

FOREST REGULATIONS AND SUSTAINABLE MANAGEMENT OF COMMUNITY FOREST IN AKAMKPA LOCAL GOVERNMENT AREA OF CROSS RIVER STATE, NIGERIA.

Dr. Mrs. Remi Omoogun; Dr. Udumo, Bassey Obeten; Dr. Etuki Ebory Egbonyi; Asuqua, Edung Etim (PhD), Akpo, David Mbu; Asanye, Gloria Ikpeme, Prof. Ajayi C. Omoogun,

Department of Environmental Education
Faculty of Science Education
University of Calabar, Calabar.
corresponding author Email: etukieborty@gmail.com

Abstract

This study examined Forest Regulations and sustainable management of community forest in Akamkpa Local Government Area, Cross River State, Nigeria. The purpose of the study was to examine the relationship between forest regulations and sustainable management of community forest. From the purpose of the study a research question was raised which was converted to hypothesis to guide the study. Literature review was carried out based on the variables under study. Survey research design was considered appropriate for the study. Stratified sampling technique was utilized in selecting 390 respondents(residents) sampled for the study. A validated 15 items four-point modified Likert scale questionnaire was the instrument used for data collection. Face validity of the instrument was ascertained by two experts one in Educational Foundation (Test and Measurement Unit) and the other in Environmental Education Department; University of Calabar, Nigeria. The reliability estimate of the instrument was .80 using the Cronbach Alpha. To test the hypothesis formulated for the study, Pearson's Product Moment Correlation statistical tool was used. The hypothesis was tested at 0.05 level of significance. The results obtained from analysis of data revealed that there is a significant relationship between forest regulation and sustainable management of community forest. The result also showed that, forest regulations have a significant relationship with sustainable management of community forest. It was therefore recommended that. Farmers and all forest users should be adequately and regularly sensitized through extension services on the need to desist from unsustainable logging and deforestation due to its impact on forest resource management.

Key words: Forest Regulations, Sustainable Management and Community Forest.

Introduction

Forest regulation is considered as those principles that govern the actions of the people with respect to forest reserves. The objective is to achieve sustainable forest management that would ensure sustainable increases in the economic, social, and environmental benefits from forests and trees for the present and future generation including the poor and the vulnerable groups. And also increase, maintain and enhance the national forest estate through sound forest management practices, promote and regulate private sector involvement in forest development, and to create a more positive investment climate in the sector, capitalize on the economic, social and environmental opportunities in forestry without undermining the resource base, ensure the survival of forest biodiversity and to balance this with the pressing development needs of the

country. The rapid rate of community forest lost in Akamkpa Local Area (LGA) is worrisome and a called for a redress to restore back the loss biodiversity.

Egbonyi, Idongesit, Omoogun and Egbonyi (2022) observed that, the Nigeria rain forest is facing serious degradation, more especially the deforestation of the forest through the encroachment of the forest for cropping, hunting, and logging, including the severe remover of vegetative cover and the extinction of some animal species. According to Amanda (2021) forest help make the planet liveable for us all, but human activity is destroying them at an alarming rate, that deforestation represents a growing threat to all life on Earth, driving dangerous carbon emissions and exacerbating climate crisis. Brewer (2021) opined that natural habitat loss is continuing relentlessly, despite global efforts to stop it, that when people plant the wrong trees in the wrong place, it can cause more harm than good. Forest conservation and sustainable management practice is a global issue that attracts the keen concern of the world in order to address deforestation and return the climate to normalcy.

The Nigerian environment is regulated by several laws that ensure forest protection and preservation. A major feature of a developing Nation like Nigeria is that human and economic activities are dominated by primary production. This essentially involved the extraction of natural resources such as cutting of trees and hunting of wildlife. It also includes grazing livestock and the cultivation of crops. In such a situation, the maintenance of the quality and productive capacity of the environment depends greatly on keeping a balance between natural resources of which forest is the dominant element, though national laws related to forest conservation in Nigeria are piecemeal, ineffective and do not directly or adequately provide for forest protection. Many of these laws do not take into consideration present realities relating to forest conservation. Some of these laws do not also address the conservation requirements of local people. (Justice, Chijioke-Agumagu, Kalio & Delewa., 2022).

