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Climate change and Herdsmen-Farmers crises; Its effects on Socio-economic development in Nigeria.

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Abstract

Keywords

Conflict, Middle-belt, Socio-economic, Herdsmen and Farmers

Land is a requisite factor of production has been at the center of several conflicts among men. This study analyzed the conflict between farmers and Fulani Herdsmen in North-central Nigeria precisely the socio-economic effects of the conflict on North-central Nigeria. The study applied a simple random and stratified sampling technique to select the sample areas that mostly affected in the crises. The sample size of 1000 (Benue, Nassarawa and Plateau) farmers was chosen from the population of North-central who are mostly affected by Fulani Herdsmen attack. The research used regression analysis to examine the effect of the attacks on farmers' output in the. The study observed that, most of Fulani Herdsmen attack and deaths recorded have negative effect on North-central people's and their source of income. The socio-economic effects of the conflict resulting to reduction in crop yield and income of the Middle-belt region; loss of lives and properties, loss of farmer products. The paper recommended the peaceful resolution of unresolved conflicts. The farmers need to be educated on the seasonal migration of the nomads and the nomads on the other hand must be made to exercise restriains with their animals until the farmers are through with their harvests in order to reduce the number of attacks and deaths that may arising from the use of land. Also there need for traditional rulers and community leaders to serve as mediator between both parties and creation of ranching areas for nomadic activities in the study area.

Introduction

Climate change is austere challenges that distress the socio-economic development of Nigeria. This change contribute to environmental crises, its the attainment of Sustainable slow down Development Goals (SDGs), which is the main 2030 Agenda for socio-economic plan for development and rebuilding of national security. The main cardinal objective of the program is to reduce environmental crisis looming on human development and mitigate the persistence change in weather conditions (Bonat, 2017). Ehimony and Ehidero (2020) viewed that inordinate activities of man, called anthropogenic and other natural occurrences influences environmental crisis due to change in climatic condition.

Field and Barros (2014) observed that "one of the grimmest costs of climate change is not necessarily the heavy droughts and famine, erratic weather seasons, prolonged dry spells, scarcity of natural resources, degradation of the environment, deprivation and uneven allocation of natural resources, and food shortage, but insecurity in the environment, hazards from the anthropogenic factors due to proliferation of Arms leading to migration from one region to another". Ehimony (2020) citing Bonat (2017) highlighting "the overall effects of climate change, aside from being critical, it has been one of the challenges affecting the overall productivity of man in North central Nigeria. The effects of this climate change has lead to a sharp rise in droughts, desertification and famine due to erratic weather seasons Nigeria". experience in North west The prolonged dry spells, natural resource scarcity and depletion of natural resources is due to spatial and temporal variation experience in North west Nigeria. The variation in climatic components influence the continuous depletion of natural resources owing to inadequate amount of rainfall in the north west region. This encourage the pastoral farmer to migrate from the North west Nigeria to North central Nigeria. Eze (2018) rightly observed that most villages in the North central Nigeria were occupied by herders making the farmer that are indigene to be vulnerable in the hands of herder owing to persistence in climatic conditions.

The clash between herdsmen and farmers has negative socioimpacts on economic development in West Africa due to negative effects posed by climatic conditions. In early20th century, the crisis for ranching of the ancestral land of some farmers generate a lot of debate among the local communities in the middle- belt and southern region Nigeria In this study, we observed that pastoral farming was mostly predominant in the Guinea and Sudansavanna region where crop propagation was carried out only during the short rainy season. In time past, the cattle herders normally have access to a massive area of grass land. The introduction of irrigation farming in the Savanna belt of Nigeria, has help to increased growth and development of pasture during the dry season, more pasture was available to cattle herders (Adegboye, 2004).

We observed that conflict for resource usage is the major issues that trigger crises between farmers and herders in Nigeria, this conflict slow down the development of Nigeria nation. The crises for control of resources area inevitability often that leads to evolution and conflicts among the human organization. Conflicts sometime degenerate to violent, destructive clashes, then it may result to unhealthy leading to counterproductive and progress-threatening. The herdsmen has acknowledged that conflicts arising from land usage which has been the major challenges that often leads to insecurity in North Central (Django,2005).

