



IMPACT OF PASTORALISTS-FARMERS' CONFLICTS ON AGROFORESTRY FARMERS' PSYCHOLOGY AND AGRICULTURAL PRODUCTION IN NORTH CENTRAL NIGERIA

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ABSTRACT

The study examined the escalating conflict between the farmers and the pastoralists in the North Central region of Nigeria with regard to its impact on the psychology and productivity of agroforestry farmers. Benue, Nasarawa and Plateau states were reported to be the most affected by farmer- pastoralist conflicts in North Central Nigeria, they were therefore purposively selected for the study. The local governments that are most affected by the conflicts were also selected in each state. 25% of agroforestry farmers in each of the selected local government were randomly selected for the study. A total of one hundred and eighty (180) well-structured questionnaires were administered to farmers. Data were analysed using descriptive statistics such as frequency and percentage while the correlation coefficient (r) was used to draw inferences between the variables of the hypotheses. The study found out that 29% of the respondents were between the ages of 31-40, 75.6% were male, 69.8% were married, 37.2% had secondary education and majority of them (83.8%) were Christians. Also, 67.8% of them take farming as their main occupation. 40% of them has 6-10 acres of farm size. The Spearman's rho correlation analysis revealed that demographics characteristics [age ($r = -0.341$; $p = 0.000$) education status ($r = 0.200$; $p = 0.008$) and household size ($r = 0.151$; $p = 0.042$)] of the respondents significantly correlated with the impact the conflict had on respondents' psychology. The correlation coefficient (R) showed that frequency of conflict is significantly related to respondents' agricultural loss ($r = 0.183$; $p = 0.025$) and that the conflicts impact on respondents' psychology is significantly correlated with their agricultural productivity ($r = 0.1357$; $p = 0.034$).

Keywords: Conflict, Psychology, Pastoralist, Farmers, Agricultural Productivity

INTRODUCTION

Conflict is an integral part of human existence that cannot be avoided in families, at work or even when watching news on television (Omisore and Abiodun, 2014). It emerges from interaction among human beings, who in their day to day activities interact with one another either at the interpersonal level or intergroup level. Such interaction may lead to incompatibility or opposition as a result of the pursuit of interest and goals (Adeniyi, Nnamchi and Onyia, 2020). According to Adeniyi (2016) conflict is a phenomenon that exists in human society but does not have a generally acceptable uniform definition, scholars only defined it according to their perspectives, though it is seen as any condition or state of struggle, opposition, incompatibility, interference, divergence of interest, tension, division, indifference among human beings in the process of interaction among themselves.

In the central and southern zones of Nigeria, violent conflicts between pastoralists and farmers have escalated in recent years, threatening the country's security, stability and peace. According to Amaze (2016) the cause of the conflict is the increasing desertification of nomadic grazing land (those areas which are traditional cattle-rearing territories) overgrazing and low rainfall, resulting into the nomadic pastoralists pushing further and further South, in search of grass and water for their herds. This has caused clashes between the farmers whose farm land were destroyed and the pastoralist. The pastoralists, who are predominantly Fulani tribesmen are from the Sahel savannah of Nigeria (Agbaje, et al., 2013) and have migrated down to the middle belt, as a result of perpetual drought. The estimated death toll of these clashes as at 2016 is approximately 2,500 people, becoming as potentially dangerous as the Boko Haram insurgency in the North

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East. Yet to date, response to the crisis at both the federal and state levels have been poor (International Crises Group, 2017). In the last three years, death toll has increased to at least 3,641 because of Nigerian authorities' failure to investigate the clashes, with many more being displaced (Amnesty International 2017).

