

*Original Research Article***Climate-induced conflicts and livelihoods of farming households in Nigeria: lessons from farmers-herdsmen conflict-ridden communities in Benue State**Mnguashima Valentina **Soomiyol**¹, Olushola **Fadairo**²¹Department of Agricultural Extension and Communication, Federal University of Agriculture, Makurdi, Benue State, Nigeria²Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria**Correspondence to:****M.V. Soomiyol**, Department of Agricultural Extension and communication, University of Agriculture, Markurdi, Nigeria, e-mail: vsoomiyol@gmail.com**Abstract**

Helping conflict-affected persons requires an understanding of conflict impacts on their livelihoods. Hence, effects of farmers-herdsmen land-use conflict on livelihoods of farming households in Benue State were investigated. Data were collected from 110 farming households in Guma and Logo Local Government Areas (LGA) using interview schedule and focus group discussion. Most (56.4%) respondents were male, aged 51.6 ± 1.6 years, cultivated 9.14 ± 5.75 acres of farm size and had been involved in farming for 27.7 ± 14.16 years. The majority (>90%) experienced high degree of exposure to conflict incidences such as destruction of properties, homelessness and poor access to market. The respondents indicated a high effect of land-use conflict on farming households' livelihoods (81.8%) and land availability/use (>50%) following conflict regime induced by climate change. All respondents perceived the anti-open grazing prohibition law as a right step to reducing conflict occurrence. There was no significant difference in the effects of farmers-herdsmen land-use conflict on livelihood of farming households in Guma and Logo LGA ($t = 0.051$). Farming households were highly vulnerable to the effects of farmers-herders conflict and are supportive of the current local authority's prohibition of open grazing. A concerted effort involving religious institutions, government and non-governmental organisations including persuasion of herders to consider other options of livestock production such as ranching or settlement scheme would add impetus to the on-going efforts to resolve the conflict.

Keywords: land-use conflict; herdsmen; crop farmers; livelihood; farming households; climate-induced conflicts.**INTRODUCTION**

Many agrarian countries in Africa are experiencing population growth which is accompanied with increasing demand for space, resource use and arable crop land which also have alternative and competitive use (Vanclay, 2003). There is continuous struggle over the use of resources such as land and water bodies by different parties leading to continuous clashes and crisis that give rise to land-use conflict. This situation has been exacerbated in the recent years due to climate change effects which are manifested in the drying up of rivers and other water bodies, loss of soil nutrient due to erosion, crop failures amongst others (Raleigh, 2010). Conflict over resource-use is not uncommon and perhaps not unnatural as conflict *per se* is not bad but perhaps a necessity in evolution, change and development of human organization (Hendershot, 1995). However, when a conflict is seen to degenerate to violence, destructive clashes, decline in productivity

and an overly downhill progress in economic growth follow and they become not only unhealthy, villainous but counter-productive and progress-threatening in any society (Moore, 2005). A general decline in per capita food production in Sub-Sahara Africa was reported in the study of Nyong and Fiki (2005) as a result of competitive-driven conflicts between arable crop farmers and herdsmen over land and resource use in which Nigeria has been greatly affected due to common occurrences in many parts of the country. The common conflict among rural land-users includes conflict amongst settled farmers, between crop farmers and herdsmen, fishermen and crop farmers etc (Gefu and Kolawole, 2002). However, the most frequent in Northern Nigeria is land-use conflict between crop farmers and nomadic herdsmen (Audu, 2013).

The nomadic herdsmen are mainly the Fulani people in Nigeria who have their settlement located in the northern part of the country. The Fulani people

known to be territorial in nature also speak the Fula language. A significant number of them are nomads, herding cattle, goats and sheep across the vast dry grass lands of their environment, keeping isolate from the local communities, making them the world's largest pastoral nomadic group (Eyekpimi, 2016). Nigeria as a nation is under a severe internal socio-economic and security threat arising from the Fulani herdsman and farmers' clash, armed militia and banditry, ethnic and religious conflicts, insurgency, armed robbery, widespread poverty, corruption, economic sabotage and environmental degradation (Osaghae and Suberu, 2005).

Threats arising from these insecurity drivers have special economic, political and environmental dimensions and each of these dimensions has greatly affected the nation's stability, food security, peace and welfare (Thomson and Kanaan, 2004; Cliffe, 1999). Violent conflict between nomadic herdsman from Northern Nigeria and sedentary agrarian communities in the central and southern zones have been singled out amongst others as having a huge socio-economic impact on the people of the entire nation as well as its potential to hamper future development if efforts are not quickly channelled to provide a lasting solution to the menace (Abbass, 2012). Undoubtedly, farmers-herdsman conflicts in Nigeria have escalated in recent years and is spreading southward, threatening the country's security and stability and becoming as potentially dangerous as the Boko Haram insurgency in the northeast, yet, responses to the crisis at both federal and state levels have been ineffective to curb the situation (Odoh and Chilaka, 2012).

Propelled by desertification occasioned by climate change, insecurity and the loss of grazing land to expanding settlements, the southwards migration of Nigeria's herders is causing violent competition over land with local farmers. Familiar problems relating to land and water use, obstruction of traditional migration routes and their conversion into settlements as a result of population growth, livestock theft and crop damage tend to trigger these disputes.