Ogundele & Oladipo (2016) Observed that illegal logging also leads to economic losses of potential profits and employment opportunities that could have been derive from forest resources including timber and plants, natural resources and animal species, medicines and cures to various illnesses. In the same vein Ruis (2022) observed that, the fragmented nature of instruments and legislation relating to forest protection and conservation leaves room for many significant gaps which inhibits efforts aimed at combating deforestation.

Government regulation on logging can refer to the government deforestation policy that is implemented to safeguard the forest from illegal logging. According to the research work of Olagunju (2018) on the appraisal of the National Deforestation Policy in Nigeria, it defined Deforestation Policy as a purposive course of action that the government use to prevent unnecessary and unlawful clearing of forest for grazing, ranching, or for some others purpose. It is directed toward giving lasting solutions to the problem associated with the destruction of forests for other purposes. Deforestation policy also represents what the government chooses to do or not to do regarding the prevention of the loss of forest cover and land use conversions are used. The objective of the study is to examine the government policy to reduce or totally eradicate the growing effects of forest depletion on humanity, animals, and the economy. Secondary means of data collection was used to examine the objectives, the formulation, implementation together with the evaluation of the national deforestation policy in Nigeria. The paper concludes that the national deforestation policy has not achieved substantial success in curbing or eradicating the growing deforestation in Nigeria. While making some necessary policy recommendations to improve the national deforestation policy in Nigeria.

However, the forest estate of Cross River State is one of the most important and valuable State assets. Indeed, it constitutes a renewable resource rich in diversity and potential with a relatively high level of deforestation and forest degradation, a two-year moratorium on timber extraction was declared in 2008, which is now extended indefinitely (Cross River State

Validated Forest Policy, 2019). According to Justice, Chijioke-Agumagu, Kalio and Delewa (2022) in their studies on illegal logging and environmental impacts reveals that generally, Nigeria is yet to have a national legislation prohibiting the act of illegal logging.

What exist as environmental laws are, National Environmental Standards and Regulations Enforcement Agency Act, National Park Service Act, Environmental Impact Assessment Act, among others that regulate environmental protection in Nigeria. The 1999 Constitution gave the legal basis for environmental protection in Nigeria by providing that the state shall protect and improve the environment and safeguard the water, air, and land, forest, and wildlife of Nigeria. The National Environmental Standard and regulatory enforcement agency (NESREA) Act is the principal legislation on the environment in Nigeria. It is an Act for the establishment of NESREA, charged with the responsibility for the protection and development of the environment in Nigeria, and for related matters. (Chijioke-Agumagu, Kalio and Delewa (2022)

Sirima (2022) examined the role of local and indigenous institutions in the management of Enguserosambu Community Forest. One focus group discussion, 12 group interviews and seven individual interviews were conducted. A total of 46 individuals participated, out of these, 17 were females and 29 were males. Thematic analysis was conducted and several themes were generated during the analysis. Results indicate that Enguserosambu Community Forest, which is managed under a complex set of power structures, has five local/indigenous institutions actively engaged in the management of forest resources. There are internal conflicts among institutions, each questioning the role of the other. However, local institutions still play a strong role in the community by creating awareness and capacity building among the community members with regard to the forest and its benefits. Local institutions also ensure that users are identified, and the benefits are shared among the right users. It is therefore important to build the capacity of local institutions to enable them to effectively contribute to forest conservation and management.