The dimension of militancy in the conflicts associated with the advent of the aggressive Udawa and Bokoloji pastoralists, which further led to the emergence and introduction of guns and other sophisticated weapons in the conflicts as well as the use of mobile phones accompanied with banditry, All these have produced adverse consequences in the destructions of villages, farms and human lives (Babagana, et al., 2019) Nigeria has experienced a considerable increase in natural resource conflicts since the early 1990s. The increasing conflicts between farmers and herdsmen have recently become a cause for worry, especially in wetland areas of the middle belt, North Central Nigeria (Leme, 2017). Pastoralists' and farmers' conflict have remained the most preponderant resource-use conflict in Nigeria (Ajuwon, 2004; Fasona and Omojola, 2005). The necessity to provide food of crop, timber products and animal origin, as well as raw materials for industry and export in order to meet ever-growing demands, has led to intensification of land use (Nyong and Fiki, 2005). The causes of the pastoralist- farmer's conflicts are numerous. According to De Haan (2002), 'destruction of crops by cattle and other property (irrigation equipment and infrastructure) by the pastoralists themselves are the main causes for conflicts cited by the farmers, whereas burning of rangelands and fadama and blockage of stock routes and water points by crop encroachment are important reasons cited by the pastoralists'. So far it is estimated that Nigeria loses about \$14 billion annually to this clashes

Whatever the causes of the pastoralist-farmer's conflicts are, it is evident that the conflicts have been of great negative effects. The pastoralists-farmers' conflict is threatening the peace and stability of the nation, especially that of the farmers These range from economic effects (such as loss of income/resources/yield) to physical (such as home/farm destruction, bodily injury or death of family member) (Adisa, 2011a). These in turn might have some effects on the farmers' psychological state. The psychological effect may manifest as emotional exhaustion, stress, anxiety, psychological distress trauma, phobia, nightmares, irritability, hopelessness and depression on farmers and their agricultural loss. This conflict does not only affect regular farmers but also agroforestry farmers. Agroforestry is the conscious integration of trees, shrubs and crops on a farmland with emphasis on their mutual benefit to enhance diversity, productivity, profitability and sustainability of the land use. It can be defined as a dynamic, ecologically based natural resource management system, diversifies and sustains production for increased social, economic and environmental benefits (Mukadasi and Nabalegwa, 2008). It involves the intentional integration of woody vegetation, such as trees and shrubs with crops and or livestock, simultaneously or sequentially on a land management unit in order to address many current environmental and social changes, such as climate change and food security (Garret and Buck, 1997). Those who practice agroforestry are referred to as

agroforestry farmers. Agroforestry farmers are of immense economic importance to Nigeria, through bridging the gap that often separates agriculture and forestry and building integrated systems that address both environmental and socio-economic objectives. They often improve the resiliency of agricultural systems and mitigate the impacts of climate change (Brown, Miller and Baylis, 2018). Despite their immense value, the agroforestry farmers are equally affected by the pastoralist-farmers' conflicts. There is evidence that suggest that psychological issues in farmers increase the risk of injury through accidents, which is a particular concern given the dangerous nature of farming as a profession (Allen, 2019). It also has negative impact on physical health and the loss of earnings from absence at work. Psychological issues can also be significant on farmers' productivity (Allen, 2019). The impact of the conflict on the psychology of the agroforestry farmers and their agricultural loss would be of good advantage in examining the aftermath of conflict and also be a viable tool in policy making towards, mental health assessment and food security among farm households.

The effects of the pastoralist- farmers' clashes in the North-Central Nigeria are felt more by the farmers, agroforestry farmers inclusive, than any other group since the existence and survival of farmers and their sources of livelihoods (crops and trees) are affected. Pastoralists' ability to move along with their animals to another location for grazing lessens the effect of the clashes on the pastoralists (Adebo and Olotu, 2018). Hence this study examined how the pastoralist-farmers' conflict have impact on the agroforestry farmers' psychology and their agricultural loss in the North central zone of Nigeria.

OBJECTIVES OF THE STUDY

1. To investigate the causes of farmers-pastoralists conflicts.
2. To examine the frequency of occurrence of farmers-pastoralists conflicts.
3. To identify the impact farmers-pastoralist conflicts have on the psychology of agroforestry farmers in the North central Nigeria.
4. To ascertain the effect of farmers-pastoralists conflicts on the agricultural loss of agroforestry farmers.

