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University of Calabar, Nigeria.

Farming Practices and Farmer's Attitude Towards Forest Conservation in Ogoja Education Zone of Cross River State

Egunu Sunday Ashu
`Email-sundayegunu@gmail.com
Department of Education Geography and Sustainable Development Studies
Faculty of Arts and Social Science Education, College of Education
University of Calabar, Calabar

Abstract
This study investigated farming practices and farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State. To achieve the purpose of this study, six null hypotheses were formulated to guide the study. A review of related literature was carried out to examine what has already been documented on the variables of this study by various relevant scholars and researchers in related fields of study. The survey research design was adopted for the study. The stratified random sampling technique was adopted in selecting the twenty seven communities while proportionate simple random sampling technique was adopted in selecting the seven hundred and three (703) respondents used for the study. A forty-item modified four –point Likert scale questionnaire was the instrument used for gathering data for the study. The questionnaires are validated by three experts in test and measurement and environmental education. The population of the study was 322.597 farmers in Ogoja Education Zone. The reliability of the instrument was established through Cronbach alpha method. To test the hypotheses formulated for the study, simple linear regression and multiple regression statistical tools were used for data analysis. The hypotheses formulated were tested at 0.05 level of significance. The results from data analysis and hypotheses testing indicated a significant positive influence of the effect of shifting cultivation, clear cutting, bush burning, and crop rotation on attitude of farmers towards forest conservation in the study area. Based on these findings it was recommended among others that farmers should be regularly sensitized on the effect of shifting cultivation in order to promote their attitude towards forest conservation positively.
Keywords: Farming, farmer's attitude towards forest conservation

Introduction
The forest and its endowments constitute important resources of nature, which contributes significantly to the sustenance of various species including humans. This emphasizes the want for individual helpful act on sustainable forest management. The aim is to ensure that people and other living things within the environment benefit from the services provided by

the forest at all times. The benefits that accrue from managing the forest sustainably include regulation of temperature, carbon sequestration, provision of vegetation cover for water bodies, prevention of soil erosion, food, herbs, vegetables and a host of others. Edem (2015) asserts that based on the relevance of the forest to man's existence, people need to develop attitude that ensure the sustainability of the forest. This will require conscious efforts to protect the forest and its resources.

The protection of wild habitats and species in Nigeria has long been part and parcel of the traditions and practices of Nigeria culture. Many communities used to protect forests within their jurisdictions for hunting, as graveyards, as sacred grooves for the worship of their traditional deities or as places where they collected medicinal resources (herbs, tree barks, animal parts, and etcetera). Such forests were effectively preserved through taboos. With expanding population pressure and modern development of infrastructure, these traditional measures were rendered inadequate to ensure effective protection and preservation of resources and culture in Nigeria (Anijah-Obi, 2013).

Moreover, human demeanor towards the preservation of timberland assets can either be sure or negative, contingent upon the condition or rationale of the person. Odogwu (2018), states that before the coming of pilgrim rule in Nigeria, individuals were progressively dedicated to the preservation of nature. The general population loved nature and even attributed heavenly capacity to nature by announcing certain spots as consecrated, places of worship, and wickedness woods. This recognition made man to consider nature to be hallowed to his sustenance and live in cooperative association with different animals, via thinking about nature and furthermore being thought about naturally. Be that as it may, all these change amid the time of provincial guideline. Amid this period, man started to see nature especially the timberland as an item that ought to be exchanged.

The woodland was never again held in stunningness however was traded for cash and other material endowments. This demeanor supported undue abuse of woods assets prompting the peril and annihilation of a few types of plant and creature (Olorunfemi, 2013). Inside the most recent three decades, the job of the woodland in controlling worldwide temperature has been extraordinarily refreshing by different partners because or rising temperature. The timberland has for some time been distinguished as having possibilities to help keep up an equalization in the measure of oxygen and carbon present in the environment.

It is in this manner imperative that the different cultivating practice ought to be known by ranchers. Moving development is an arrangement of cultivating in which fields are set up

by chopping down the common vegetation. Giving it a chance to get and consuming it dry. This method functions to remove the area and enhance the dirt with supplements from the slag. Moving development areas are commonly utilized for not over two periods on end, after which the ranchers move to another territory and rehash the procedure. The moving field agribusiness is described by sick revolution of fields as opposed to of harvests, with brief time of trimming exchanging and long decrepit period. Clearing is finished by mothers for cut and consume henceforth moving development is alluded to as an arrangement of cut and consume (Bullem, 2014).