The National Park Service Act is an Act to establish the National Park Service to be responsible for the preservation, enhancement and protection of wild animals and plants and other vegetation in National Parks, and for matters connected therewith. The Environmental Impact Assessment (EIA) Act is an Act which sets out the general principle, procedure, and methods to enable the prior consideration of EIA on certain public or private projects. The EIA Act seeks to ensure environmentally sustainable development by encouraging projects with minimal effect or no negative impact on the environment as well as discouraging projects that have adverse effects on the environment.

With the provision of the 1999 constitution that empowered states to make forest laws, Cross River State Forestry Commission Law was establish in (2010). According to Justice, Chijioke-Agumagu, Kalio and Delewa (2022), the Cross River State forestry Commission Law establishes the Cross Rivers State Forestry Commission as a body corporate with defined functions and powers. The Cross Rivers State Forestry Law provides for: the classification, administration and licensing of forests; the protection of plants or animals species and their habitat, watersheds and fisheries; conservation, management and regeneration of forests; protected forest areas; concession agreements; establishment of Community Based Forest Management Associations; management of community forests and control of and assistant to private forests; a Forest Sector Strategy; preservation, conservation and protection of wild animals, birds and fish; a timber market system; establishment of the Wildlife Conservation Advisory Committee, the Forestry Reserve Fund and a Forest Trust Fund; enforcement and legal proceedings; offences and penalties.

The Cross River State Forestry Commission Law applies to all forests classified as: State Forest Reserve; Local Government Forest; Community Forest; Private Forest; Wildlife Sanctuary; Forest Plantation; Strict Nature Reserve; and Garden, Park and Urban Forest. The

Cross River State Forest Commission Law empowers the Commission to: regulate the activities of the public bodies as they relate to the forest and the forest resource and wildlife conservation, undertake biotechnology and other forms of research and establish links with relevant national and international regulatory policy making and funding bodies for the benefit of biodiversity conservation and sustainable forest; ensure sound wildlife and forest management; and ensure strict compliance with international conventions and treaties on national resources management. (Chijioke-Agumagu, Kalio and Delewa, 2022)

However, forests and their products and services are important for the wellbeing of society. They provide fuel wood for energy, timber for construction and furniture, mitigate against climate change impact and extreme weather events especially by acting as carbon sink, billions depend on the space and food provided by the forests. Sustainable Travel International (2021) listed importance of forest to include, provision of essential resources, haven of biodiversity, support for jobs, sustenance of rural livelihoods, provision of security, fight climate change, clean air, protection from natural disasters, playground for recreation, life saving medicines, inspiration/healing, help generate rain fall, purify water, and hold spiritual and cultural values. Tsetimthe (2020) mention, sources of timber, home for wildlife, sources of food, and education among others as importance of the forest. More so, they protect soil from erosion, house valuable biodiversity, are sources of income for individuals and families, offer recreation opportunities and other very critical unquantifiable services (Udeagha, 2015). Due to the above importance of the forest, the international forest-related conventions, agreements, and initiatives also contribute to bringing about change. In many ways, these rapid developments influence a country's decision to adapt its national forest policies respond to changing contexts (Nelson & Rodgers, 2017).

Each year on average, more than ten countries issue a national forest policy statement. On the other hand, forest policies and laws have traditionally provided little scope for local people to play meaningful roles in the planning, management and allocation of forest resources on which they have depended and which they have sustainably managed for centuries (Vihemaki, 2016). Typically, in Nigeria the States has taken on these roles and has given little or no recognition or protection to community-based systems and no alternative mechanisms by which the local groups or individuals might assert effective control. Nevertheless, good forest policies incorporate society's needs and wider development goals (Vihemaki, 2016). They balance different stakeholder interests and are short and easily understandable by all. A national forest policy is important especially because it is considered to be a negotiated agreement between government and stakeholders (all those who depend on or benefit from forests or who decide on, control or regulate access to forest resources) on the orientations and principles of actions they employ, in harmony with national socio-economic and environmental policies, to guide and determine decisions on the sustainable use and conservation of forest and tree resources for the benefit of present and future generation. Policy should facilitate sound decisions on forest resources sustainable utilization (Vihamaki, 2016), Such policies must be designed to respond to the changing needs of different groups and to embrace emerging challenges and opportunities that come forth.

