



FARMING ACTIVITIES AND FOREST RESOURCES CONSERVATION IN OBUBRA LOCAL GOVERNMENT AREA OF CROSS RIVER STATE: THE IMPACT OF ANTHROPOCENTRIC FACTOR

BY

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Abstract

This study is farming and forest resource conservation: the impact of farming activities and environmental degradation in Obubra Local Government Area of Cross River State. Research question and hypotheses were formulated to guide the study. The population of the study consists of all 6,433 indigenes farmer in Obubra local government area of cross river state. Purposive and accidental sampling techniques was used for this study to select a total of three hundred and twenty-one indigenes farmer. Farming activities Questionnaire (FAQ) was used for data collection. The data were analysed with Pearson product moment correlation. The results revealed that Farming activities significantly contribute to forest resource conservation in Obubra local government area of cross river state. Based on the findings and conclusion, it was recommended that indigenes farmers should be trained on smart Farming skill, that is in line with sustainable farming and conservation practices to enhance its adoption and effectiveness in forest resource conservation.

Keywords: farming, activities, forest, conservation, environmental degradation

Introduction

The issue of forest resource utilization has in recent times called for global discourse and debate in many countries of the world today. In the struggle for survival and development, man creates a lot of negative impacts on the forest environment, these impacts ranges from farming activities, over-exploitation of forest resources for timber and non-timber forest products (NTFP), destruction of



ecosystem, pollution, among others. Often, the exploitation of forest resources has been done in a non-sustainable way, which is causing an increasing concern, as the non-sustainable exploitation of forest resources ultimately threatens human existence. One difficult task faced by forest users is to guarantee the lasting utilization of natural resources at the lowest possible environmental cost, will still assuring the economic and social development (Klawitter,2004).

Nigeria is blessed with expanse of land and vegetation, but this important resource seems not to be sustainably managed. The rate at which forest resources are depleted has been an issue of concern for government, non-government organizations (NGOs), policy makers and stakeholders as well. Forest plays an important role in the environment like providing the basic necessities of life like food, raw materials for making clothing, prevent soil erosion and flooding. Despite the benefits of the forest ecosystem to man and environment, the clearing and unsustainable utilization of forest resources for man have contributed to the continued decline of forest resources in Obubra local government area, cross river and Nigeria. Among all forest types, the tropical rainforest is the most endowed (Ender and Smith,2010). According to Food and Agricultural Organization (FAO)(2013), the tropical rain forest covers 814 million ha worldwide, of which 110 million ha is located in Africa,168 million ha in Asia and the Pacific and 536 million ha in Latin America. However, only 25 million ha are exploited in a sustainable way and 11 million ha of tropical forest are conserved with an effective political protection. All the tropical humid forest in Africa suffers from a massive deforestation (Soury,2017). According to Enuoh and Bisong (2014), Cross River State had 17 Forest Reserves as at when Nigeria attained independence from her colonial masters and most of them are situated within the geographical location of the present study area which is Cross River State. It is important to state clearly from research reports that forest resources are exploited unsustainably in Cross River State without thinking about conserving these resources. Forest resource conservation is defined as actions taken in management of a forest that result in maintenance of the possibilities for future forest related benefits (Wollenberg,et al 2011).

Farming is the activity of growing crops or keeping animals on a farm. Synonyms: agriculture, cultivation, husbandry, land management More Synonyms of farming. Farming is the largest industry on the planet. It employed 1.3 billion people and provides a livelihood for about a billion more (Marian and Roland, 2008). Agriculture in its various forms (cultivation of crops, rearing of animals, fish farming, and so on.) is often the dominant and sometimes the exclusive economic sector and opportunities for resource mobilization are limited (Amam, 2011). Forest clearance as one of the farms (agriculture) operations whether for cultivation of crops or rearing of animals (livestock farming) could thus be said to be the



biggest destroyer of biodiversity. Marian and Roland (2008) believed that all of us, rich or poor, city dwellers or rural farmers, are affected by agriculture and by the rising global demand for animal and food crops. Against this background of potential water shortages, pollution and environmental damages, rising from fuel cost and the need to feed human population, more land has been claimed for agriculture.

By the sheer scale of farming, there are impacts related to the particular ways in which modern farming is carried out. Nitrogen has become a major source of pollution, and more than half the synthetic nitrogen fertilizer ever used have had major biodiversity implication, and the move towards large-scale mono-cultural farming has led to a further available habitat and the possibility of farming co-existing with a diversity of other living things. Biodiversity is destroyed in Obubra Local government Area, where it was known as being highly afforested and home of wildlife and biodiversity. The increasing human population with resultant increase in land cultivation to meet the increased demand for food, coupled with low income based on low white-collar job to meet the increasing unemployed rural dwellers needs has pushed rural dwellers of the zone to engage in farming which land cultivation being one of the agricultural (farm) operational activities that cannot be avoided, thereby destroying the biodiversity in the ecosystem.

