RESEARCH ARTICLE

Local Hunting Strategies in Kwara State, Nigeria: Challenge for Wildlife Conservation policy enforcement

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Abstract

This study was carried out in Kwara State to assess the hunting strategies adopted by the local hunters with a view to examining their compliance with the State Wildlife conservation policy. A well-structured questionnaire was employed to obtain data from 400 respondents, using 3-stage sampling techniques. Descriptive and inferential statistics were used to analyze the data obtained.Findings from the study revealed that majority (65.5%) of the respondents were in their youthful age with mean age of 27.8years, hunters showed low educational status with 41.3% of them indicating no former education and a typical hunter earned average of N13,054.00 (USD 81.60) monthly. Majority (93.8%) of the respondents were not aware of the Wildlife act, Radio was indicated by majority (70.0%) of them as the main source of information on Wildlife conservation while 33.5% indicated protected areas as their hunting ground. Pregnant, nursing mother, infant and disabled animals were respectively killed by 62.5%, 56.0%, 76.5% and 36.0% of the respondents. Pearson correlation analysis showed that respondents' age ($r = 0.047$), hunting experience ($r = 0.003$) and income ($r = 0.001$) were significantly related to illegal hunting activities. It could be concluded that hunters were ignorant of the Wildlife policy which is the regulatory framework on Wildlife conservation in the State. Enforcement of the wildlife policy also appeared to be weak and this might have accounted for illegal hunting activities in protected areas in the State. The study recommends massive enlightenment programme on wildlife conservation for the hunters in the local communities in the study area.

Keywords: Kwara State, Hunting strategies, Wildlife, conservation policy, Law Enforcement

1. Introduction

Wildlife hunting is presumed to have dated back to the time of human evolution. However, the modus operandi has continued to change over the years. In the recent time, the strategies of wildlife exploitation have undergone dramatic changes. Human populations have grown rapidly and more people are now engaged in the exploitation and consumption of wildlife than ever before. More importantly, the use of "low-technology" hunting tools such as traps, clubs and Dane-guns have been replaced by easily accessible guns and rifles that facilitate rapid extirpation of large number of animals [3]. As a matter of fact, the modern hunting tools have been reported to increase potential rates of return on hunting efforts to 25 times the traditional hunting weaponry [8]. Also, Nigeria has well-developed road systems which had further made much of the wildlife habitat to be easily accessible to hunters for wild animal exploitation. Some forest reserves have been divided by major expressways and all these factors have contributed to decimation and fragmentation of

wild animal natural habitats in most West African sub-regions including Nigeria.

Where there is no proper weaponry and hunter training, wild animal could suffer agonizing and miserable pain which sometimes may be prolonged over several hours or days [1]. Often-times, young or pre-matured wild animals are not speared by the desperate hunters in their quest to kill any animal that comes their ways during hunting expedition. Vitalis [7] posited that, hunters are opportunistic, they take what they can get and usually, this amounts to female, young, weak and disabled or physically challenged animals.

The unwholesome attitude of hunters themselves during hunting leaves much to be desired. Unripe fruits are eaten, while dirty stream water is drunk or competed for by hunters and their dogs during hunting expedition with impunity. Hunters are prone to becoming victims of stray bullets which may result in permanent loss of sensitive organs like eyes, ears, legs, arms, head and even loss of life due to poor handling of certain hunting tools by armature hunters. All these constitute potential danger, particularly,

when hunters are not guided with clearly spelt out codes of conduct during hunting expedition.

Wildlife hunters, not only in Nigeria but in Kwara State specifically, sometimes found their ways into the so called Government "protected forest areas" or forest reserves. They either ignorantly or deliberately harvest wild species of animals, thereby depleting the forest of its unique natural endowment. The effort of the forest workers in protecting the protected areas which constitute only 11 percent of the country's Land area [4] is often hampered by the short-fall in its manpower and poor motivation. Habitat destruction resulting from bush burning, illegal wildlife hunting (otherwise called poaching), agricultural land expansion, illegal logging and over-grazing are fast leading to rapid loss of biodiversity in the study area. It is on this basis that this study sought to provide insight into hunting strategies and the challenge it poses to wildlife policy enforcement in Kwara State, Nigeria. Specifically, this study sought to describe the socioeconomic characteristics of the hunters in the study area, examine respondents' level of awareness on endangered species of wild animals, identify respondents' Sources of information on hunting practices and evaluate the level of compliance of respondents to lawful hunting practices.