HYPOTHESES OF THE STUDY

1. There is no significant relationship between demographics features of respondents and the impact the conflicts have on agroforestry farmers' psychology.
2. There is no significant relationship between the frequency of conflicts and farmers' agricultural loss
3. There is no significant relationship between the impact the conflicts have on agroforestry farmers' psychology and the farmers' loss in productivity.

METHODOLOGY

The study area for this research is North central Nigeria. North Central is one of the six geo-political zones of Nigeria. It falls within Latitude 10°20'N and Longitude 7°45'E (National Geo-Spatial Intelligence Agency). The zone consists of the seven states namely: Benue, Kogi, Kwara, Nasarawa, Niger, Plateau states and Abuja which is the Federal Capital Territory. It is situated geographically in the middle belt region of the country, spanning from the west, around the confluence of the

River Niger and the River Benue. The region is a home to many historical and colonial relics. It is also rich in natural land features, and has some of Nigeria's most exciting scenery. Some of the ethnic groups in the region are the Igala, Tiv, Idoma, Nupe, Bassa, Birom, Ankwei, Angas, Lang-tang, Ebira, Okun etc. Minerals such as iron ore, coal and tin are domiciled in this area. The inhabitants of this region are mostly farmers and the crops generally identified with this region are grains such as maize, millet, guinea corn, rice, cowpea, soya beans. Tree crops such as cashew, oranges, locust beans and shea butter trees among others are mostly planted in the region.

North central Nigeria was purposively selected for the study because it was reported to be the most affected region of Nigeria, as far as farmer-pastoralist conflicts are concerned (Abugu and Onuba, 2015). Out of the seven North central states of Nigeria, 3 states were reported to be most affected in the region. They are: Benue, Nasarawa and Plateau states. Therefore, these states were selected for the study. The local governments that were most affected by farmer-pastoralist conflicts were purposively selected from each state. From Benue state, Agatu, Guma, Makurdi and Gwer - west local governments were selected, the number of agroforestry farmers were 60, 52, 44 and 84 respectively. Based on 25%, of the number of agroforestry farmers, 15, 13, 11 and 21 agroforestry farmers were randomly selected from each of the local

governments respectively making a total of 60 agroforestry farmers. From Nasarawa state, the 4 local governments selected were Akwanga, Awe, Obi and Ikeanna. The number of agroforestry farmers in each of the LGA were 39, 42, 40 and 38 respectively. Based on 25% of the agroforestry farmers' population in the state, ten (10) agroforestry farmers were randomly selected from each of these local governments making a total of 40 agroforestry farmers. Plateau state being the most affected state in the region as opined by Abugu et. al., (2015). Bassa, Barkin-ladi, Riyom and Jos South local governments were purposely selected for the study, the number of agroforestry farmers in the LGAs were 72, 84, 68 and 96. Based on 25% of the population, 18, 21, 17 and 24 agroforestry farmers were randomly selected respectively from each of these local governments making a total of 80 respondents for Plateau state. The summation of selected agroforestry farmers within the zone is one hundred and eighty respondents

A well-structured questionnaire that solicited for the following information: demographic characteristics of the respondents, causes of farmer- pastoralist conflicts, psychological impact of farmer- pastoralist conflicts on agroforestry farmers, degree of farmers' agricultural loss, frequency of conflicts, among others was prepared and administered to the 180 respondents. Data was analysed using descriptive statistics and correlational analysis.