[Benhin](#) (2006), carried out a study on Agriculture and Deforestation in the Tropics: A Critical Theoretical and Empirical Review. According to the author, despite the important role that tropical forests play in human existence, their depletion, especially in the developing world, continue relentlessly. Agriculture has been cited as the major cause of this depletion. This paper discusses two main theoretical underpinnings for the role of agriculture in tropical deforestation. First, the forest biomass as input in agricultural production, and second, the competition between agriculture and forestry underlined by their relative marginal benefits. These are supported by empirical evidence from selected countries in Africa and South America. The paper suggests a need to find a win-win situation to control the spate of tropical deforestation. This may imply improve technologies in the agriculture sector in the developing world, which would lead both to increased production in the agriculture sector, and would also help control the use of tropical forest as an input in agriculture production. Pauline (2004) noted that the biggest reason for the current increase in extinctions is habitat loss. Habitat fragmentation divides populations into isolated groups that are vulnerable to catastrophic events. Destruction of forest wetlands, and other biologically rich ecosystems around the world, threatens to eliminate thousands or even millions of species in a human caused mass extinction that could rival those of geologic history. By destroying habitat, we eliminate not only prominent species, but also may obscure ones of



which we may not even be aware. According to Owor (2014), people have legitimate aspirations for an improved quality of life. The author noted that, a world where poverty inequalities are endemic will always promote ecological and other crises. Adedire (1990) noted that demands for living space and higher food and energy production have resulted in some lands being rainforest, which at best will support up to 3 – 5 years of crops. This according to the author is one example of land use practices that was rarely harmless in area of low plantation densities and resources demand, but one fast becoming unsuitable. This is as a result of increase in demand for food with correspondent increase in human population. Jimme, Yahaya and Kagu (2010) affirmed that the essential needs of man in most developing countries (food, clothing, shelter and jobs) are not being met beyond their basic needs.

Thapa and Yila (2010) carried out a study on Farmers' land management practices and status of agricultural land in the Jos Plateau, Nigeria. According to the authors, a wide range of land management practices, including application of fertilizers, contour-plowing, stone bunds, mulching and agroforestry, have been adopted by farmers in the Jos Plateau to control degradation. This study examined the relative popularity of 13 land management practices based on mainly qualitative primary information collected through a questionnaire survey of 150 farm households and group discussions held during May to August 2007. The results of the analysis revealed four practices, namely, application of chemical fertilizers and farm yard manure, intercropping and crop rotation were highly popular. These practices generally need little technical skills, show positive short-term benefits and short establishment time, suggesting that the benefits of increased productivity can be obtained quite quickly. Practices like agroforestry, mulching, legume cultivation and crop residue barriers were moderately popular as they take time, sometimes up to 3 years, before some benefits could be manifested. For farmers dependent on the farm income without any financial back-up, this is too long as many do not have the economic capital to apply a practice that will only start showing benefits after a few years. The least popular practices were stone and earthen bunds, grass strips, alley cropping and contour-plowing. These prove to be more labour intensive, and with dwindling labour force in the area, the adoption trend favours other practices requiring relative less labour. Farmers could not control land degradation effectively, despite their efforts made to manage land. Broad policy recommendations are made in line with findings of the analysis.

To strike a balance between land cultivation for production of food to meet the increasing demand for food and the conservation of biodiversity in the ecosystem (Owor, 2011), there is need to pursue ecological specialization in food agricultural production as recently emphasized in the new Agricultural Policy which will serve



as a strategy to increase production in food producing areas like Ikom Education Zone. By ecological specialization, according to Ayoola (2001), it means the permission and encouragement of the regions, which differ in climatic, edaphic and socio-economic factors to use to the best advantage any particular benefits in skills and resources endowments. Through specialization of this kind, wasteful duplication of efforts, indiscriminate felling of trees (deforestation), destruction of biodiversity, poor farming methods, indiscriminate bush burning are avoided, thereby creating high resources use efficiency and internal cooperative advantage.