Statement of the problem

Traverse time was known for it rich virgin timberland asset which is right now adding to remediation an improvement of the destructive impact of an unnatural weather change. As of late it has been seen that these rich stores has been altered by the exercises of rangers extending from bramble consuming, moving development which includes cut and consuming, clear cutting, ranch horticulture and persistent infringement into moderate woods in the rainforest zone. Fast and persistent demolition of the woodland has kept on being a subject of worry as the backwoods you see today probably won't be seen tomorrow since some rancher some place had cleared it down for rural season. It is progressively troubling to see that Cross River State that was known for her expansive woodland hold is currently encountering deforestation. As indicated by May 11, 2015 discoveries by the Cross River State Forest Division, the rate of deforestation in the state is about 4.2 meaning 400,000-500,000 hectares of timberland for each annum. Ogoja Education Zone between 200-2005, up to 30,000 hectares of woodland zone have been cleared down because of farming purposes. The expulsion of timberland has been seen to have huge negative ramifications on the earth and people. These suggestions ranges from an unnatural weather change, dry spell, flooding, loss of biodiversity, loss of verdure and fauna to the lost of the fundamental wellspring of carbon sink (which is the woodland) it is considerably progressively troubling that ranchers simply continue abusing these assets rashly revenue driven amplification without having a disheartening of what's in store for family. The facts demonstrate that he cultivating practices of moving development, clear cutting, shrubbery consuming, ranch agribusiness and harvest pivot influence the preservation of the woods however the inquiry is, could ranger's frame of mind towards cultivating rehearses impact woodland protection?

Research questions

The stating uses enquires were displayed to control the apparatus:

1. To what state does moving development impact rancher's disposition toward backwoods protection?

2. How does clear cutting impact rancher's demeanor toward backwoods preservation.

Statement of hypotheses

They following invalid propositions were patterned to direct the examination:

1) There is absence large state of moving growth on rancher's disposition towards timberland protection.

2) No huge impact of clear cutting on rancher's disposition towards timberland protection.

Literature Review

This section presented the assessment of associated story on the sub-substances of the job. The literature review is presented on the stating sub-headings;

i) Shifting cultivation and farmer's act on forest conservation
ii) Clear cutting and farmer's attitude towards forest conservation

Shifting cultivation and farmer's act on forest conservation

Shifting growth includes the clearing of vegetation as a rule by slicking and consuming and a couple of long periods of trimming, trailed by a neglected period in which ranchers move to encompassing regions. It is a type of place application within asset lack networks with a turn of development and neglected in a similar section of place. Backwoods removing has been recognized as a standout amongst the most noteworthy reasons for deforestation (Ufia et al., 2013).

An indicated by research work did by Aweto and Obe (2015), it was found that moving development is that training that assistance in lessening the dimensions of natural issue, soil supplements and soil cation. This he credited to the way that the destinations cultivated under moving development framework don't adequately imitate the conditions in the common rainforest environment. The natural issue and supplement cycles in the developed destinations have been seriously disturbed with the leeway of common vegetation. The ground front of the developed harvests was observed to be small and the smaller produced by them deficient to adjust the state of substance deterioration in the dirt. He further focused on that so as to moderate soil natural issue and supplement status amid the development period of moving development. It is important to guarantee that conditions in the homestead recreate the states of the downpour backwoods biological system as intently as could be expected under the circumstances. This could be accomplished by placing substance to the moving development destinations to ensure the dirt opposite straight sun powered rays and

from the effect or downpour accordingly lessening the state of sand natural issue, mineralization and disintegration.

Timberland clearing which is a one of the exercise include in the act of moving development has been distinguished as a standout amongst the most noteworthy reasons for deforestation in various pieces of the world (Ogunleye, Adeola, Ojo and Adurabola, 2014).

Bullem (2014) alluded to moving development as a versatile woods the executives practice predicated on sound logical rule that beneficially utilizes slope and look after terrains, moderated timberland soil and water assets and is environmentally desirable over electric horticulture and ranger service exercises. Habtamu et al (2015) composed that the regularly expanding interest of farmland combined with populace development has quickened the rate of backwoods decrease, he further focused on that the effect of populace development in provincial regions is pushing networks into unsustainable cultivating practices, for example, consuming and touching of tropical woods so as to plant crops.

