Impact of Wildlife Policy on Management of Wildlife Resources In Cross River National Park, Nigeria

Sotolu, R.O. *, Tyowua, B.T. and Akanbi, A.O.

Department of Wildlife and Range Management, Federal University of Agriculture, Makurdi, Benue State, Nigeria.
*Corresponding Author: omolorlar@yahoo.co.uk

Abstract
Biodiversity protection and conservation involves different categories of stakeholders, none of whose contribution could be overlooked. Effect of policy in shaping activities of these stakeholders cannot be overemphasized. It is thus pertinent to assess how policy affects management of wildlife resources in Cross River National Park (CRNP). Two sets of structured questionnaire were administered to Park Managers (PMs) and support zone communities (SZCs) to elucidate information from them. A total of 64 PMs were surveyed purposively at the park Headquarters at Akamkpa, Oban and Okwangwo divisions. From sampling frames of listed SZCs in both park divisions, nine communities were randomly selected in all using a sampling intensity of 20%. In each of the SZCs selected, 20 households were systematically selected. Focused Group Discussions was conducted with both PMs and SZCs separately in each park division and communities to augmented data collected. Most (68.8%) of the Park managers at both divisions and at the Headquarters are of the opinion that other forms of land uses within the park, apart from biodiversity protection and conservation, are anti-conservation. While some (21.9%) of the Park managers engage in subsistence farming, the entire community member farm and most (61.7%) of them have no alternative source of income. There exist a significance difference in the occupations of Park managers and that of the villagers (p≤0.05). Although community members consider the National act as being harmful (50.6%), the existence of wildlife and its management under the legal initiative have been considered not beneficial (86.3%) by Oban villagers while Okwangwo villagers adjudged it beneficial (55.0%). Good policies puts in place help to check and balance activities and guaranteed benefits within the context of conservation and sustainability of resources. It is therefore essential that existing policies are regularly assessed by State/Government through funded researches in order to guarantee management and conservation of wildlife resources.
Keywords: Wildlife Policy, Biodiversity, Wildlife Resources, Cross-River National park.

Introduction

Concept of wildlife management is entrenched in three approaches *viz*: control of wildlife population; maintenance of wildlife habitat; and management of people to protect wildlife, the most critical of which is the last. To achieve human management in a way that strikes a balance between the needs of man and the requirements of wild species, the promulgation and enforcement of adequate and effective legislation could not be over-emphasized. Wildlife policy is a legal statement that provides a set of orientations and principles of actions to guide and determine future decisions in relation to conservation and sustainable use of wildlife resources for the benefit of society from the social, economic and ecological viewpoints. It specifically provides guidance for planning, resource allocation as well as legal reforms related to the wildlife sector. The policy represents the

consensus among all relevant stakeholders on wildlife management objectives in the country (Morgera and Wingard, 2009).

Wildlife Management is the science and art of monitoring the numbers of animals in various wildlife populations, and then making adjustments to the populations and their habitats in order to keep the populations at healthy levels over a long time. Wildlife management is based on understanding how animals, their environment and people interact. Some of the tools used by wildlife managers include habitat protection and improvement, harvest regulations (hunting seasons and bag limits) and wildlife protection (harvest restrictions, refuge areas, etc.) (Alarape, 1995). Although wildlife management could be in form of outright protection where taking of the resource is forbidden, the goal of wildlife management is to allow the wise use (conservation) of wild resources, while ensuring that species populations do not become threatened, endangered or extinct. This ensures sustaining healthy human life, providing rural communities with food and income and urban dwellers with recreational opportunities among others (Kashio, 2000).