2. Materials and Methods

Study Area: This study was conducted in Kwara State of Nigeria. The State has an area of land totaling 32,500KM^2 with Guinea Savannah Vegetation. Geographically, the State is situated between latitude $7^o 20^1$ and $11^0 05^1$North of the equator longitude $2^0 5^1$ and $6^0 45^1$ East of the prime meridian [6].It shares common borders with Niger State in the north and southwest States of Osun, Oyo, Ekiti and the republic of Benin. There are thirty two protected forest reserves in the State occupying a total area of 5,792Km^2 (17.82%) of the total land area [2]. The State is populated with 2,365,353 people whose occupation ranged from farming, trading, blacksmithing, weaving and fishing while wildlife hunting is mostly taken as a secondary occupation [5]. The State has sixteen Local Government Areas with Ilorin as the Capital City.

Population of the Study: The population of the study comprised of all wildlife hunters in the state.

Sampling technique and Sample size: Well-structured questionnaire was employed to elicit data from the respondents whose selection was base on the use of multi-stage sampling techniques. The first stage involves the purposive selection of four Local Government Areas (Asa, Baruteen, Ekiti and Ilorin). These areas were purposively selected because of a number of reasons. The first is that the main occupation of the rural people in these areas is wildlife hunting. The second is that the areas have a number of government forest reserves and are easily accessible in terms of road transport and lastly, the researchers are able to communicate with the people of these areas in their local dialects. The second stage of the sampling involves selection of two hunters' take-off points (hunters' take-off point is a place where hunters gathered before proceeding to the hunting ground) from each of the four LGAs. The last stage was a random selection of 50 respondents from each of the two take-off points in the LGAs to arrive at a 400 sample size.

Data Analysis: This study used descriptive statistics including frequency counts, percentages, mean scores, and likert type scale to summarise the socio-economic charactersitics of the respondents based on data generated from the questionnaire. Inferential statistics (Pearson Product Moment Correlation) was also used to test the proposed hypothesis in the study.

3. Results

Table 1 showed the socioeconomic characteristics of the respondents in which majority (65.5%) of them were within the age bracket of ≤18 and 30 years. The mean age of the respondents in the study area was 27.8 years and this confirms that wildlife hunting is mostly undertaken by able bodied young men who could be better engaged in more productive agricultural activities given their vigor and agility. Less than half (41.3%) of the respondents had no formal education, 31.0% of them had primary education, 15.7% indicated secondary education while only 12.0% of them had tertiary education. This educational distribution showed that the respondents in the study area had relatively low education and this could provide a good leverage for any intervention program on innovation in sustainable hunting methodology. Income distribution among the respondents showed that close to half (47.5%) of them earned N10,001.00 - N20,000.00 monthly, 32.0% earned less or N10,000.00 monthly, 13.5% of them earned N20,001 - N30,000.00 monthly while the remaining 7.0% of the hunters earned≥30,001.00 Naira in a month. The mean monthly income of a typical hunter in the area was N13, 054.00. In terms of hunting experience, 47.0% of the respondents indicated 6 – 12 years, 23.0% of them indicated 13-19

years, 21.0% indicated ≤5 years while the rest 9.0%   indicated ≥20 years of experience.

Table 1: Socioeconomic characteristics of respondents

Socioeconomic Variables	Frequency (N=400)	Percentage (%)	Mean Score
Age (Years)			
≤18	60	15.0	
19-30	202	50.5	27.8years
31-40	84	21.0	
41-50	16	4.0	
≥51	38	9.5	
Educational level			
No formal	165	41.3	
Primary	124	31.0	
Secondary	63	15.7	
Tertiary	48	12.0	
Monthly Income			
≤10,000.00	128	32.0	13,054.00
10,001.00-20,000.00	190	47.5	
20,001-30,000.00	54	13.5	
≥30,001.00	28	7.0	
Hunting Experience (years)			
≤5	84	21.0	
6-12	188	47.0	16years
13-19	92	23.0	
≥20	36	9.0	

Source: Field Survey, 2013

As shown in table 2, majority (93.8%) of the respondents were not aware of the provisions of Endangered Species Act while only 6.2% of them indicated they were aware. The low level of awareness on this Act among the respondents implies that hunters in the study area were largely ignorant of what would have serve as a guide for their hunting activities.

Table 2: Awareness of respondents on Endangered Species Act

Are you aware of the Act?	Frequency (N)	Percentage (%)
Yes	25	6.2
No	375	93.8
Total	400	100

Source: Field Survey, 2013

According to table 3, majority (70.0%) of the respondents received information on wildlife hunting through radio and fellow hunters (69.5%) while others who indicated hunters' association, Television, print media and extension agents were 45.0%, 27.0%, 3.0% and 1.0% respectively. The infinitesimally low proportion (1.0%) of the respondents who indicated extension as their source of information might be due to the non-inclusion of the subject matter (wildlife hunting) on the schedule of activities of the State

ADP. Further interaction with respondents in the course of the field work confirms that radio programmes on wildlife hunting were usually anchored by independent presenters who in most cases were people with hunting background. Some of the radio programmes mentioned by the respondents were "Irinkerindo" and "Akinkanju-ode". This implies that, radio could be an effective way / tool for disseminating relevant and important information on sustainable wildlife hunting in the State.