Kolawole (2006), carried out a study on Local farmers' approach to soil conservation: Lessons from Nigeria. This paper explores the indigenous knowledge systems (IKS) approaches to soil conservation in Nigeria. It specifically identifies various indigenous/local and modern methods employed in the process of utilizing an integrated approach to soil conservation by all stakeholders (local farmers, governmental and non-governmental organizations) to preserve the structures, water and nutrient retention and augmentation of the soil. It also reports some crucial factors associated with the utilization of indigenous knowledge systems for soil fertility conservation by farmers. The article further presents a conceptual framework on the interrelationship between culture and the development and utilisation of local knowledge by the grassroots people. The current global campaign for the preservation of knowledge systems and the use of low-external input to stem environmental degradation inform the emphases on the need to build or improve on existing local knowledge in order to enhance meaningful and sustainable development. The indigenous people or local communities have for millennia played a critical role in conserving a variety of natural environments and species (Udofia, Okon, Jacob and Nelson, 2018). According to these scholars, history of conservation and sustainable use in many of these areas are much older compared to government-managed protected areas. Yet they are often neglected in official conservation systems. By their observation, they concluded that some communities have wrongly conceived the concept of forest conservation, despite its huge benefits to mankind. Many of them perceive forest conservation as the protection of forest resources against utilization, thus they regard forest workers as enemies.

If the forest resources are not conserved and properly protected against unsustainable utilization coupled with agricultural practices of shifting cultivation, it will turn to affect or destroy biodiversity in our forest. Although Bisong and Abiyi (2001) in their submission, maintained that shifting cultivation as a traditional system, has been known to be stable and biologically efficient, operates effectively only when there is sufficient land to allow for long fallow periods to restore soil productivity (shifting cultivation) is possible only in less sparsely populated areas



and the benefit effects of burning the soil and adding ash have long been known. Today, the increases in human population have come with correspondent increases in demand for food, income and employment. The cultivated areas have expanded onto marginal areas and fallow periods are being reduced, resulting in systematic degradation of major areas of land in sub-Saharan African as well as declining yields.

Bukola and Abimbola (2014) considered biodiversity as the wealth of all life forms found on earth and encompasses all species of plants, animals, microorganisms, the ecosystems and ecological processes. The author noted that the moral justification and value to human existence are two major reasons for conserving biodiversity. However, renewable natural resources are being utilized by humans at a rate exceeding their natural abilities to renew themselves. Human encroachment into natural ecosystems is increasing drastically throughout the world.

Consequently, the worse hit zone in Cross River State is the Central Senatorial District of Cross River State, which houses Ikom Education Zone, where bulk of agricultural operations are performed. The destruction of natural vegetation the forest cover (trees, shrubs, herbs, micro-flora, grasses, etc). Okorie, Etuk and Attah (2015) stressed that it exposes the soil and other parts of the biosphere to some forms of natural forces which act as agents of environmental degradation. Through improper farming systems often results in the uncontrolled run-off of water, transportation and deposition of materials as sediments in a process known as erosion. These activities will result to declining biodiversity which Udofia and Okeke (2015) maintain will affect agricultural production and environmental protection.

Theoretical Background

Legal pluralism and natural resource management

Legal pluralism has been conceptualized by Griffiths (1986) as a critic to the legal centralist point of view. The legal centralism states that the dominant conception of law is the one of state regulation, which is uniform for all people, exclusive of all other normative systems (or orders), and administered by a unique set of state institutions (Griffiths, 1986 in Boelens, 2003)

According to Boelens, Roth and Zwartveen, (2003), resource use and management appear to occur under legally plural conditions. Therefore, the use of the concept of legal pluralism as an analytical tool emerged and disseminated particularly in studies about natural resources exploitation and management (Boelens, Roth & Witteveen, 2003). The same authors advocate for a link among the increasing recognition of the importance of legal complexity and the more general pattern allowing for ambivalence, conflict, complexity and contingency in analyses of resource harvesting and management processes. In fact, in forests, community



members rarely share homogenous interests, as well as they also differ in which institutions they use in different contexts (Wollenberg, Anderson and López, 2005).

As a consequence, in forest management, different people engage in different ways in various social practices, such as tree cutting, timber processing, transporting lumber, making laws, facilitating meetings, making charcoal, collecting non-timber product or trading forest products. Each of these roles requires a set of practices that are based on a proper understanding of what is legal. When operationalizing the concept of legal pluralism, it is important to recognize that the concept of law (what is legal) is not straightforward. It may mean different things to different people, and hence the meaning and significance have to be investigated, as well as the ways by which it becomes significant in strives over control and exploitation of people and natural resources by governments, business enterprises, individual rural people or local population groups (Benda-Beckmann, 2001). Actually, whether or not some claim or relation to resources is 'legal' indicates who has the right to exercise political control over people and resources, and who can exploit them economically and profit from it. As a consequence, the definition of what law is, and what legal rights are, is therefore highly political (Benda-Beckmann, 2001).