Many wildlife conservation problems must be solved by resorting to a range of skills relating to managing people and the systems they construct (Baxter *et. al.,* 1999). Protected areas world-wide not only in Africa are often faced by serious anthropogenic challenges which militate against conservation efforts and could interrupt natural cycles and phenomena. This is evident in the work of Bhatt (1996) where it was recounted that Everest National park and Annapurna Conservation Area in Nepal have faced serious environmental problems caused by too many visitors. Over consumption of fuel-wood and local food products, pollution of drinking water and accumulation of garbage left by trekkers pose major problems there. Role of policy in keeping wild stocks at a level within its regenerating potential cannot be over emphasized due to the fact that it controls the actions of both the managers of the resource and that of the public who explore and exploit the resource. This notwithstanding, governments' willingness and national allocation to the wildlife sub-sector play a major role in a successful conservation effort as evidenced by Kojwang (2009). Over the last two decades in a host of sub-Saharan African countries, tourism industry, of which wildlife resources sector is a major component, have become one of the fastest growing industries. Despite this, budgetary allocations and policies of governments are not encouraging towards wildlife and environmental departments. Most often, the sector is not directly reflected in national accounts traditionally, especially in East and Southern African countries. This is due to the fact that, in the statement of national accounts, most countries use the International Standard Industrial Classification (ISIC) which only identifies sectors like agriculture, mining, fishing and logging but not tourism as an industry (Kojwang, 2009).

Human management may not be feasible without enforcement of adequate and effective legislation, stating offences with consequent penalties. This has prompted the need for this research in order to:

i. bring to focus the National Park Service Act 46 of 1999 chapter 65 of the Federal Law of Nigeria, amended in 2004
ii. assess some limitations of the act for possible amendment;
iii. highlight some externalities and challenges to the management of wildlife resources in Cross River National Park (CRNP).

Nigeria National Park Service is a paramilitary establishment; a federal parastatal under the supervisory oversight function of the Federal Ministry of Environment. It was initially established in 1991 vide Decree 36 (National Parks Governing Board), with six national parks under its administration. Later on, this decree was amended by yet another Decree 46 of 1999, now Act 46 of 1999 (Cap 65 of FLN, 2004) which promulgated the National Park Service. Two additional national parks: Kamuku and Okomu came into being under this Act, bringing the total number of national parks to eight under NNPS. As a result of policy-decision by the Government, however, Yankari National Park was later degazetted to a Game Reserve and Leisure Resort and handed over to Bauchi State Government at its own request. Presently, the Service manages seven parks, viz: Chad Basin, Cross River, Gashaka-Gumti, Kanji Lake, Kamaku, Okomu and Old Oyo national parks (Ita, 1993). One of the functions of the Service is to encourage the general public to visit the national parks and study nature, thereby popularizing the parks as ecotourism attractions.

Cross River National Park exists in two non-contiguous divisions – Oban and Okwangwo divisions. It has an approximate land area of 4,000km^2 and covers four local government areas of Cross River state, which are Boki, Obanliku, Akamkpa and Etung local government areas with its administrative headquarters at Akamkpa town. To the northern and southern territories respectively, the park borders with Takamanda National Park and Korup National Park both in the Republic of Cameroon. These landscapes form a Cross River – Cameroon biodiversity complex with its distinct complexity and diversity in wild plant and animal resources as well as unique landscapes. There is an existing memorandum of understanding (MoU) between Nigerian and Cameroonian governments towards the joint management of the biodiversity complex. Cross River National Park harbors the world's rarest great ape – the mountain gorilla, *Gorilla gorilla dilehi*, and this earns the park one of IUCN's 25 world biodiversity hotspots.

Methodology
Relevant information was gathered from park officials and Support Zone Community (SZC) members in the park using two sets of structured questionnaire. This was aided with focused group discussions (FGD) with hunters and farmers including village heads and chiefs. Discussions also involved some park officers at the head quarters and at the park stations with patrol teams. Relevant prints in National Park Service Act 46 of 1999, Chapter FLN65 on issues relating to the