The climatic conditions in the Northern regions varies in time due to instability in atmospheric conditions and its effects on pastoral farming: weather condition in January to February is the harmattan season which is categorized by longer grazing hours, herd splitting, and more regular visits to stable water sources. The months of March and April are usually the toughest for the herdsmen and their cattle, as it is the hottest period in the grazing calendar. Indeed, they now herd their cattle only in the evenings and nights (Riesman, 1977).The months of May and June

signify the end of dry season and vegetation begins to appear. This also marks the beginning of northward movement of cattle herds. From this period up till September, which is the peak of rainy season, though characterized by cattlebreeding, more milk production and shorter hours. cattle herding coincides grazing significantly with arable crop production emanating in farmer-herdsmen conflict during this period.

Statement of Problem

The hypotheses questions in this study becomes so imperative to determine whether the conflict affects the agricultural output in North central region and other farmers activities. It is against this circumstantial this research work seeks to analysis the conflict between Herder and Farmer, its effect on agricultural output. The study seeks to evaluate the following issues in this study: To survey the socio-economic features of some farmers in north central Nigeria. To observed the socio- economic effects of the crises between farmers and herdsmen on farmers' output in North central Nigeria. Does the crisis affect the herder output?

Literature Review

Theoretical frame work on climate and conflict

The theory on conflict believed that climate change has a link with conflict. This theory hypothesizes two possible ways climate influence conflict. The first postulation describe climate as average weather condition that affect the likelihood of a man leading to conflict through direct physiological, psychological factors and resources car city. The second hypothesizes claim that climate in directly leads to conflict by reducing economic output and agricultural incomes, raising food prices, and increasing migration flows. Climate may directly or indirectly contribute to conflict, depends on socio-economic and political factors that warrant instability in weather conditions that may intensify the conflict (Adegboye, 2004).

46

This research observed that climate change affects the economic prospect due to intra group violence creating the scarcity of resources. The Malthusian assumed that weather conditions influences reduction in the resources needed to sustain human livelihood. He further observed that climate change influences change in amount of rainfall or high temperatures could lead to conflict due to struggle for survival. Some scholars submit that scarcity of resources can also lead to interstate conflict.

In Nigeria, climate change influences widespread of conflict, and disputes overland matters which constitute a very significant number of crises and violent leading to loss of life and destruction of properties. The Land dispute vary from region to region, although there are some cross-cutting themes; herdsmen and farmers in the north and middle belt, clashes between communities and oil companies in the south-south and south-east and conflicts in major cities are all affected by politics, legal issues, and increasingly, by climate change. This research seeks to evaluate the patterns and trends of land conflicts in North central Nigeria by discovering the existing literature and analyzing through data obtained from the research areas through questionnaire and direct interview on violence, conflicts, and human security in North central Nigeria. The data examined will be from the period of January 2016 until December 31, 2020.

Political and Socio-economic Framework on Land Conflicts in Nigeria

The issue of lands conflicts in Nigeria is multifacete which are dynamics in nature; its change over time depending on the area of the country where they occur. The land conflicts in Nigeria affect the co-exist of the nation among the ethnic groups leading to disintegration (Srra and Garuba, 2012). This research review various report from the newspaper on conflict issues in Nigeria from 2015-2020 showed that 45% of conflicts reported on in Nigeria were between farmers and herdsmen. The Nigeria Watch database indicates that between 2015 and 2020, violent deaths over land issues and cattle grazing accounted for 52.79% of all violent deaths .Conflict between these groups is likely to increase as farms continue to grow in size to feed a growing population, pastoralists continue to move further into new territory seeking fertile lands to graze their cattle, and climatic changes negatively impact both livelihoods. One of the complications in resolving land conflict events is that in Nigeria" this conflict has now been in corporate in to a wider dichotomy of religion and disputes over access to resources are now framed in religious terms. Most of all these issues were reported as ethnic or religious clashes often have their roots in struggles overland or resources.