Clear cutting and farmer's attitude towards forest conservation

Clear slicking as per Wikipedia is the cutting of trees and field to farm. Palviainem (2015) examine utilizing a particular fixation way to deal with gauge the effect of real removing on supplement focus in arboreal headwater areas. His finding was to fill in the data hole on the effect of real removing on supplement fixation and fare in headwater areas. He consolidated liquid state information from eight state head water places sets situated in countries, where the impact of real removing on water state has been considered tentatively factually noteworthy explicit fixation. Qualities were created for complete nitrogen, nitrate, ammonium and phosphate. The noteworthy increments in the centralization of these supplement happened after clear cutting were watched. The exhibited strategy empowers considering variety in overflow, impermanent elements of impacts and the corresponding size of treated zone in burden figuring. A report on the impact of clear cutting by Megan stubble field reveals to us that reasonable removing is the procedure by which every one of the plant in an offered area of a woods are placed without a moment's delay with just a little number of trees left standing. The plants rejected on a removed section of the native surrounding. Regarding to Megan certain of the creatures that rested on the plants may be removed as an outcome of real removing and they may have to locate recent habitat having most creatures in this state failing to withstand to recent habitat and hence being that extra susceptible to animals.

Regarding to tree area of the FAO of the UN (2010) the easy agricultural mechanism pertake in trees destruction can cause harm to the environment, the harm ranges from alteration in soil chemistry, introduction of new disease which could affect animals and humans, increase in carbondioxide level since trees are carbon sink, presence of significant effect on the impact on global climate change, exposure of the soil to erosion due to the remover of the soil anchors which is the trees. Real removing can also remove the microbes and materials that control which is the trees. Real removing can also remove the microbes and materials that control and care the trees sand, Durpoix (2019).

Martin, Escobar, Uribe and Christian (2015) explained that real removing of a usual trees collecting process that displays a basic and real alteration in place situations for animals. The main cause of absence trees are heated planters, open planetrs, and those who are removing the forest for agricultural purposes, Charkravarty (2012). Anijah-Obi (2013) has it that removal of trees which are carbon sink can lead to increase level of ultraviolent light which in turn can affect vegetation as plant become stunted, he also added that clear cutting will lead also to land degradation, soil erosion, population of fauna being affected. Deforestation and modification of wildlife and these sifting pattern of agriculture robs the world reinforce of their rich heritage of trees and wildlife, it strips the soil bare and plants, animals, birds and insect die off or get extinct.

According to International Union of Conservation of Natural Resources (2015) clear cutting has led to loss of habitat for countless animals and plant species, the destruction of home and livelihood of nature trees like birds, who make their nest on trees, increase in the amount of carbondioxide in the atmosphere due to excess chlorofluro-carbons (cfcs) gases because of no trees to use for photosynthesis thus resulting in ozone layer depletion and global warming where the after effect becomes acid rain which is poisonous to plant.

Human Right Watch (2013) has it that clear cutting has impacted on the environment, economic and social aspect. Surrounding effects comprise the lack or reduction of forest, which can outcome in the lack of habitat and types. Bad removing is affecting the withstand of certain of the globe main affected primate including Oran-Utanshin Indonesia (UNEP, 2011) and Siberian Tiger (EIA, 2014). Clear cutting has also brought million 190 materials of substances into the surrounding in 2013 as recorded by Chatham place 2015.

According to the empirical work carried out by Thomas Pienkowski (2017) on the Article title empirical evidence of the public health benefit of tropical forest conservation in Canbodia, he came out with the findings that deforestation or clear cutting of dense trees was

related with a rise happening of diarrhea fewer and quick inhaling contamination in kids. From this finding he had an interpretation that absence trees is related with rise danger of numerous main source of world kid death and death rates.

Research Methodology

This chapter discusses the design and the method adopted in the conduct of the research in order to properly analyze farming practices and farmer's attitude toward forest conservation in Ogoja Education Zone of Cross River State, Nigeria.

Research design

The research design that was adopted for this study is survey design. This research design studies phenomena after they have already occurred. Isangedighi, Joshua, Asim and Ekuri (2004) described survey design as a systematic empirical inquiry in which the researcher does not have direct control of the independent variables because their manifestations have already occurred or because they are inherently not manipulated.

Area of the study

This study was carried out in Ogoja Education Zone of Cross River State. Ogoja Education Zone is located in the Northern Senatorial District of Cross River State and it consists of five local government areas namely; Obanliku, Obudu, Bekwara, Yala and Ogoja Local Government Area, respectively.

Population of the study

The target population of this study consisted of all farmers in Ogoja Zone of Cross River State. The target population considered for this study are farmers between 18 years and above residing in the study area. Statistics from the Ministry of Agriculture (2021) revealed that there are 322.597 farmers in Ogoja Education Zone. The study population is presented in Table 1.