management of wildlife resources in Nigeria and reports from National Bureau of Statistics from National Population Commission are highlighted. A total of 64 Park officials were purposively sampled. Targeting heads of departments and other staff members involved in decision making at the park headquarters at Akamkpa, a total of 20 sets of questionnaire was administered. At Oban and Okwangwo sectors of the park however, a total of 20 and 24 questionnaire copies respectively was administered targeting station officers and anti-patrol rangers. In the communities around the park, sampling frame of twenty and twenty-five communities were listed out of which four and five communities were randomly picked respectively from Oban and Okwangwo divisions using a sampling intensity of twenty percent (Eniang *et al.*, 2011). The randomly selected villages are Aking, Osomba, New Ndebiji and Ntebacho communities in Oban division; and Bashu, Okwangwo, Anape, Okwa and Butatong communities in Okwangwo division. In each of the selected communities and with two rangers (that are indigenes of the area and who understand the local language and terrain of the place) who assisted from each park division, 20 households were systematically selected by picking one household and skipping three. Hence, 20 sets of questionnaire were administered in each community targeting heads of households. This gives a total of 80 questionnaire copies administered in Oban division and 100 in Okwangwo division of the park. Results are analysed using descriptive statistics which are presented in tables and charts, and analytical statistics using analysis of variance.

Results
The number of years the respondents have been in the park is shown in Table 1. Responses are from both divisions of the park and also from the park headquarters at Akamkpa. Most (53.3%) of the respondents have been in the park since its establishment in 1991 before the enactment of this law in 1999, while almost twenty five percent have been with the park since more than a decade ago.

Table 1: Park Managers' and Communities' Years of Experience with CRNP

	Okwangwo		Oban		Akamkpa	
	Park Managers	Communities	Park Managers	Communities	Park Managers	Total
Time(Years)	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
Since Establishmnet	7(29.2)	63(63.0)	4(20.0)	56(70.0)	0(0.0)	**130(53.3)**
>Ten Years	10(41.70	19(19.0)	7(35.0)	12(15.0)	11(55.0)	**59(24.2)**
<Ten Years	7(29.2)	18(18.0)	9(45.0)	12(15.0)	9(45.0)	**55(22.5)**
Total	**24(100.0)**	**100(100.0)**	**20(100.0)**	**80(100.0)**	**20(100.0)**	**244(100.0)**

Some Aspects of Nigerian National Wildlife Law towards Management of Wildlife Resources

National legislation that guides the establishment and operations of all Nigerian national parks including Cross River National Park and its governing board is the National Park Service Act 46 of 1999, CAP FLN65 of 2004. It is the laws of the federation of Nigeria and was passed into law in 1999 with full operation. It contains several sections out of which are Offences and Penalties; and Miscellaneous.

Section 30 sub-section (1) paragraphs (a), (b), (i), (j), (k) and (o) state that any person who, unless authorized to do so under this Act or the regulations made under this Act – hunts or captures an animal; or destroys or collects an animal; or fishes or attempts to kill any fish; or is in possession of a wild animal, bird or reptile, dead or alive; or is in possession of, uses, or sets a snare, net trap or any other instrument for the purpose of capturing or killing an animal and; does an act likely to harm or disturb the fauna or flora respectively – in a National Park, is guilty of an offence under this Act. The penalties for these offences are stated in section 37 sub-section (2) which states that – A person who is guilty of the following offences is liable on conviction–

(a) where the offence is that of hunting, wounding, killing or capturing of a mother of a young animal, large mammal or any endangered, protected or prohibited species, to imprisonment for a term of not less than three months but not exceeding five years without the option of a fine;

(b) where the offence is that specified in paragraph (g), (m), (n), or (o) of section 30, to imprisonment for a term of not less than six months but not exceeding ten years without the option of a fine;

(c) in the case of any other offence, to a fine of not less than ₦10,000 but not exceeding ₦50,000 or imprisonment for a term not less than one year but not exceeding five years or to both such fine and imprisonment;

(d) where the offence is committed by a body corporate, to a fine of not less than ₦100,000 but not exceeding ₦1,000,000.