RESULTS AND DISCUSSION

Table 1: Socio-Demographic Information of the Respondents

Variable	N (180)	%	Mode	Variable	N (180)	%	Mode
Age (Years)				Marital Status			
21-30	25	14	41-50	Single	20	11.2	Married
31-40	52	29		Married	125	69.8	
41-50	44	25.5		Widow	23	12.8	
51-60	39	21.8		Separated	10	5.6	
61-70	17	9.5		Divorced	1	0.6	
71-80	1	0.6		Household Size			
Sex				1-5	53	29.4	6-8
Male	136	75.6	Male	6-8	78	43.3	
Female	44	24.4		9-11	31	17.2	
Education Status			Secondary	12-18	12	6.7	
Illiterate	22	12.2		>19	6	3.4	
Primary	45	25.0		Main Occupational Status			
Secondary	67	37.2		Farming	23	67.8	Farmers
Tertiary	46	25.6		Civil Service	12	6.7	
Religion				Private	4	2.2	
Christian	151	83.9	Christian	Sole proprietor	122	12.8	
Islam	22	12.2		Schooling	9	5.0	
Traditional	5	2.8		Others	10	5.6	
Free thinker	2	1.1					

Source: Analysis, 2019

Table 1 displayed the result of the demographic information of the respondents. Age 31-40 had the highest percentage (29%) while age 71-80 had the lowest 0.6%. Majority (75.6%) of the respondents were males. In terms of educational status, 37.2% had secondary school education, followed by 25.6% with tertiary education, 25% with primary education while just

12.2% had no formal education. The respondents were mainly Christians (83.9%) with 12.2% Muslims and 2.8% traditional worshippers. Majority (69.8%) of the respondents were married, while the lowest number of respondents (0.6%) were divorced. The respondents with 6-8 household size were the most common (43.3%), while the least common household size among

the respondents was >19 (3.4%). 67.8% of the respondents were farmers.

Summarily the respondents were mostly married Christian males, with moderate educational status and medium household size between age 41-50 and were sole proprietors. The implication is that they were in their productive ages and could increase food security in the country. The result is in tandem with the findings of Daramola, 2005 which asserted that male farmers have been found in researches in Nigeria than females,

probably because of the energy required for farming. According to Mohammed, Ismaila, Bibi (2015), North central being a Christian dominated state may account for a basic religious difference because majority of the Pastoralist are Moslems. The study also supported the findings of Ijirshar, Ker and Terlumun (2015) that North Central States are predominantly agrarian and thus, Agriculture is perhaps, the oldest occupation of the people of the state.

Table 2: Assessment of Farm Land Owned

F arm size (Acres) Owned	Frequency	Percentage
1-5	64	35.6%
6-10	72	40.0%
11-15	33	18.3%
16-20	8	4.4%
Above 20	3	1.7%

Source: Analysis, 2019

According to table 2 which revealed the size of farm land owned by respondents, 40% of the respondents owned between 6-10 acres of land, 35.6% owned between 1-5 acres of land, 18.3% owned between 11-15 acres, 4.4% owned 16-20 acres and just 1.7% owned above 20 acres of land. The implication is that majority of the respondents operated between moderate to large scale farming. The study buttressed the findings of Ijirshar, Ker. and Terlumun (2015) that Agriculture is the major occupation in North Central.

Table 3: Participants' Perception about Causes of Conflict

Causes of Conflict	No Contribution	Low Contribution	Moderate Contribution	High Contribution	Mean	Rank
Crop damage	9 (5.0)	20 (11.1)	47 (26.1)	104 (57.8)	3.37	1 st
Low level compliance to stock route	39 (21.7)	37 (20.6)	47 (26.1)	57 (31.7)	2.69	6 th
Farm fragmentation	43 (23.9)	62 (34.5)	51 (28.3)	24 (13.3)	2.31	12 th
Ethnic rivalry	25 (13.9)	46 (25.6)	48 (26.7)	61 (34.5)	2.79	4 th
Depleting soil fertility	54 (30.3)	37 (20.8)	50 (28.1)	37 (20.8)	2.40	10 th
Indiscriminate bush burning	42 (23.6)	43 (23.9)	45 (25.3)	48 (27.0)	2.56	9 th
Little or no respect for traditional rulers	45 (25.1)	36 (19.6)	29 (16.2)	70 (39.1)	2.69	6 th
Stealing of crops	43 (24.0)	21 (11.7)	53 (29.1)	63 (35.2)	2.75	5 th
Farm encroachment	40 (22.3)	39 (21.8)	62 (34.6)	29 (15.6)	2.62	7 th
Low awareness of stock route	50 (27.9)	39 (21.8)	63 (34.6)	28 (15.6)	2.38	11 th
Deliberate hostility by pastoralists	20 (11.2)	25 (14.0)	49 (27.5)	86 (47.2)	3.09	2 nd
Declining influence of traditional rulers	54 (30.2)	22 (12.3)	48 (26.8)	55 (30.7)	2.58	8 th
Low/poor government intervention	21 (11.7)	26 (14.6)	62 (34.4)	71 (39.9)	3.03	3 rd