Forest policies not only have to cover issues under the competence of the forestry administration and its agencies, but also need to contribute to over-arching policies, including those responsible for national development or poverty strategies (Vihamaki, 2016). They also need to be consistent with policies issued by other government authorities, for example on environmental protection, climate change, agriculture industry and trade. Thus, a forest policy is a policy meant for society, and not only for those that administer the forestry. Therefore, unless these problems of illegal exploitation are addressed, government and private investment to

promote sustainable forest management will remain ineffective thereby leading to economic losses.

More so, law enforcement effectiveness will be improved through a national strategy of enhancing coordination between different enforcement agencies. In this direction, Government has made several efforts to ensure sustainable forest resource utilization through the Federal Ministry of Environment (FMENV) formerly known as Federal Environmental Protection Agency (FEPA) and other relevant agencies by educating the public on environmental issues using all available tools. These efforts are evident in the reservation of tracks of forests and its biotic components by the government, for instance, the Cross River National Park, Afi mountain /Wildlife sanctuary and so on. At the international level the UN Conference on the Human Environment, Stockholm Report 1972, Belgrade Charter 1975, Tbilisi Report 1977, Brundtland Commission 1983 and Agenda 21 of Rio Declaration 1992, and so on. The United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil in 1992, popularly known as the Earth Summit, also adopted an action plan for Sustainable Development and Agenda 21. All in the effort of conserving the forest and ensuring a sustainable environment but all these efforts made by the government, unsustainable use of forest resources is still on the increase. It is against this background that this research work examined forest regulations and sustainable management of community forest in Akamkpa Local Government Area, Cross River State, Nigeria.

The purpose of the study

The purpose of the study was to examine the relationship between forest regulations and sustainable management of community forest.

Research question

Based on the purpose of the study a research question was raised. How does forest regulations relate with sustainable management of community forest?

Statement of hypothesis

The research question was transformed into a research hypothesis. Forest regulations have no significant relationship with sustainable management of community forest.

Research methodology

The research design for the study is survey research design. survey research design is described as a type of research design that studies large and small population to objectively and accurately describe (opinion and attitudes) of existing situations. However, the design was chosen because it gave the researcher an opportunity to make generalizations of the study to the entire population from the chosen sample. Survey designs are appropriate where variables are complex and do not permit experimental design.

Population of the study

The population of the study consists of all the 106,128 community members of Akamkpa Local Government Area (National Population Commission, Cross River State projected population, 2022). The population is made up male and female community members whose age is between 18 years and above. The population distribution is seen in Tabel 1.

Table 1: Population distribution of respondents

S/N	Ward	Male	Female	Total
1	Akamkpa urban	9,843	5,084	14,927
2	Awi	7,434	6,339	13,773
3	Iko	6,332	3,290	9,622
4	Eku	5,003	5,384	10,387
5	Ikpai	6,322	5,020	11,342
6	Mbarakom	5984	3,149	9,133
7	Oban	4412	3,271	7,683
8	Ojuk north	4893	4,459	9,352
9	Ojuk south	6221	4,315	10,536
10	Uyanga	5,115	4,258	9,373
	Total	61,559	44,569	106,128

Source: National Population Commission, Cross River State projected population, (2023).

Sampling technique:

The researchers adopted stratified sampling technique, simple random sampling technique and accidental sampling techniques for the study. First, stratified sampling technique was used to place each council ward in a stratum from where 30% of council wards (three council wards) and 1% of the population (390) of the selected councils were used for the study. Second, simple random sampling technique was used to select the communities. In carrying out the simple random sampling which is a process in which the researcher gives every member of his or her population an equal and independent opportunity of being selected, the names of all the council wards were written on pieces of paper and put in a bag. Thereafter, the bag was thoroughly shaken with the folded pieces of papers inside, a research assistant picked from the bag and after which the paper was replaced back, and another piece of paper was picked till the number of council wards required for the study were completely picked. Third, accidental sampling technique was used to administer the questionnaire on every member of the population who poses the characteristics of the respondents. All residents who are 18 – 65 years who have lived in Akamkpa for a long time had the privilege of answering the items in the instrument.