Section 48 of this act also states that:

i. The Board and Management Committees shall consult with and take into account the views of local communities in the administration and management of the National Parks and may, in each case, establish Local Advisory Committees consisting of local residents to assist in the management of a National Park.

ii. For the purpose of achieving a more effective partnership with the local communities and to return benefits to them, a Management committee may organise, co-operate with or encourage the organisation of, or co-operation with guilds, associations and networks of local communities in respect of any particular endeavor, activity, trade or profession.

Alternative Land-Use Practices within the Park and Its Significance
Fig. 1 presents the perceptions of park managers towards other land-uses apart from biodiversity conservation in the park. Most (68.8%) of the park managers at both divisions and at the headquarters are of the opinion that other forms of land uses within the park, apart from biodiversity protection and conservation, are anti-conservation. While some (21.9%) of the park managers practice subsistence farming, all the community members farm. Some of the villagers however engage in other occupations like hunting (8.3%), fishing (4.4%), civil service (11.7%) and trading (13.9%) as shown in Table 2. Occupation of both the park managers and support zone communities were subjected to analysis of variance (ANOVA) test and it was revealed that there exist a significance difference in the occupations of park managers and that of the villagers at 95% level of significance ($p \leq 0.05$).

Table 2: Occupation of Respondents

	Oban		Okwangwo		Akamkpa	Total
Occupation	Park Managers	Communities	Park Managers	Communities	Park Managers	
	Frequency	**Frequency**	**Frequency**	**Frequency**	**Frequency**	**Frequency**
Civil Service	**20(100.0%)**	11(13.8%)	**24(100.0%)**	10(10.0%)	**20(100.0%)**	**21(8.6)**
Farming	4(20.0%)	**80(100.0%)**	10(41.7%)	**100(100.0%)**	0(0.0%)	**14(5.7%)**
Hunting	0(0.0%)	0(0.0%)	0(0.0%)	15(15.0%)	0(0.0%)	**15(6.1%)**
Fishing	0(0.0%)	0(0.0%)	0(0.0%)	8(8.0%)	0(0.0%)	**8(3.3%)**
Trading	0(0.0%)	11(13.8%)	0(0.0%)	14(14.0%)	0(0.0%)	**25(10.2%)**
No Alternative	16(80.0%)	58(72.5%)	14(58.3%)	53(53.0%)	0(0.0%)	**161(66.0%)**
Total	**20(100.0%)**	**80(100.0%)**	**24(100.0%)**	**100(100.0%)**	**20(100.0%)**	**244(100.0%)**

Respondents' Perception to Wildlife Management and Policy Effectiveness
The perception of park managers towards policy is presented in Table 3 while Fig. 2 shows the perception of support zone community members to policy statements aimed at managing wildlife resources in the park. These assess the effectiveness of policy statements in National Park Service Act Chapter Number 65 in managing wildlife resources in the park. Assessment of community members about management of wildlife by the park authority is also shown in Fig. 3. Although community members consider the national act as being harmful (50.6%) as presented in Fig. 2, there are differences in opinions from park managers as shown in Table 3. As some park managers (26.6%) consider this policy as being adequately effective, some (20.3) decide that it is moderately effective, while others are of the opinion that it is mildly effective (26.6%) or not effective (26.6%). The existence of wildlife and its management under the legal initiative have been considered not beneficial (86.3%) by Oban villagers while Okwangwo villagers seem to benefit (55.0%) from it (Fig. 3).
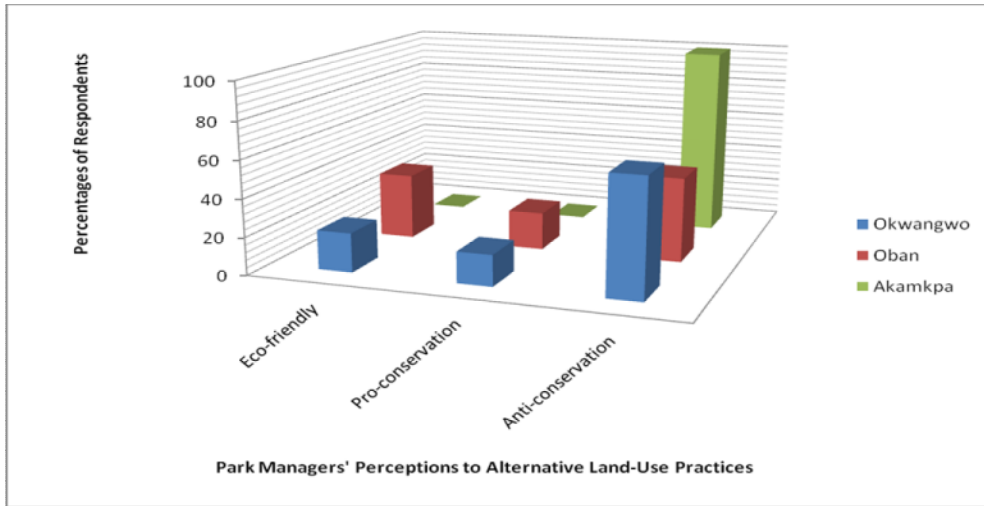
Fig. 1: Park Managers' Perceptions to Alternative Land-Use Practices in Cross River National Park Divisions