Many researchers have viewed that climate change influenced farmer-pastoralist conflict in the northern and central areas of the country as a result of exacerbating of scarcity resources for grazing cattle. A recent study conducted by two Nigerian scholars view editissue through an ecoviolence theoreticallens; the authors concluded that although the immediate cause of violence between the Fulani pastoralists and farmers is resources carcity, the proximate cause is the drought and desertification due to climate change that leads to depletion of resources."In Nigeria, many communal clashes(often mis-interpreted or mis-represented as ethnic and religious clashes) are actually struggle over either the control of land or mineral resources or both."

Conceptual framework :

Conflict: Cousins (1996) as cited in Zirra and Garba (2012) sees "conflicts as an issues relating to land and sundry natural resources". McKeea authority describe "conflict as an underscores that proneness men to battle on land and sundry and its natural resources.

Agricultural Output

Agriculture involves the cultivation of land and domestication of animals for the purpose of food consumption and commercial. This process involves propagation of crops, and domestication of animals for marketing purpose (Anyanwu, 1997). Agricultural outputs are of different kind, human consumption or used for further production (Ezebunwa, 2001).

Methodology

This study adopted an empirical technique for collecting information by interviewing a sample of respondents selected from a large population. The target population in this study is areas that experienced frequent attack by herdsmen. The sample selected in this study are 1000 respondents drawn from the selected from different locations in North-central Nigeria. By implication, two hundred respondents are drawn from each location with frequent attack. This technique was used to collect data from herdsmen who were convinced to be part of the study through the assistance of three research assistants who conducted the face-to-face interviews in Hausa language.

The procedures for data analysis in this study are descriptive statistics and regression analysis. Descriptive statistics including frequency distributions, tables, charts, percentages, and means were used to analyses the socio-economic characteristics of the respondents.

The study reviewed that households that experienced conflict at one time or the other are 90.6% of the total population in Benue, Nassarawa, Plateau during the period of years 2011-2020 (62.6%) than 2000-2010 (27.1%). This indicate that there are relative increase in the frequency of conflicts in recent years. We observed that there are relatively increase inconflicts between the years 2011-2020 this was ascribed to the advent of democratic governance that encouraged farmers to openly express their grievances. The study also identified three levels of land use conflicts in the study area; farmers had plots on which there had been no experience of conflict (25.6.4%), while un resolved issues on grapping of farmer (70..4%). The study observed Land use conflict in those that areas are determined by the age of farmer, income from other sources, number of plots owned by farmer, size of plots owned by farmer and plot size, distance of each plot to farmer's home stead, value of food output on each plot, and length of years of acquisition of plots.

S/No	Date	Nature and Place of Incident	Number of Death	Other Effects
1.	7-04-2015	Fulani herdsmen attack community in Benue State, injured many, sacked three (3) communities	28	Houses burnt and Many displaced
2.	27-04-2015	Suspected Fulani herdsmen attacked Benue Community; Adeke, Mbadiwan; in Gurua District of the Local Government. Injure many	21	Many displaced
3.	10-04-2016	Fulani herdsmen attacked Dori and Maisuma village	1	Houses burnt and Many displaced
4.	31-03-2016	Herdsmen attacked Agasha community in Guma L.G.A	7	Houses burnt and Many displaced
5.	24-01-2016	Fulani herdsmen ambushed police officers including Division Police Officer as a revenge over the feud between the Local farmers and herdsmen	31	Houses burnt and Many displaced
6.	21-04-2016	Ten communities were razed while many killed by herdsmen in Agatu, Benue State	Not fewer than 500	Houses burnt and Many displaced
7.	13-12-2015	Fulani herdsmen attack Kwata Community in Southern Jos	22	Houses burnt and Many displaced
8.	08-02-2016	Fulani herdsmen attack Benue Village at TOM-Anyi in and Tom Ataan Communities of Mbaya, Tombu in Buruku L.G.A	10	Over 300 people have been displaced
9.	24-04-2016	Fulani herdsmen kill many in Benue State.	35	Many displaced
10.	24-04-2016	Kwata, Zawanara of Jos South fewer kilometre from NIPPS at about 8:30pm Sunday night in Plateau was attacked killed mainly women and children	14	Burnt houses
11.	14-03-2016	Many fired and killed as Fulani herdsmen invade Agatu. The attacks lasted for days according to Vanguard Newspapers	300	Burnt houses, slaughter many and displaced people
10.	07-05-2016	Gunmen attacked Fulani camp at Enjema Community in Ankpa LGA of Kogi State.	41 Cows Killed	300 cows missing
		Total	1,010	

Table 1: The table below shows the number of attacks from Fulani Herdsmen in Middle-belt Nigeria

Source: Author compilation from online media May, 2019.