Source: Analysis, 2019

Table 3 presented the statements of respondents' perception about causes of conflicts, crop damage ranked 1st with a mean of 3.37, deliberate hostility ranked 2nd (X=3.09), low /poor government intervention ranked 3rd (X=3.03), ethnic rivalry ranked 4th (X=2.79), stealing of crops ranked 5th (X=2.75), both low level compliance to stock route and little or no respect for

traditional rulers ranked 6th (X=2.69), farm encroachment ranked 7th (X=2.62), declining influence of traditional rulers ranked 8th (X=2.58), indiscriminate bush burning ranked 9th (X=2.56), depleting soil fertility ranked 10th (X= 2.40), low awareness of stock route ranked 11th (X=2.38) while farm fragmentation ranked 12th (2.31).

In summary just five statements (crop damage, deliberate hostility, low /poor government intervention, ethnic rivalry and stealing of crops) which are below the grand mean (2.71) are the main respondents; perception as causes of the conflict. This is in line with the De Haan

(2002), which identified 'destruction of crops by cattle and other property (irrigation equipment and infrastructure) by the pastoralists themselves are the main direct causes for conflicts cited by the farmers.

Table 4: Degree of Farmer's Agricultural Loss by Conflict

Farm land (Acres) Destroyed	Frequency	Percentage	Mean
1-3	46	25.7%	2.42
3-5	60	33.5%	
6-8	42	23.5%	
9-11	15	8.4%	
12-14	15	8.4%	
Above 15	1	0.6%	
Amount of Money (Naira) Loss			
<500000	117	65%	
500000-1000000	48	26.7%	
>1000000-1500000	7	3.7%	
>1500000-2000000	5	2.8%	
>2000000-2500000	3	1.7%	

Source: Analysis, 2019

Table 4 showed the percentage of farm land destroyed and amount lost in Naira as a result of the conflict. 25% experienced the destruction of 1-3 acres of land, 33.5% experienced the destruction of 3-5 acres of farm land, 23.5% experienced 6-8 acres' destruction, 8.4% experienced both 9-11 and 12-14 acres of land destruction, while 0.6% experienced above 13 acres of farm land destruction. In terms of loss in Naira, 65% lost

<N500,000, 26.7% lost >500.000-1,000,000, 3.7% lost >1,000,000- 1,500,000, 2.8% lost >1,500,000-2,000,000 and 1.7% lost >2,000.000-2.5.000.000. The implication is that some of the respondents lost a huge part of what they had in terms of land and money. This is in line with the findings of Adisa (2013), who reported that most farmers experienced losses in the conflict.

Table 5: Frequency of occurrence of conflicts

Frequency of conflicts	Frequency	Percentage
In the last three (3) months	30	17.0
In the last six (6) months	56	31.8
In the last nine (9) months	29	16.5
In the last twelve (12) months	16	9.1
Over twelve (12) months ago	45	25.6

Source field study 2018

Table 5 displayed the frequency of occurrence of conflicts as reported by the respondents, 31.8% reported that the conflict happened in the last 6 months, 25.6% reported it happened last well over 12 months, 17% reported it was in the last three months, 16.5% reported it took place in the last 9months, while just

9.1% reported it occurred in the last 12 months. The implication is that the conflict is still incessant as about 74.4% reported its occurrence within a year. This is in agreement with a statement that the frequency of these communal conflicts have become alarming (Leadership Newspaper, May 17, 2011).