Table 3: Park Managers' Perception to Policy Effectiveness

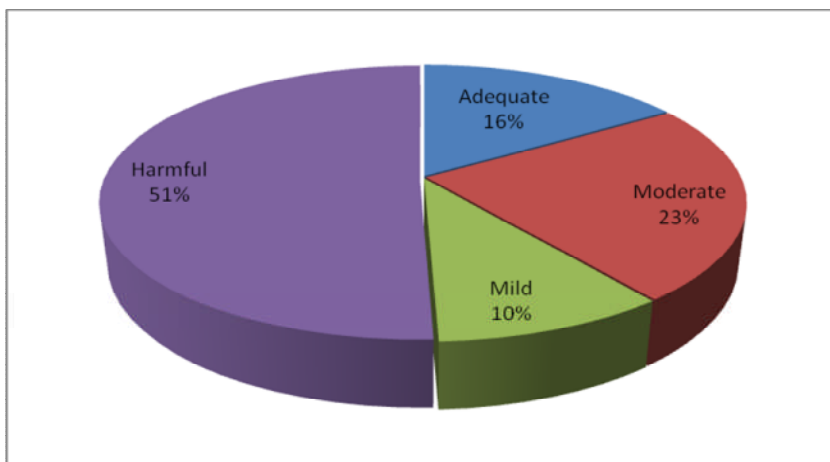|	Okwangwo	Oban	Akamkpa	Total
Perceptions	**Frequency**	**Frequency**	**Frequency**	**Frequency**
Adequate	9(37.5)	4(20.0)	4(20.0)	**17(26.6)**
Moderate	7(29.2)	1(5.0)	5(25.0)	**13(20.3)**
Mild	3(12.5)	9(45.0)	5(25.0)	**17(26.6)**
Not Effective	5(20.8)	6(30.0)	6(30.0)	**17(26.6)**
Total	**24(100.0)**	**20(100.0)**	**20(100.0)**	**64(100.0)**