Table 3: Respondents' sources of information

Source	Frequency (N)	Percentage (%)
Extension agent	4	1.0
Radio	280	70.0
TV	108	27.0
Print	12	3.0
Fellow hunter	278	69.5
Hunters' association	180	45.0

Multiple responses (N # 400).,*Source: Field Survey, 2013*

Table 4 showed that majority (66.5%) of the respondents carried out their wildlife hunting expedition in non-protected areas while the remaining 33.5% carried out their hunting activities in protected areas. This implies that the wildlife hunters in the study area are yet to conform to the wildlife hunting rules as significant proportion (33.5%) of them still

violated the State Forestry laws by encroaching into forest reserve areas.

Table 4: Hunting destination and distance from home (Km)

Hunting Destination	Frequency (N)	Percentage (%)
-Protected areas	134	33.5
-Unprotected areas	266	66.5
Total	**400**	**100.0**

Source: Field Survey, 2013

Furthermore, respondents were asked to give information on what they are likely to do if any of the animals listed in table 5 was encountered during hunting.The respondents (76.5%, 62.5%, 56.0% and 36.0%) indicated that they would kill infant, pregnant, nursing mother and disabled animals were respectively if animals are encountered in the course of hunting. This finding agrees with [7] who posited that wildlife hunters are opportunistic and will kill or capture wild animals they encountered in the forest, not minding whether the animal is young, weak or physically challenged.

Table 5: Decision taken by respondents if animals in the following conditions are encountered

Conditions of animals killed	Yes		No	
	Frequency	Percentage %	Frequency (N)	Percentage %
Pregnant	250	62.5	150	37.5
Nursing mother	224	56.0	176	44.0
Infant	306	76.5	94	23.5
Disabled	144	36.0	256	64.0

Source: Field Survey, 2013

Table 6: Cross Tabulation of Respondents' type of Hunting and Time spent /day

Time spent on hunting/day (Hrs)	Type of Hunting			Total
	Day	Night	Day& night	
2-5	40 (10.0)	10 (2.5)	16 (4.0)	66 (16.5)
6-9	168 (42.0)	32 (8.0)	52 (13.0)	252 (63.0)
10-13	8 (2.0)	6 (1.5)	68 (17.0)	82 (20.5)
Total	216 (54.0)	48 (12.0)	136 (34.0)	400 (100.0)

Mean time spent/day=7.2hrs, *Source: Field Survey, 2013*

Table 6 showed that above average (54.0%) of the respondents participated in day hunting, 12.0% took part in night hunting while the rest 34.0% partook in both day and night hunting. The table also showed that majority (63.0%) of the respondents spent 6-9 hours on hunting per day, 20.5% of them hunted for 10-13 hours/day while the rest 16.5% of them spent 10-1 3hours/hunting day. The interaction between the two variables shows that hunters who indicated day and night hunting spent more time with 17% of them spending 10-13 hours on wildlife hunting expedition per day. About halve (52%) of day hunters spent 2-9 hours per hunting day with the rest 2.0% of them indicating 10-13 hours of hunting per day. For the night hunters, only 2.5% of them spent 2-5 hours/hunting day, 8.0% of them indicated 6-9 hours/hunting day while the remaining 1.5% indicated 10-13 hours/hunting day. The table further showed that 4.0% of the respondents who hunted day and night spent 2-5 hours/hunting day, 13.0% of them spent 6-9 hours while the rest 17.0% spent 10-13 hours/ hunting day. The mean hunting time among the

respondents in the study area stands at 7.2 hours per day. This implies that, respondents who participated in both day and night hunting are not likely to be productive in their primary occupation (like farming) considering the man/hour or man/day been spent on wildlife hunting activities as they might have been exhausted after an active hunting sojourn.