Table 6: The Impact of the Conflicts on the Psychology of the Agroforestry Farmers

Psychological Conflict	Effects of	All of the time	Most of the time	Some of the time	A little of the time	None of the time	Mean	Rank
Afraid awful things might happen		36 (20.1)	64 (35.6)	62 (34.4)	14 (7.8)	3 (1.7)	3.22	2 ND
Being nervous to go to work		12 (6.7)	47 (25.8)	94 (52.8)	21 (11.8)	5 (2.8)	3.05	4 TH
Depressed about the work environment		10 (5.6)	33 (18.3)	97 (53.6)	36 (20.1)	4 (2.2)	3.29	1 ST
Depressed about your social relation with strangers?		28 (15.7)	44 (24.2)	72 (39.9)	26 (14.6)	10 (5.6)	2.83	7 TH
Feel hopeless about the future endeavour		7 (3.9)	36 (20.2)	71 (39.9)	52 (28.1)	14 (7.9)	2.64	12 TH
Feel sad to the point that nothing is able to cheer you up		4 (2.2)	27 (15.1)	69 (38.5)	58 (31.8)	22 (12.3)	2.98	5 TH
Do you feel you have lost everything you have		10 (5.6)	39 (21.8)	86 (47.5)	28 (15.6)	17 (9.5)	3.19	3 RD
Get irritated or annoyed		15 (8.5)	50 (28.2)	76 (42.9)	28 (15.3)	9 (5.1)	2.88	6 TH
Feel restless going to work		4 (2.2)	41 (22.9)	79 (43.6)	42 (23.5)	14 (7.8)	2.63	13 TH
See going to work as a waste of time and effort		7 (3.4)	34 (19.0)	73 (40.8)	43 (24.0)	23 (12.8)	2.76	8 TH
Experiencing sleeplessness more often than before		6 (3.4)	34 (19.0)	73 (40.8)	43 (24.0)	23 (12.8)	2.77	9 TH
Get worried more often than before		5 (2.8)	29 (16.2)	79 (44.1)	51 (27.9)	16 (8.9)	2.74	10 TH
Has there being an increase in your stress level?		4 (2.2)	40 (22.3)	68 (37.4)	42 (23.5)	26 (14.5)	2.69	11 TH

Source: Analysis, 2019

According to table 6 which presented the impact of the conflicts on the psychology of Agroforestry farmers, being depressed about the work environment ranked 1st (X=3.29), fear that awful things might happen ranked 2nd (X=3.22), feelings of having lost everything one has ranked 3rd (X=3.19), being nervous to go to work ranked 4th (X=3.05). The statement of feeling bad to the point that nothing is able to cheer you up ranked 5th (2.98), getting irritated or annoyed ranked 6th (X=2.88), depressed about social relation with strangers ranked 7th (X=2.83), see going to work as a waste of time and effort ranked 8th (X=2.76), experiencing sleeplessness more often than before ranked 9th (X=2.77), getting worried more often than before ranked 10th (X=2.74). Respondents response to the question 'has there being

an increase in stress level ranked 11th (2.69), feeling hopeless about the future endeavour ranked 12th (X=2.64), while feeling restless going to work ranked 13th (X=2.65).

In summary, only the means of the statements above the grand mean (2.90), which are statements 3, 1, 7, 2 and 6 accounted for the impact of the conflicts on the psychology of agroforestry farmers. The implication is that feelings of depression is the most felt impact of the conflicts on the psychology of agroforestry farmers, followed by fear of danger, hopelessness, nervousness and sadness. All these psychological effects are indicators of depression (National Collaborating Centre for Mental Health, 2010).