Discussion

Table 1 above describes the locations and nature of attacks. The total numbers of 1,010 comprising men, women, children, Nigeria Police Force personnel were killed, and also numbers of cattle killed in the act of conflicts in the affected areas. The properties worth millions of naira were destroyed. Apart of the issues of killings and displacement, Wegh (2017) posited that the Middle-belt Nigerian farmers - Fulani herdsmen conflict led to the destruction of agricultural products both crops and livestock by the herds, the occupation Benue peoples are predominantly farmer, this insecurity has made them to migrate to nearby States of Kogi and Nassarawa. The effects of this crisis will lead to food insecurity in the State and region.

The statistics obtained in table 3 revealed that Middle-belt suffered a lot in the hands of herdsmen carrying AK47 and Fulani herders also suffered from the indigene of the affected areas. For example, the herds also lost their cattle and relatives in most of these conflicts. The effects of this conflicts lead to food crisis in Nigeria due to food insecurity and price volatility on agricultural products.

Evaluating the effects of herder- farmers crisis in Gwer-West Local Government in Benue State and elsewhere in the country, Igbahenah (2016) reveals that herders have extended lands for grazing, but they are not free from the psychological torture, as they also live in fear and carry large arms to scare the people in case of any eventuality. Formerly, the herders would come with their wives and children, since February 2011, crisis they change their strategy in grazing they left their families elsewhere and come to Benue with more deadly groups, armed with guns and swords.

They also suffer losses especially, where they have to flee their settlement (s) and abandoned some of their animals after igniting embers of crisis. The illustration above describes how arms proliferate flow in Benue from both farmers and nomads in middle- belt Nigeria and its effects in demographic structure of the region, political and economic devastation. Kato (2017) discusses the effect of the" herders – farmers conflict in central Nigeria emphasizing on disability of children, illness, rape and prostitution for subsistence, moral and spiritual impacts, psychological sufferings, injury, social and cultural losses, and child soldiers".

The consequence of proliferation of sophisticated weapons by the farmers and herdsmen, it increase number of injury and death recorded in the conflict were mostly obvious in demographical region with effects of the violence under review. Kato (2017) unveils "that many children who survive attacks on farming communities escaped with various degrees of injuries; a toddler suffered severe burns in the last attack on southern Kaduna; another had a head injury from a machete. Thousands of children have lost their lives in the herdsmen-farmers conflict; casualties of a situation they know nothing about. These children are either civilian casualty or direct combats caught up in the crisis".

Empirical analysis

The research also use regression model to test hypothesis base on the socio-economic variables. Hausman test was used to select the appropriate estimation methodology, to test the association between the effects of farmer-herders crisis on farmer products and the socio economic variables in all the areas mostly affected. A fixed effect model or a random effect model was used to measure the relationship between farm products and socio-economic variables. The significant Chi-square test using Non parametric test known as Hausman statistic suggested the use of a fixed effect model has an appropriate model instead of using the random effect model in all three samples of affected areas Model Specification

The implicit and explicit forms of regression are stated as follows;

 $Y = F(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10})$

Where, f is a function of X_i

Y = Farm products (FP)

 X_1 =Number of Deaths Recorded by a household as a result of Fulani Attacks (NOD).

 X_2 =Number of attacks by the Fulani herdsmen (NAF)

 X_3 =Family size (FMLS)

 X_4 =Accessibility to the market,(1 will be assigned

if the respondent has every access and(0)if otherwise (ACMT)

 X_5 =Level of education of respondent (1) if respondent attains secondary school and above, (0) if otherwise(LEED)

 X_6 =Farming experience (1) if the respondent has farming experience of about 3 years and above, and (0) if otherwise(FMEX)

 X_7 =Health status of the respondent, (1) if healthy and (0) if otherwise (HSTA)

 X_{B} =Technology (1) if used mechanized or modern system and (0) if otherwise (TECH) X_9 =Number of hectares cultivated per annum (NMHC) and

 X_{10} = Land fertility (1) if fertilizer is used and (0) if otherwise (LNDF) U=Error term.