Table 7 showed that the use of poison ($\bar{x}$ = 1.2), traps (x = 1.3) and net/wire (x= 0.8) is not popular among the respondents as they are rarely used while hunters occasionally used catapult (x = 2.2), dogs (x = 1.8) and bush burning($\bar{x}$= 1.8) during hunting. However, respondents indicated regular use of club (x= 3.0) and guns (x= 2.5) during wildlife hunting. Catapult is a very popular hunting tool for birds in rural communities and is made by teenagers with less expensive and locally sourced materials. The occasional usage of catapult could possibly indicate occasional preference for birds among respondents during hunting. The implication of low usage of traps as hunting tools is that animals are not likely to suffer prolonged pains before they are recovered by the

hunters and a situation in which trapped animals may even drag the trap to an unknown location where its recovery may be difficult until it decomposes is avoided. Occasional use of dogs as shown on the table further confirms the fact that some dogs have been bred specifically to enhance their skills in helping man to hunt. Hunting dogs have been used by man from time immemorial when their very survival was dependent on their hunting skills. Hunting Dogs was inextricably linked with man's own evolution. As a matter of fact, dogs are symbolic of a professional hunter and this may account for the occasional use of

dogs during hunting among the respondents. Using bush burning as a device to direct wild animals to a pre-determined location for killing can cause monumental loss to the forest if it becomes escalated or not properly controlled in addition to other environmental damage. Gun hunters have the advantage of killing as many wild animals as possible with one trigger, particularly if the gun is a double barrel type. However, unregulated use of gun during hunting could encourage proliferation of small arms for criminal activities in the rural areas.

Table 7: Hunting tools used among respondents

Hunting tools	Regularly	Occasionally	Rarely	NeverMS
Poison (chemicals)	66 (16.5%)	16 (4.0%)	250 (62.5%)	68 (17.0%)1.2
Catapult	196 (49.0%)	116 (29.0%)	74 (18.5%)	14 (3.5%)2.2
Trap	76 (19.0%)	178 (44.5%)	80 (20.0%)	66 (16.5%)1.3
Net/Wire	12 (3.0%)	50 (12.5%)	178 (44.5%)	160 (40.0%)0.8
Dog	152 (38.0%)	124 (31.0%)	26 (6.5%)	98 (24.5%)1.8
Bush burning	76 (19.0%)	204 (51.0%)	78 (19.5%)	42 (10.5%)1.8
Club	400 (100.0%)	0 (0.0%)	0(0.0%)	0 (0.0%)3.0
Gun	250 (62.5%)	128 (17.0%)	6 (1.5%)	16 (4.0%)2.5

NB: Mean score was obtained from: Regularly = 3, Occasionally = 2, Rarely =1, Never = 0, *Source: Field Survey, 2013*

4. Hypothesis:

There is no significant relationship between selected socio-economic characteristics of respondents and compliance with lawful hunting practices:

Pearson correlation analysis in table 8 showed that age (r = 0.047) and hunting experience (r = 0.003) were significant and positively related to the extent to which hunters engage in illegal hunting activities while hunters' average monthly income (r = 0.001) even though significant but inversely related to illegal hunting activities.

Table 8: Relationship between selected socio-economic characteristics of respondents and compliance with lawful hunting practices

Variables	Coefficient(r)	p-values
Age	0.99	0.047*
Education	-0.053	0.295
Marital status	-0.009	0.858
Income	-0.159	0.001**
Hunting experience	0.149	0.003**

*. Correlation is significant at the 0.05 level (2-tailed).**. Correlation is sigcant at the 0.01 level (2-tailed).

Thus, the null hypothesis was therefore rejected. The implication of this result is that the older a typical hunter grows and the more the hunting experience acquired the higher the possibility of violating the hunting laws. Also, the higher the income generated from wildlife hunting activities by the respondents, the lower the possibility of compliance with lawful hunting practices and the higher the tendency of biodiversity loss.

5. Conclusion

It was observed that majority of the hunters were not aware of the endangered species wildlife act. This may be responsible for a substantial amount of the respondents (33.5%) hunting in protected areas. This is an indication that if appropriate measures are not taken to create awareness on this act, wildlife hunters may encroach into forest reserves and this may affect wildlife conservation. The non-compliance of hunters to wildlife act may be attributed to the fact that about half of the respondents (41%) do not have formal education. The lot that have education only studied up to primary school level (31%). Apparently, this level of education is not enough for them to practice wild life hunting in the way that it should be done and may be accountable for the use of alternative methods such as use of poisons, dogs and bush burning for wild life hunting as found in this study.Furthermore, the study found that wildlife hunting activities in the study area were not conducted within the context of the regulatory laws as demonstrated by the hunters' low level of compliance with lawful hunting practices

which prohibited the killing, capturing and trading in certain species of wildlife. The generally poor perception of hunters to bush burning and poor access to functional extension service appeared to be partly responsible for hunters' poor compliance. The study therefore recommends massive enlightenment programme and improved enforcement strategies by Forestry Departments across the nation, but particularly in Kwara State, in order to save the forest resources from extinction.

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