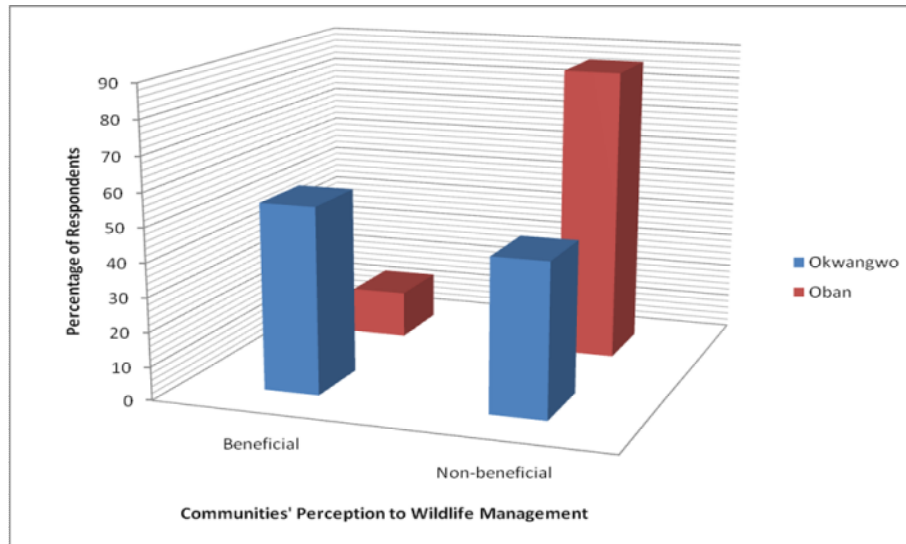**Fig. 2: Perception of Communities to Policy Statements**

Fig. 3: Perception of Communities in the Park Divisions about Wildlife Management

Discussion

The custodians of wildlife resources are, more often than not, born into the environment. Until the protection for the resource came, mostly from national governments in the form of policies and enforcement, they see it as part of themselves. After the birth of the enforcement in the late 1990s, adjustments began for example in Nigeria, both on the parts of the government and these communities.

Fundamentals of Effective Wildlife Policy and the Spate of Nigerian Wildlife Policy;

In line with Forster (1991), mechanism for the management of wildlife resources, especially in the areas of its conservation and utilization, should be ensured by the legal parameter that confers it a national property and should be at a level that permits a strategic viewpoint and allows for the maximization of its values. Nigerian National Park Act is quite comprehensive and, to an extent, satisfies these conditions. However, the population of Nigeria is one-fifth of that of Africa and a large part of this live along its tropical wet forest coast (USAID, 2006), which describes the ecology of Cross River National Park and consequently expected to put more pressure on the natural resources of that region. Hunting and gathering rights enjoyed prior to the creation of the park were abrogated with the Decree No. 36 and subsequent Act No. 46 of 1999 as explained by USAID (2006). Managers of the resource who are to enforce protection and conservation have more stable and comfortable sources of livelihood unlike the communities who have to depend on the conditions of weather and environment as manifested in the quantity and quality of their yield and catch as affected by season. This is probably why park managers

in Cross River National park and the buffer zone community dwellers do not agree on the effectiveness of Nigerian National Park Act in conserving the resource. Also, differences in perception to the effectiveness of the national law could be as a result of conflicting interests of different stakeholders in the park (Marrie, 2004) and varying interpretations of land use policies and laws. Park managers blame the communities for their anti-conservative land use practices within the park. These unsustainable land use practices as corroborated by Enuoh (2014) could considerably reduce the populations of both fauna and floral components of the park. Communities on the other hand desire to have unrestricted access to the park and its resources and hence, claim not to be benefitting from the resource conservation but instead view that as a restriction. These locals have negative feelings about the policy and conservation programmes in line with the work of Okech (2010).

Some Limitations and Possible Areas of Amendment in the Nigerian National Park Act

Popularly disadvantaged rural African communities have been known to depend more on the use of natural resources. In agreement with Kojwang (2009) this underlines the need for countries in the continent to promote its sustainable use through appropriate policies using the best available technologies. However, Nigerian National Park Act does not indicate any other form of alleviating the economic status of support zone communities other than partnering and returning some benefits to them. Neither does it provide alternative livelihood sources to them, but outrightly states restrictions, penalties and offences. Under the section 'Functions of the Service', paragraph (g) states: "promote, develop and carry out research on the wildlife resources of Nigeria, with a view to promoting optimum utilization and management of the wildlife". This does not specifically indicate clause for scholarships into relevant and modern day researches for the development of the sub-sector. Instead, researchers are asked to drop copies of their research work with the national headquarters of the park service after such might have been completed. This more often than not does not happen considering absence of material, mobility and financial support by the park service. The villagers, during Focused Group Discussion sessions with them, decry need for scholarship for their children's education in addition to the fact that the little benefit and recognition they deserve is not getting to them. This was especially the condition at Aking village in Oban division of Cross River National Park where the chiefs claimed that Aking village has been erased from the map of the park. Capacity building and routine training of field officers is another important area not given enough attention in the act. In the face of armed poachers, up to date technology and sophisticated equipment is of necessity to combat the menace to conservation. Ruins of four wheel drives purchased since the establishment of the park could still be observed at Oban West Division where no vehicles are made available to anti poaching patrols for the