The explicitly for misstated as follows: Linear Function with the specific form of the model which ares to chastically in nature as:

$$\begin{split} Y_{1} = & \beta_{01} + \beta_{11} NOD + \beta_{12} NAF + \beta_{13} FM \\ + & \beta_{14} ACMT + \\ & \beta_{15} LEE + \\ & \beta_{16} FMEX + \beta_{17} HSTA + \beta_{18} TECH + \\ & \beta_{19} NMH + \beta_{20} LNDF \\ & + U \end{split}$$

$$\begin{split} &Y_{2} = \beta_{02} + \beta_{21} NOD + \\ &\beta_{22} NAF + \beta_{23} FMLS + \beta_{24} ACMT + \beta_{25} LEED + \\ &\beta_{26} FMEX + \beta_{27} \\ &\text{HST} + \beta_{28} TECH + \beta_{29} NMHC + \beta_{30} LNDF + U \end{split}$$

$$\begin{split} &Y_{3} = \beta_{03} + \beta_{31} NOD + \beta_{32} NAF + \beta_{33} FMLS \\ &+ \beta_{34} ACMT + \beta_{35} LEED + \beta_{36} FMEX + \beta_{37} HSTA \\ &+ \beta_{38} TECH + \beta_{39} NMHC + \beta_{40} LNDF + U \end{split}$$

Table 4.0 shows the results from Hausman test on association between the farm's products and socioeconomic variables

	Chi-sq. statistics	Chi-sq. d.f.	Prob.
Benue	17.792	4	0.001
Nassarawa	26.362	4	0.000
Plateau	34.194	5	0.000

Table 4.1 Single Equation Estimation Results (Fixed Effect Model)

Variable	Benue	Nassarawa	
			Plateau
Constant	7.08	1.12	1.59
	(2.12)	(1.68)	(3.30)
NOD	0.29*	0.14*	0.23*
	(4.67)	(6.77)	(7.75)
NAF	-0.007*	-0.05*	-0.04*
	(-1.89)	(-2.40)	(-2.52)
FMLS	0.35*	(-2.40) 0.01**	0.06^{*}
	(2.26)	(1.87)	(3.45)
ACMT	-0.79*	-1.64	-0.82
	(-49.21)	(-23.4)	(-1.97)
LEED	0.56	0.97^{*}	0.10^{*}
	(3.45)	(12.55)	(2.67)
FMEX	-0.009*	-0.05*	-0.04*
	(-1.89)	(-2.40)	(-2.52)
HSTA	-0.009*	-0.05*	-0.04*
	(-1.89)	(-2.40)	(-2.52)
TECH	-0.009*	-0.05*	-0.04*
	(-1.89)	(-2.40)	(-2.52)
HMHC	-0.009*	-0.05*	-0.04*
	(-1.89)	(-2.40)	(-2.52)
R-squared	0.986	0.875	0.960
Adjusted	0.986	0.875	0.960
R-squared			
Dubrin-Watson	1.980	1.965	2.320
stat			
F-statistic	76.401	40.618	34.437
Prob (F-statistic)	0.000	0.000	0.000

Note: Values in parenthesis are the t-statistics, * and ** denote significance at 50% and 10% respectively

The result reveal that farmer-herders crisis has a negative and significant impact on socioeconomic growth in the areas mostly affected by the crisis. It is also supported by numerous studies on the subject, including, among others, Ijirsha (2015), Musa and Shabu (2014) and Abass (2012). The results also support Adebayo(1997) view," conflict gave rise to an increased pressure on natural resources and a stiff competition for available resources between farmers and herders". It mean that conflict affects the socio- economic growth of a country. Hence, changes in socioeconomic variables negatively affect the agricultural products since all the areas affects are farm lands and people's are pleasant farmers that there source of income are from sale in farm products.

The results from the estimated co efficients from the effects of crisis on farm products harvested during the crisis using the seemingly unrelated regression (SUR) as summarized in table 4.3.