Sample:

The sample size for this study is 390 respondents drawn from the three communities of the study. The sample covered both males and females from 18 years and above who are resident in the study area. The sample distribution is stated in Table 2.

Table 2: Sample distribution of respondents

S/N	Ward	Male	Female	Total
1	Akamkpa urban	98	51	149
2	Awi	74	63	137
3	Uyanga	51	53	104
	Total	223	167	390

Source: Field work (2023)

Instrumentation

The questionnaire was the instrument for collecting data in this study. Titled, Forest Regulations and Sustainable Management of Community Forest Questionnaire (FRSMCFQ). The instrument elicited information on forest regulations and sustainable management of community forest, made up of four-point rating scale-type items that measured opinions on the variables with five items on forest regulations and ten items measuring sustainable management of community forest.

The response were; A=Strongly, Agree, A = Agree, D= Disagree and SD = Strongly Disagree

Validity of the instrument

The instrument was constructed by the researchers. Face and content validity of the instrument was ascertained by two experts one in Educational Foundation (Test and Measurement Unit) and the other in Environmental Education Department; University of Calabar, Nigeria. The comments of the lecturers determined the items that were removed, modified and replaced.

Procedure for data collection

The researchers visited the communities in Akamkpa Local Government Area and sought permission from the community heads and youths to carry out the study. Validated copies of the questionnaires were administered by the researchers and two research assistants for the study. Completed copies of the questionnaire were collected and collated for the study.

Procedure for data preparation/scoring

After collecting the questionnaire, codes/scores were assigned to each item. Coding schedule was prepared by developing a key for each of the constructs in the instrument. Strongly Agree (SA) 4 points, Agree (A) 3 points, Disagree (DA) 2 points Strongly disagree (SD)1 point. Negatively structured items were coded 1,2,3, and 4 for SA, A, D and SD respectively.

Procedure for data analysis

To analyse the data, the raw scores of all the items in each variable were summed together to show the result for each variable. Data was analysed using Statistical Package for Social Sciences (SPSS) program version 26. Results were presented in tabular form and the hypothesis was tested at .05 level of significance, that is, 95% confidence level. The Pearson's Product Moment Correlation Statistical Tool was employed in the analysis.

Presentation of results

Hypothesis; Forest regulations have no significant relationship with sustainable management of community forest. The independent variable is forest regulations while the dependent variable is sustainable management of community forest. The items used in measuring the hypothesis were derived from the questionnaire items. Pearson's Product Moment Correlation Coefficient statistical tool was utilized in testing the hypothesis. The result is as presented in table 3.

Table 3: Pearson's Product Moment Correlation Coefficient Analysis of the relationship between forest regulation and sustainable management of community forest (N= 390)

Variables	Mean	SD	R	P-value
Forest regulation (x)	4.99	1.61	.037	.000
Sustainable management of community forest (y)	11.04	3.11		

*Significant at 0.05 level; df= 2, 388

The result of the analysis in Table 3 revealed that forest regulations produced a mean score of 4.99 with a standard deviation of 1.61 while sustainable management of community forest produced a mean score of 11.04 with a standard deviation of 3.11. The p-value of .000 is less than 0.05. Therefore the calculated r-ratio of .037 obtained at 388 degrees of freedom met the condition required for significance at .05 level. Based on this, the null hypothesis which stated that forest regulations have no significant relationship with sustainable management of community forest was rejected indicating that forest regulations have a significant relationship with sustainable management of community forest.