HYPOTHESES TESTING

Table 7: Correlation analysis showing relationship between Demographic variables and the Impact of the Conflicts on the psychology of Agroforestry farmers

Demographic Variables	Pearson's r	p- value	Decision	N
Age	0.341**	0.000	Significant	180
Sex	0.071	0.341	Not Significant	180
Education status	0.200	0.008	Significant	180
Marital status	0.041	0.579	Not Significant	180
Occupation	0.086	0.249	Not Significant	180
Religion	0.050	0.499	Not Significant	180
Household Size	0.151	0.042	Significant	180

Source: Analysis, 2019; * Correlation is significant at the 0.05 level ** Correlation is significant at the 0.01 level. From the result of table 7, on the relationship between demographic variables and the impact of the conflicts on the psychology of agroforestry farmers, just three variables were significant age ($r=0.341$; $p=0.000$) at 0.01, Educational status ($r=0.200$; $p=0.008$) at 0.05 and Household size ($r= 0.151$; 0.042) at 0.05 level of probability. The implication is that only age, educational status and household size have significant relationship

with the impact of the conflicts on the psychology of agroforestry farmers. However, age has the highest relationship followed by educational status and lastly household size of agroforestry farmers. This study is in support of the study conducted by Bonanno, Galea, Bucciarelli and Vlah (2016) on the relationship between demographic features and the impact of the conflicts on the psychology of agroforestry farmers, which revealed that age has a relationship with psychological effect of conflict.

Table 8: Results of Correlation analysis for Test of Relationship between the Frequency of Conflict and Farmers' agricultural Loss

Variable Description	Coefficient Correlation (r)	p- value	Decision
Frequency of conflicts and Farmers' agricultural loss	0.183*	0.025	Significant

Source: Analysis, 2019; * Correlation is significant at the 0.05 level

Table 8 revealed the result of the analysis for the test of relationship between the frequency of conflict and farmers' loss on farm. The relationship was found to be significant at 0,05, the coefficient of correlation (R) is 0,183, p-value is 0,025. The implication is that the

frequency of conflict is related to their loss on farm. The study is in tandem with the findings of Okello et al., 2014 which proved that intensification of pastoralist-farmer's conflict contributes to dwindling natural resources and land availability

Table 9: Correlation analysis of relationship between the Impact of conflict on Agroforestry Farmers' Psychology and Agroforestry Farmers' agricultural loss

Variable Description	Coefficient Correlation (r)	P- value	Decision
Psychological Effect of conflict and Agroforestry Farmers' agricultural loss	0.135*	0.034	Significant

Source: Analysis, 2019; *Correlation is significant at the 0.05 level

According to table 9 which presented the result of the correlation analysis of relationship between the impact of conflict on agroforestry farmers' psychology and agroforestry farmers' agricultural loss, there was found a significant relationship between the two variables ($r=0.135$, $p=0.034$) at 0,05 level of significance. The implication is that the level of agroforestry farmers' agricultural is related to the level of the impact of the conflict on psychology of the agroforestry farmers as a result of the conflict. This result is in line with the empirical research of Ortega, Johnson, Beeson and Craft, 1994 found out that increased depression rate in farmers was basically associated with worsening of the farm economy as a result of conflict. The result implies that none of the other psychological effects felt by the farmers is forceful enough to affect their loss on farm.

CONCLUSION

In considering the effect of the pastoralist-farmers conflict on the agricultural loss of agroforestry farmers in Northcentral, Nigeria, the causes and the frequency of the conflicts were established. It was also clear that there were negative psychological impacts on the agroforestry farmers. There was established relationship between some demographic variables and the impact of the conflicts on the psychology of farmers, between frequency of conflict and agroforestry farmers' agricultural loss and also between the impact of the conflicts on the psychology of farmers and agroforestry farmers' loss.

RECOMMENDATIONS

The need to alleviate this effect necessitates our adoption of the following recommendations for the resolution of the land conflict of interest between the pastoralists and agroforestry farmers in North central, Nigeria and possibly for other regions of the nation at large.

Amicable arrangement should be devised between both parties through seasonal meetings for conflict resolution. Traditional rulers and community leaders need to be involved to serve as mediators between both and the creation of reserve areas for pastoral activities in the study area.

Increased interaction between the traditional leaders of the farming community and pastoralist to reduce this menace.

Psychologists must be employed to offer therapies to agroforestry farmers to relieve them of their depression in order to enhance their productivity.

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