Int. J. Adv. Multidiscip. Res.	(2021). 8(11): 44-55
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Table 4.2: Seemingly	unrelated regression	(SUR)	estimation results
		(~~~~~)	

Variables	BENUE	NASSARAWA	
Benue: $\boldsymbol{Y}_{1} = \boldsymbol{\beta}_{01} + \boldsymbol{\beta}_{1}$	$_{11}NOD + \beta_{12}NAF + \beta_{12}$		$\beta_{15}LEED + \beta_{16}FMEX$
$+\beta_{17}$ HSTA +		$+\beta_{19}NMHC$	
Constant	39.44*	21.26	29.08*
Constant	(10.90)	(0.27)	(2.67)
NOD	0.70*	0.41*	0.39*
	(3.04)	(2.51)	(2.32)
NAF	-0.38**	-0.30**	-0.37*
	(-1.74)	(-1.80)	(-2.43)
FMLS	-5.69*	0.10**	-0.78*
	(-5.05)	(-1.74)	(-2.11)
ACMT	0.68*	0.54*	1.39*
	(4.04)	(2.78)	(3.77)
	0.50**	0.28**	0.37**
LEED	(1.04)	(1.01)	(1.05)
	0.86**	0.57**	0.69**
FMEX	(1.15)	(1.00)	(1.07)
HSTA	0.74**	0.46**	0.52**
110 171	(1.64)	(1.38)	(1.57)
	()	()	()
TECH	0.67**	0.26**	0.58**
	(1.68)	(1.53)	(1.62)
NMHC	0.69**	0.48**	0.59**
	(1.63)	(1.38)	(1.59)
D 1	0.05	0.47	0.00
R-squared	0.95	0.47	0.90
Nassarawa: Y ₂ =	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$	$_2NAF+\beta_{23}FMLS+\beta_2$	0.90 $\mathbf{\beta}_{25}LEED$
Nassarawa: Y_2 + $\beta_{26}FMEX$ + β_{27}	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{3}$	₂ NAF+β ₂₃ FMLS +β ₂ ₂₉ NMHC	$_{24}ACMT + \beta_{25}LEED$
Nassarawa: Y ₂ =	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{3}$ 33.69*	2 NAF +β ₂₃ FMLS +β ₂ 29NMHC 35.41*	24 ACMT + β 25 LEED 22.45*
Nassarawa: $Y_2 = +\beta_{26}FMEX +\beta_{27}$ Constant	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ 33.69* (8.55)	$\frac{2NAF+\beta_{23}FMLS}{29NMHC} +\beta_{2}$	24ACMT + β ₂₅ LEED 22.45* (3.14)
Nassarawa: Y_2 + $\beta_{26}FMEX$ + β_{27}	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ 33.69* (8.55) 1.84*	$\begin{array}{r} & & \\ 2\mathbf{NAF} + \boldsymbol{\beta}_{23}\mathbf{FMLS} + \boldsymbol{\beta}_{2} \\ 29\mathbf{NMHC} \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ $	24ACMT + β ₂₅ LEED 22.45* (3.14) 1.11*
Nassarawa: Y_2 = + $\beta_{26}FMEX$ + β_{27} Constant NOD	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31)	2NAF +β 23 FMLS +β 2 29NMHC 35.41* (2.13) 1.18* (1.77)	22.45* (3.14) 1.11* (2.59)
Nassarawa: Y_2 + $\beta_{26}FMEX$ + β_{27} Constant	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72*	2NAF +β 23 FMLS +β 2 29NMHC 35.41* (2.13) 1.18* (1.77) -0.96*	$\begin{array}{r} 22.45* \\ (3.14) \\ 1.11* \\ (2.59) \\ -0.48* \end{array}$
Nassarawa: Y_2 = + $\beta_{26}FMEX$ + β_{27} Constant NOD	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31)	2NAF +β 23 FMLS +β 2 29NMHC 35.41* (2.13) 1.18* (1.77)	22.45* (3.14) 1.11* (2.59)
Nassarawa: Y_2 + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04)	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63)	$\begin{array}{r} 22.45*\\ (3.14)\\ 1.11*\\ (2.59)\\ -0.48*\\ (-6.12) \end{array}$
Nassarawa: Y_2 + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99*	$2NAF + \beta_{23}FMLS + \beta_{23}FML$	$\begin{array}{r} 22.45*\\(3.14)\\\hline 1.11*\\(2.59)\\-0.48*\\(-6.12)\\-0.33*\\\end{array}$
Nassarawa: Y_2 + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07)	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $$	$\begin{array}{r} 22.45*\\(3.14)\\1.11*\\(2.59)\\-0.48*\\(-6.12)\\-0.33*\\(-2.61)\end{array}$
Nassarawa: Y_{2} = + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68)	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74)	$\begin{array}{r} 22.45*\\(3.14)\\\hline 1.11*\\(2.59)\\\hline -0.48*\\(-6.12)\\\hline -0.33*\\(-2.61)\\\hline 0.35**\\(0.88)\end{array}$
