td>7</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Although some of the hunters were in the network for nearly two decades, more than 50% ventured into the occupation within the last decade, probably because of
the certainty of steady, modest earnings. Only 33% of the hunters were unemployed, before their entry into hunting, indicating that hunting had always been an integral aspect of life at Omagwa and environs. This was in contrast to the Mount Cameroon area, Cameroon, where most people considered hunting as a degrading way to make a living[13]. Many hunters, vendors and middlemen were of the view that they would love to see future generations, their children’s children behold the amazing diversity of wildlife at Omagwa and environs. Sustainability is a major goal of conservation[4]. This view was championed by the vendors, the employment profile with the highest proportion of secondary (high school) graduates.

Surprisingly, nearly 50% of residents not involved in the trade were of the view that the trade was a genuine way to make a living and therefore Government should not intervene, a view also held by most of the hunters who advocated intensified hunting to enhance the trade. Studies have shown that the Bush meat supply is usually greater in secondary forests and forest-farm-fallow mosaics[14], typified by Omagwa and environs. However, as Lang et al.[15] stressed, open access harvesting has never been sustainable. Since virtually all residents were of the view that they wanted their children’s children to behold nature’s gift to Omagwa in wildlife diversity, they were apparently on the same trajectory as Brundtland’s sustainability[1], which states “meets the needs of the present without compromising the ability of future generations to meet their own needs”[1]. Although some have described Brundtland’s definition as vague, it has the character of a moral principle and reminds us of the limits of the planet’s resources, a forceful argument for conservation to achieve sustainability. Based on the findings in this study, a vigorous enlightenment campaign should be inaugurated that explains in simple terms the concepts of conservation, sustainability, abundance of Bush meat and their interrelationships. The guidelines for Bush meat management policies advocated by Cowlishaw et al.[16] for Ghana are applicable in Nigeria, with some modifications. These are:

- Initiatives that permit the sustainable hunting of robust species, but also protect vulnerable species, will allow communities to continue benefitting from the Bush meat trade whilst protecting biodiversity and its associated ecosystem services.
Agricultural “farmbush” landscapes have the potential to provide a significant and sustainable supply of Bush meat. These areas may be important components of Bush meat management policies.

Management attention should focus primarily on those markets where vulnerable species (slow reproducers) are still being traded, since these species are likely to face rapid local extinction in the absence of effective regulation.

Management interventions in the Bush meat commodity chain will be most effective when all interest groups are involved. This approach is most important when no single group controls the market, but it will be beneficial in all market conditions.

All regulatory frameworks developed for the sustainable management of the Bush meat trade must be supported by effective law enforcement”.

In addition to the sustainable hunting of robust species and protecting vulnerable species, sustainable hunting methods should be exclusively used. In West and Central Africa, 177 species have been documented as hunted and 17% listed as threatened[17]. Snaring, using wire cable or tough plastic snares is probably the most widespread method[18]. It is wasteful and non-selective of species. In fact 27% of snared animals are lost to decomposition and scavenging. Nocturnal hunting with shotguns is practiced commonly when hunting duikers, because they freeze to torchlight; nets are also used[19] (1991). Hunting with guns facilitates more selective and efficient hunting of large-bodied and arboreal animals[20]. Off take rates should be below replacement rates to ensure sustainability. This implies working with local hunters to monitor their off takes – such as increase/decreased catch per unit of effort, distance increase/decrease from village that they must go to make hunting successful, increase/decrease in mature vs. immature harvest all by species, etc.

Conservation in the 20th century was dominated by attempts to reserve places for nature (Parks, Sanctuaries, etc.) and separate humans from other species; opponents labeled this strategy as “fortress conservation” or “fences and fines”[21].
By the 1990s, this approach was challenged by the community-based strategy\textsuperscript{[22]}. One of the major drawbacks of the protected area system was the ineffectiveness of law enforcement. These laws did not feature the communities in formulation and implementation. Hutton \textit{et al.}\textsuperscript{[23]} contrasted the two narratives. Two of the strongest proponents of community-based wildlife management or natural resources management generally are De Georges and Reilly\textsuperscript{[24]}. They argue that enforcement of existing laws will alienate traditional hunters by considering them as poachers. They state convincingly that law enforcement can only work when the local community, especially the resource users, i.e: fishers, hunters, sawyers, wild medicine/food collectors, etc. become the eyes and ears of the game wardens. The game/natural resource laws need to be reviewed and written in a manner that makes these resource users part of the solution, instead of the problem by integrating them into the monitoring of off takes to assure sustainability. The revised laws should empower local communities/resource users to stop outsiders from entering their conservation areas, turning colonial/government laws that created Open Access Resources, back into Common Property Resources. The achievements of community-based natural resources management in Africa has been dubbed the 3E (Empowerment, Economics, Environment)\textsuperscript{[25]}. Based on data from socio-economic demographic studies, coupled with the pervasive positive attitude in the community to conservation, the authors have recommended Community-based Wildlife Management\textsuperscript{[26]}. Five community-based wildlife management projects have been identified in Nigeria; the major projects are the Hadeija-Nguru Wetlands Conservation project and the Gashaka Gumti National Park Management Project\textsuperscript{[27]}.

**CONCLUSION**

The community’s pervasive positive attitude to conservation and sustainability, coupled with the advocated enlightenment campaign and incorporation of the modified policies advocated by Cowlishaw \textit{et al.}\textsuperscript{[16]} should provide a springboard for Community-Based Natural Resource Management (CBNRM)\textsuperscript{[23]}. Community Wildlife Management (CWM) programs have been adopted in Nigeria; they include: the Hadeija-Nguru wetlands conservation program, the Okomu River National Park- Ouwango Division, the Bonny Island integrated conservation project, the Gashaka Gumti National Park. The Hadeija-Nguru Wetlands
Conservation program and the Gashaka Gumti National Park Management project are the two major initiatives.  

REFERENCES  