Nonetheless, both state legal and non-state legal institutions, whether identified or not in state law, are perceived as important factors that compose the existing reality of complex normative systems. Benda-Beckmann (2001) emphasizes that any significance that the state legal normative system may have on political, economic and social practices will always be relative to that of non-state normative systems for the same practices. As a consequence, the concept of normative system should be examined more carefully with the purpose of better understanding interactions between different legal systems. The relevance of this conceptual framework to this study is directly on the legal perspective of not only considering the direct gain of exploiting natural resources but also the legal implication. This will go a long way in controlling the unguarded usage of environmental resources that has both environmental, physical and economic impact of the populace.

Statement of the problem

The effectiveness of forest resource conservation in Obubra local government area of cross river state is compromised by inadequate consideration of human activities, particularly farming activities, which is pivotal to the livelihoods of the local communities. Despite their significance, the impact of these practice on forest resource conservation remains poorly understood, leading to potential conflicts between human needs and environmental preservation. The lack of clarity on the contributions of fuel wood extraction on forest resource conservation hinders the development of inclusive and sustainable strategies, ultimately threatening the



long-term viability of conservation initiatives. This knowledge gap necessitates an in-depth examination of the relationship between these farming land use practice and forest resource conservation, informing evidence-based policies that harmonize human activities with environmental protection.

Research Question.

The following research question were posed to guide the study;

1. To what extent does farming contribute to forest resources conservation in Obubra Local Government Area of Cross River State?

Hypothesis

The following hypothesis were formulated to guide this study;

1. There is no significant contribution of farming activities and forest resources conservation in Obubra Local Government Area of Cross River State.

Methodology

Descriptive survey research design was used for the study. The research design studies situations as they exist at the time of a research (Salaria, 2012). this research is therefore considered appropriate for this study because it will allow the researcher to make use of a representative sample of the population from where generalization of the study result will be made. Purposive and accidental sampling techniques was used for the study to select a total of three hundred and twenty-one (321) indigenes. Farming Activities Questionnaire (FAQ) was used for data collection. The data were analysed with Pearson product moment correlation (PPMC). the data were analysed at .05 level of significance and 319 degrees of freedom.

Results

Hypotheses: There is no significant relationship between farming activity and forest resources conservation

Table 1

Summary of data and Pearson Product Moment Correlation between Farming and Forest Resources Conservation (N=321).

Variables	\bar{x}	SD	r-ratio	Df	p-level
Farming(X)	10.83	1.547			
			-.251*	319	.000
Forest conservation(y)	27.47	2.332			

*Significant at .05 level; $p < .05$.

The finding Table 1 uncovered that farming had a mean score of 10.83 with a standard



deviation of 1.547 while biodiversity loss had a mean score of 27.47 with standard deviation of 2.332. The outcome further showed that the r-calculated value of -0.251 is greater than critical-r of 0.166, tested at .05 level of significance and 319 degrees of freedom. Also, the $p < .000$ is less than $p < .05$. In light of this, the null hypothesis which expressed there is no significant relationship between crop farming and forest resource conservation in Obubra Local Government Area of Cross River State, Nigeria was rejected indicating that there is indeed a significant negative relationship between farming and forest resource conservation in Obubra Local Government Area of Cross River State. Meaning that extensive farming and constant deforestation to make way for farming operation can destroy the effort to conserve the forest resources

Discussion of findings

It was discovered from hypothesis one analysis that the null hypothesis was dropped. This implies that there is a significant relationship between farming and forest resource conservation in Obubra Local Government Area of Cross River State.

The finding of this study is in consonance with the study of Adedire (1990) who noted that demands for living space and higher food and energy production have resulted in some lands being rainforest, which at best will support up to 3 – 5 years of crops. This according to the author is one example of land use practices that was rarely harmless in area of low plantation densities and resources demand, but one fast becoming unsuitable. This is as a result of increase in demand for food with correspondent increase in human population

Conclusion

This work extra the impact of farming activities and environmental degradation in Obubra local government area of cross river state. In view of the findings of the study, the study conclusively establishes that Farming activities is an important land use practice over time in Obubra local government area of cross river state, which make significant contribution to forest resource degradation, therefore understanding the importance of integrating these activities into conservation strategies. By recognizing the impact of farming on forest resource conservation, policymakers and stakeholders can develop more effective, inclusive and sustainable farming initiatives that balance human livelihoods with environmental protection and forest conservation in Obubra local government area of cross river state.

Recommendations

Based on the findings of the study, the following recommendations were given by the researcher.

1. Technological and industrial transformation: that environmental protection can be achieved through innovative agricultural technologies that complement traditional farming practices.



2. institutional and policy reforms: that effective governance and policy intervention can promote sustainable farming practice
3. Training and retraining for smallholders' farmers about climate resilient farming techniques
4. Demonstration farms and sustainable agriculture practice should be encouraged.
5. there should be promotion of draught resistant and high yield crop varieties for farmers

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