Sampling technique

The simple random sampling technique was adopted in selecting four local government areas of the five that make up Ogoja Education Zone of Cross River State. The researcher is familiar with the names of the local government areas in the area of study. The names of the five local government areas were written on pieces of paper and folded into ball-like shapes, which were put into a small container and properly mixed. The researcher blindly picked four paper-balls from the container. The local government areas whose names appeared on the picked pieces of paper were selected for the study. Secondly, the proportionate simple

random sampling technique was adopted in selecting twenty seven (27) communities representing 20%.

Table 1: Population of farmers in Ogoja Education zone of Cross River State based on Local Government Area

S/N	LGA	No. of communities	No. of farmers
1	Obanliku	18	57,646
2	Obudu	56	84,385
3	Bekwarra	23	28,737
4	Ogoja	32	76,581
5	Yala	37	75,248
	Total	166	322.597

Source: Cross River State Ministry of Agriculture and Water Resources (2021).

Results and Discussion

This chapter presents the analysis of data obtained from respondents through the instrument designed for the purpose of data collection. The chapter covered the general description of variables, presentation and interpretation of results as well as the discussion of findings.

General description of variables

This section presented the means and standard deviations of the main variables in the study. The main independent variable is farming practices, which is categorized into:

i) Shifting cultivation
ii) Bush burning
iii) Clear cutting
iv) Plantation agriculture
v) Crop rotation

The dependent variable is farmer's attitude towards forest conservation. A sample of seven hundred and three (703) respondents was used for the study. The computed means and standard deviation for the main variables in the study is presented in table.

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Table 2: General description of variables

Variables	N	$\bar{X}$	SD
Shifting cultivation	703	17.8023	2.71157
Bush burning	703	18.4964	2.17528
Clear cutting	703	18.3618	2.58701
Plantation agriculture	703	14.3684	3.10444
Crop rotation	703	16.2105	2.18999
Farmer's attitude towards forest conservation	703	27.7553	4.47944

Presentation of results

This section covered the analysis of data based on each hypothesis formulated for the study. This is followed by interpretation of results and discussion of findings. The hypotheses were tested at 0.05 level of significance.

HO_1

There is no significant influence of the shifting cultivation on farmer's attitude towards forest conservation. The independent variable in this hypothesis is shifting cultivation while the dependent variable is farmer's attitude towards forest conservation. The independent variable in this hypothesis is shifting cultivation while the dependent variable is farmer's attitude towards forest conservation. Simple linear regression statistical tool was used for data analysis. The result of this analysis is presented in table 2.

The result of analysis presented in table 2 showed that the predictor or independent variable (shifting cultivation) significantly influence the predicted variable (farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State). The predictor variable accounted for 15.5% of the variance in farmer's attitude towards forest conservation. This showed a moderate significant relationship between the predictor and predicted variables.

Furthermore, the regression ANOVA revealed there was a significant positive influence of shifting cultivation on farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State $F(1,701) = 128, 407$; $p<.05$. Based on this result, it can be deduced that the greater the understanding of farmers on shifting cultivation, he more positive their attitude towards forest conservation will become in the study area.

Table 3: Simple linear regression analysis of the influence of shifting cultivation on farmer's attitude towards forest conservation in Ogoja Education zone of Cross River State (N=703)

Model	R	R^2	$Adj.R^2$	Std error of estimate	
1	.393	.155	.54	4.12106	
Source of variance	SS	Df	MS	F	Sig
Regression	2180.748	1	2180.748	128.407	.000
Residual	11905.169	701	16.983		
Total	14085.917	702			

HO_2

There is no significant influence of clear cutting on farmer's attitude towards forest conservation. The independent variable in this hypothesis is clear cutting while the dependent variable is farmer's attitude towards forest conservation. Simple regression statistical tool was used for data analysis. The result of this analysis is presented in Table 3.

The result of analysis presented in table 3 showed that the predictor or independent variable (clear cutting) significantly influences the predicted variable (farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State). The predictor variable accounted for 20.2% of the variance in farmer's attitude towards forest conservation. This showed a moderate significant relationship between the predictor and predicted variable.

Furthermore, the regression ANOVA revealed there was a significant positive influence of clear cutting on farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State $F(1,701) = 177.799$; $p < .05$. Based on this result, it can be deduced that the greater the understanding of farmers on clear cutting, the more positive their attitude towards forest conservation will become in the study area.