exercise of their duties. In the face of the difficult terrain of the park at both divisions, motorcycles were all that was available for mobility at park sites.

Conclusion and Recommendations

Legal parameters employed in maintaining checks and balances are expected to be flexible enough to accommodate unpredictable and unstable human nature. Human development is paramount in every phenomenon that involves them actively or passively. The act is only a blueprint, while its implementation is the real task. It is important that park communities are developed and their social status elevated by providing better sources of livelihood to them. This would not only divert their attention away from exploitation, but also compel them to cooperate with the government and conserve the resource. This could be through scholarships for their children's education and good employment for their graduates.

References

Alarape, A.A. (1999). An Ecological Basis for The Management of Agodi Zoological Gardens and Its Implications for Ecotourism In Ibadan, Oyo State. A Masters Degree Thesis Submitted to the Department of Wildlife and Fisheries Management, University of Ibadan, Ibadan. xv + 111pp.

Baxter G.S., Hockings M., Carter R.W. and Beeton R.J.S. (1999). Trends in Wildlife Management and the Appropriateness of Australian University Training. *Conservation Biology*. 13(4): 842-849.

Bhatt D.D., (1996). state of Environment and Biodiversity In Nepal. In: *Environment and Biodiversity in the Context of South Asia*. P.K.Jha, G.P.S. Ghimire, S.B. Karmacharya, S.R.Baral and P. Lacoul (eds.). Ecological Society (ECOS), Nepal. 410pp.

Eniang, E.A., Ijeomah, H.M., Okeyoyin, G. and Uwatt, A.E., (2011). Assessment of Human-Wildlife Conflicts in Filinga Range of Gashaka Gumti National Park Nigeria. In: Production Agriculture Technology, 7(1): 15-35.

Enuoh, O.O.O. (2014). Buffer Zone Communities, Fishing Practices and Biodiversity Conservation in Cross River National Park, Nigeria. *Journal of Biol. Agri & Healthcare*, 4(22): 1-6.

Forster, M. (1991). Some Legal and Institutional Aspects of The Economic Utilisation of Wildlife. In *Proc. 10th World Forestry Congress*, vol. 5. Nancy, France, Engref.

Ita, E.O. (1993). Inland Fishery Resources of Nigeria. *CIFA Occasional Paper No 20, FAO*. Pp 102.

Kashio M., (2000). Trends of Wildlife Conservation in Changing Forest Resource Situations in the Asia-Pacific Region. 14pp.

Kojwang, H.O. (2009). Estimating and Reflecting the Economic Values of Natural Resources in National Accounts: A Focus on Non-Consumptive Uses of Wildlife, Including Examples From the Forest Sector, 39-69.

Marrie, H. (2004). Protected Areas and Indigenous and Local Communities. In: SCBD (ed.) Biodiversity Issues for Conservation in the Planning, Establishment and Management of Protected area Sites and Network. Pp 106.

Morgera E. and Wingard J. (2009). Principles for Developing Wildlife Management Laws. Joint Publication of FAO and CIC. Budapest. 90pp.

Okech, R.N. (2010). Wildlife Community Conflicts in Conservation Areas in Kenya, African Journal on Conflict Resolution. 10(2): 65-80.

USAID. (2006). Protected Area Policy Working Group: Conflict Management and Dispute Resolution Strategy and Action Plan. Prepared by *ARD, Inc*. pp 100