Nassarawa: Y_2 = + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76**	$2NAF + \beta_{23}FMLS + \beta_{23}FML$	$\begin{array}{r} 22.45*\\(3.14)\\\hline 1.11*\\(2.59)\\-0.48*\\(-6.12)\\-0.33*\\(-2.61)\\0.35**\\\end{array}$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS ACMT LEED	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85)	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74) $0.45*$ (0.74)	$\begin{array}{r} 22.45 \\ (3.14) \\ 1.11 \\ (2.59) \\ -0.48 \\ (-6.12) \\ -0.33 \\ (-2.61) \\ 0.35 \\ (0.88) \\ 0.76 \\ (1.53) \end{array}$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS ACMT ACMT	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97**	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74) $0.45*$ (0.74) $0.56**$	$\begin{array}{r} 22.45*\\(3.14)\\\hline 1.11*\\(2.59)\\\hline -0.48*\\(-6.12)\\\hline -0.33*\\(-2.61)\\\hline 0.35**\\(0.88)\\\hline 0.76*\\(1.53)\\\hline 0.76**\\\end{array}$
Nassarawa: Y_2 : + $\beta_{26}FMEX + \beta_{27}$ Constant NOD NAF FMLS ACMT LEED FMEX	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97** (2.44)	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74) $0.45*$ (0.74) $0.56**$ (1.03)	$\begin{array}{r} & & & \\ \hline & & & \\ 24 \mbox{ACM1} & + \mbox{β_{25}LEED} \\ \hline & & & \\ \hline \hline & & & \\ \hline & & & \\ \hline \hline & & & \\ \hline \hline \\ \hline & & & \\ \hline \hline & & & \\ \hline \hline \\ \hline \\$
Nassarawa: Y_2 : + $\beta_{26}FMEX + \beta_{27}$ Constant NOD NAF FMLS ACMT LEED	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97**	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74) $0.45*$ (0.74) $0.56**$	$\begin{array}{r} 22.45*\\(3.14)\\\hline 1.11*\\(2.59)\\\hline -0.48*\\(-6.12)\\\hline -0.33*\\(-2.61)\\\hline 0.35**\\(0.88)\\\hline 0.76*\\(1.53)\\\hline 0.76**\\\end{array}$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS FMLS ACMT LEED FMEX HSTA HSTA	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97** (2.44) 0.30** (1.74)	$2NAF + \beta_{23}FMLS + \beta_{2}$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74) $0.45*$ (0.74) $0.56**$ (1.03) $0.30**$ (1.74)	$\begin{array}{r} 22.45 \\ (3.14) \\ 1.11 \\ (2.59) \\ -0.48 \\ (-6.12) \\ -0.33 \\ (-2.61) \\ 0.35 \\ (0.88) \\ 0.76 \\ (1.53) \\ 0.76 \\ (1.84) \\ 0.30 \\ (1.74) \\ \end{array}$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS ACMT LEED FMEX FMEX	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97** (2.44) 0.30** (1.74) 0.56**	$2NAF + \beta_{23}FMLS + \beta_{2}$ $29NMHC$ $35.41*$ (2.13) $1.18*$ (1.77) $-0.96*$ (-4.63) $$ $$ $0.30**$ (1.74) $0.45*$ (0.74) $0.56**$ (1.03) $0.30**$ (1.74) $0.30**$ (1.74) $0.23**$	$\begin{array}{r c c c c c c c c c c c c c c c c c c c$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS FMLS I ACMT I LEED FMEX HSTA TECH	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97** (2.44) 0.30** (1.74) 0.56** (1.86)	$2NAF + \beta_{23}FMLS + \beta_{23}FML$	$\begin{array}{r cccccccccccccccccccccccccccccccccccc$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS FMLS ACMT LEED FMEX HSTA HSTA	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97** (2.44) 0.30** (1.74) 0.56** (1.86) 0.76**	$2NAF + \beta_{23}FMLS + \beta_{23}FML$	$\begin{array}{r cccccccccccccccccccccccccccccccccccc$
Nassarawa: Y_2 : + $\beta_{26}FMEX$ + β_{27} Constant NOD NAF FMLS FMLS I ACMT I LEED FMEX HSTA TECH	$=\beta_{02}+\beta_{21}NOD+\beta_{2}$ HSTA + $\beta_{28}TECH+\beta_{2}$ (8.55) 1.84* (7.31) -0.72* (-3.04) -4.99* (-4.07) 0.76** (3.68) 0.80* (1.85) 0.97** (2.44) 0.30** (1.74) 0.56** (1.86)	$2NAF + \beta_{23}FMLS + \beta_{23}FML$	$\begin{array}{r cccccccccccccccccccccccccccccccccccc$