Discussion of findings

The result of the hypothesis showed that there is a significant relationship between forest regulations and sustainable management of community forest. The finding highlights the importance of forest regulations on sustainable management of community forests. Sustainable forestry is important as a response to climate change. However, it *also helps protect biodiversity, enhances livelihoods, balances local socioeconomic, cultural, and ecological needs and constraints*. The finding of the study is in tandem with Vihemaki, (2016) that forest policies and laws have traditionally provided little scope for local people to play meaningful roles in the planning, management and allocation of forest resources on which they have depended on and which they have sustainably managed for centuries. Typically, in Nigeria the States has taken on these roles and has given little or no recognition or protection to community-based systems and no alternative mechanisms by which the local groups or individuals might assert effective control. Nevertheless, good forest policies incorporate society's needs and wider development goals (Vihemaki, 2016). They balance different stakeholder interests and are short and easily understandable by all. A national forest policy is considered to be a negotiated agreement between government and stakeholders (all those who depend on or benefit from forests or who decide on, control or regulate access to forest resources) on the orientations and principles of actions they adopt, in harmony with national socio-economic and environmental policies, to guide and determine decisions on the sustainable use and conservation of forest and tree resources for the benefit of society. Justice, Chijioke-Agumagu, Kalio and Delewa (2022) in their studies on illegal logging and environmental impacts reveals that, Nigeria is yet to have a national legislation prohibiting the act of illegal logging. What exist as environmental laws are, National Environmental Standards and Regulations Enforcement Agency Act, National Park Service Act, Environmental Impact Assessment Act, among others that regulate environmental protection in Nigeria.

Conclusion

Based on the results, it was concluded that Forest regulations have a significant relationship with sustainable management of community forest. With proper legislation and obedient to forest laws and regulations, communities' forest can be sustainably managed, such that it can meet the need of present generation without compromising the need of future generations.

Recommendation

From the findings of the study, it was recommended that;

Farmers and all forest users should be adequately and regularly sensitized through extension services on the need to desist from unsustainable logging and deforestation due to its negative impact on forest resource management.

References

- Amanda, W. (2021) Effects of Deforestation on Humans and the Environment. *Humane League*. *The humane league.org*.
- Brewer, G. (2021) 10 Golden Rules for Restoring Forests. *Ken Gardens*. www.ken.org
- Chigonu, E., Chijioke-Agumaju, M.O., Kalio, V.O & Delewa, KE (2022) Illegal Logging and Environmental Impacts. The Case of Nigeria Lessons From USA And Australia. *Journal of environmental and human rights law*.
- Egbonyi, E.E., Idogesit, E.E., Omoogun, M.R., & Egbonyi, D.E. (2022) Socio-Economic Activities and Forest Degradation in Ikom Education Zone of Cross River State, Nigeria. *Journal of Research and Environment*. 12(1) 11-16.
- Ogundele, A. T., & Oladipo, O. M (2016) Deforestation in Nigeria: *The need for Urgent Mitigation*. *International journal of Geography and Environmental Management*.
- Sirima, A. (2022). Local institutions and forest management: a case of Enguserosambu Community Forest, Tanzania. *Tanzania Journal of Forestry and Nature Conservation*, 91(1), 120-131
- Sustainable Travel International (2021) 14 Reasons Why Forest are Important. *Sustainable travel.org*
- Tsetimtheo, T. (2020) Importance /Uses of Forest and Effects of Forest in Our Environment. *transicollegue.edu.ng*.
- Udeagha, A. U. (2015) Impact of Climate Change on the Contribution of Irvingia Fruits and Kernel to Rural Household Economy in Cross River State. Unpublished MSc Dissertation, Department of Forestry and NATURAL Environmental Management, University of Uyo, Akwa Ibom State, Nigeria.
- Vihemaki (2016) Development and Conflicts of Forest Conservation in Africa: Participatory approaches Forest Control in the East Usambaras, Tanzania IDs, Workshop Paper.