Table 4: Simple linear regression analysis of the influence of clear cutting on farmer's attitude towards forest conservation in Ogoja Education zone of Cross River State (N=703)

Model	R	R^2	Adj.R^2	Std error of estimate
1	.450	.202	.201	4.00357

Source of variance	SS	Df	MS	F	Sig
Regression	2849.871	1	2849.871	177.799	.000
Residual	11236.046	701	16.029		
Total	14085.917	702			

Discussion of findings

This section discusses the findings obtained in this study based on the various hypotheses formulated to guide the study.

Shifting cultivation and farmer's attitude towards forest conservation

The finding obtained from analysis of hypothesis one showed that the null hypothesis was rejected. This implied that there was a significant positive influence of shifting cultivation on farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State. This result can be attributed to the assumption that the continuous growth in human population and changes in land tenure system has hindered the practice of shifting cultivation. Most farmers are now aware of the negative influence of shifting cultivation, which has influenced their attitude towards forest conservation positively. This findings is in agreement with the finding of Aweto (2013), which reported that shifting cultivation as one of the main subsistence activities of small scale societies and rural population in tropical forest. The traditional shifting cultivator does not use many tools to work the soil. Most crops are planed with a simple planting stick or by opening small planting holes with a machine or hoe. Most crops such as cassava, tannia, taro, plantain, melon and maize do not require tillage to succeed.

The findings of Bullem (2014) which referred to shifting cultivation as an adaptive forest management practice predicated on sound scientific principle that productively uses hill and maintain lands, conserved forest soil and water resources and is ecologically preferable to alternative agriculture and forestry activities. Habtamu et al., (2015) wrote that the ever increasing demand of farmland coupled with population growth has accelerated the rate of forest reduction, he further stressed that the impact of population growth in rural areas is

pushing communities into unsustainable farming practices such as burning and grazing of tropical forest in order to plant crops.

Chakravarty (2012) also reported that shifting cultivation is seen as the main agent of deforestation, it is reported to cause about one half of tropical deforestation and some put it up to two third. Shifting cultivation is greatest in Asia (about 30 percent) and only about 15 percent over the whole tropical world. It appears that the proportion of direct conversation of forest to agriculture is increasing and the proportion of shifting cultivation decreasing with time.

Clear cutting and farmer's attitude towards forest conservation

The finding obtained from analysis of hypothesis two showed that the null hypothesis was rejected. This implied that there was a significant positive influence of clear cutting on farmer's attitude towards forest conservation in Ogoja Education Zone of Cross River State. This result can be attributed to the assumption that clear cutting has been identified as a farming practice that promotes deforestation because it requires clearing the whole plot of land during the process of land preparation. This process has changed several forested areas into grasslands. The effects has prompted farmers to develop positive attitude towards forest conservation. This finding is in agreement with the finding of Anijah-Obi (2001) which reported that the removal of trees which are carbon sink can lead to increase level of ultraviolent light which in turn can affect vegetation as plant become stunted, he also added that clear cutting will lead also to land degradation, soil erosion, population of fauna being affected. Deforestation and modification of wildlife and these shifting pattern of agriculture robs the world reinforce of their rich heritage of trees and wildlife, it strips the soil bare and plants, animals, birds and insect die off or get extinct

The finding of this study also supported the finding of international union of conservation of Natural Resources (2005) which stated that clear cutting has led to loss of habitat for countless animals and plant species, the destruction of home and livelihood of nature trees like birds, who make their nest on trees, increase in the amount of carbondioxide in the atmosphere due to excess chlorofluro-carbons (cfcs) gases because of no trees to use for photosynthesis thus resulting in ozone layer depletion and global warming where the after effect becomes acid rain which is poisonous to plant.

Conclusion

The study was aimed at investigating and presenting finding son farming practices and farmer's attitude towards forest conservation in Cross River State, Nigeria. The findings

obtained from analysis of data and testing of hypotheses in the study, revealed that there is a significant positive influence of shifting cultivation, clear cutting, bush burning and crop rotation on farmer's attitude towards forest conservation in the study area.

The need for farmers to become aware of and develop positive attitude towards forest conservation has become very necessary in the face of rising climate change. The conservation of the forest and it's endangered resources has positive implication for the survival of mankind and other species of the planet earth. The view that the forest is a free gift of nature that serves the needs of human being need to be changed through intensive environmental awareness in order to promote harmonious co-existence between man and nature. It is clear from the findings of this study that farmers still require awareness to increase their understanding of the effect of various farming practices and how this knowledge influences their attitude towards forest conservation. It will be quite difficult to promote positive attitude towards forest conservation among farmers without exposing them to the negative effects of which attitude to sustainable forest management.

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