Plateau: $Y_{3} = \beta_{03} + \beta_{31} NOD + \beta_{32} NAF + \beta_{33} FMLS + \beta_{34} ACMT + \beta_{35} LEED + \beta_{36} FMEX$			
$+\beta_{37}$ HSTA $+\beta_{38}$	"ЕСН+β ₃₉ NMHC		
Constant	38.24*	32.11	29.22
	(10.35)	(1.03)	(1.62)
NOD	1.39*	1.06*	0.99*
	(5.90)	(4.29)	(3.57)
NAF	-0.87*	-0.70	-0.63*
	(-3.92)	(-2.67)	(-2.20)
FMLS	-4.67*	0.25**	-0.20
	(-4.93)	(-1.74)	(-2.14)
ACMT	0.67**	0.26	0.50**
	(1.54)	(1.01)	(1.34)
LEED	0.45**	0.27**	0.58**
	(1.54)	(1.34)	(1.23)
FMEX	0.52**	0.42**	0.53**
TWILA	(1.24)	(1.05)	(1.46)
		(1.01)	()
HSTA	0.60**	0.13**	0.45**
	(1.34)	(1.10)	(1.25)
TECH	0.45**	0.43**	0.61**
	(1.05)	(1.01)	(1.14)
NMHC	0.47**	0.34**	0.42**
	(1.54)	(1.06)	(1.46)
	(1.34)	(1.00)	(1.40)
R-squared	0.186	0.178	0.264

Notes: Values in parenthesis are the t-statistics, * and ** denote significance at 5% and 10% respectively

Conclusion

The research has given the in-depth assessment on the effects of the farmer/ herders crises on socioeconomic development in Benue, Nassarawa and Plateau state. In our visit to those areas mostly affected, we can under scored that conflict is ever present in human society, it ravage the whole villages, all farmers migrated to Kogi state for new settlement while some are in IDP camp. We observed that there are negative socio-economic effects of the conflict on farmers' output in Benue, Nassarawa and Plateau state. Our inferences is in line with the finding of Adisa (2013) who viewed "that most farmers perceived conflict situation as a loss" and Musa and Shabu (2014) who concluded that" conflict is a setback to the development of agricultural sector thus, the need to recognize and organize the parties to reduce the tendency for violent friction and to

also increase understanding".

Recommendations

We suggest the following recommendations for the peaceful resolution of the land conflict between the pastoralist and farmers in North central Nigeria.

- i. Amicable resolution should be developed between both parties and each party should shift grounds to have a peaceful coexistence.
- ii. The farmers should be sensitize on the need to cultivate culture of good interaction between traditional leaders and nomadic.
- iii. Traditional rulers and community leaders need to be involved to serve as mediators between both farmer's and nomadic farmers.

- iv. The government should avoid playing politics by supporting one of the party in the conflict.
- v. Every party found wanted should be prosecuted before the court of law

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