Drought and desertification has degraded pastures, dried up many natural water sources in Nigeria's far-northern belt and forced large numbers of herders to migrate south in search of grassland and water for their herds which is continually causing an adverse effect on agricultural productivity and sustainability of the north central farmers in recent times. Also, insecurity in many northern states i.e. Boko-Haram insurgency in the north east, less-well-reported rural banditry and cattle rustling in the northwest and north-central zones also prompts increasing number of herdsman to migrate south. Similarly, the growth of human settlements due to population growth, expansion of public infrastructure and acquisition of land by large-scale farmers and other

private commercial investors have deprived herders of grazing reserves designated by the post-independence government of the former northern region (Awogbade, 1987). As these land-use conflicts increase in frequency, intensity and geographical scope, so does their humanitarian and economic toll. The increasing availability of illicit firearms both locally made and smuggled in from neighbouring African countries worsens the bloodshed. Thousands have been forcefully displaced with properties, crops and livestock worth billions of naira destroyed at great cost to the local and state economy. In addition, there is the dimension of psychological effects on victims arising from shock and stress during crisis, the profound increase in labour and transport cost in post conflict communities and the resultant rise in poverty and food insecurity in affected communities and beyond.

Benue state in Nigeria represents one of the worst affected areas by land-use conflicts between farmers and herdsman (Gever and Essien, 2019; Ogebe et al. 2019). According to The Vanguard Newspaper (2019), the state has recorded over 30 incursions of herdsman across its rural communities of Agatu, Makurdi, Guma, Logo, Buruku, Tarka, Gwer-west and Otukpo. Herdsman incursion into Benue state dates back to 2012. The crisis got to a peak in early 2016 when militants herdsman stormed Agatu local government area, killing over 2000 persons in what many including the United Nations described as genocide (Abugu and Onuba, 2018). Similar trends keep reoccurring with the scores of death and injured persons on the rise. The most recent being the gruesome regime of attack following the enactment of the open grazing prohibition (anti-open grazing) law by the state government in 2017. Among the worst hit by the recent incursion were Guma and Logo communities where many farming households were displaced and lived in government-provided Internally Displaced Persons (IDP) camps for many months.

Benue state, regarded as the food basket of Nigeria plays significant roles in food crops (such as yam, cassava, sweet potatoes, fruits and vegetables) production, increasing food availability, creating employment opportunities in the form of farm labour and facilitating markets for agricultural products. Households livelihoods being intertwined with agriculture in Guma and Logo areas of Benue has been negatively impacted due to the recent regimes of incursion from conflict. If the crisis situation continues unresolved, it may lead to a more severe implication on the people's livelihoods and national food security at large. Helping people affected by the crisis situation however requires that appropriate information on the dimension and degrees of effect across farming households, including their current adaptation (coping strategies) be understood for better implementation of

resilient interventions to curb land-use conflict. It is against this background that this study was carried out.

Objective of the study

The general objective of the study is to understand how climate-induced conflicts between farmers and herdsmen are affecting land use and livelihoods of farming households in Benue state. The specific objectives include to:

1. assess the conflict experiences or degree of exposure to conflicts among the respondents,
2. determine the effects of the recurring incidences of farmers-herdsmen conflict on farmers livelihood in the study area,
3. identify how the farmers are responding to shock and stress occasioned by the farmers-herdsmen conflict incidents,
4. determine the farmers' perception of the recently enacted open-grazing prohibition law by the state government before and after the current regime of attacks; and
5. ascertain the ways in which the farmers-herdsmen conflicts have affected the availability and use of land for agricultural purposes in the study area.

Hypothesis of the study

There is no significant difference in the effects of farmers-herdsmen land-use conflict on the livelihoods of farming households between the two selected local government areas in the study area.

MATERIALS AND METHODS

The study was conducted in Benue state Nigeria which lies within the lower Benue River through the middle belt region now referred to as North central Nigeria. A multistage sampling procedure was used for the study. In the first stage, six out of the twenty-three Local Government Areas (LGA) in Benue state were purposively selected due to their proneness to herdsmen attack. Two of these LGAs (Guma and Logo) were later sampled using simple random sampling technique. Snowball and simple random sampling techniques were afterwards used to generate a list of farming households and household heads affected by the Fulani herdsmen crisis, respectively. Thus, a sample size of 123 Tiv farming household heads were selected for the study. The Tiv people represent one of the ethnic minority groups in Nigeria but a predominant ethnic group in Benue state known for farming as a major source of livelihood (Punch Newspaper, 2018). Only 110 interview schedules of respondents appropriately completed and retrieved were processed and reported in this study.

The data collection instrument used was the interview schedule. Focus group discussions were also held in some communities. The first section

of the interview schedule elicited information on the personal characteristics of the respondents while the second part contained statements on measures of respondents conflict experiences or degree of exposure to conflicts, effects of the recurring incidences of farmers-herdsmen conflict on farmer's livelihoods, how farmers were responding to shock and stress occasioned by the conflict regime, farmers' perception of the anti-open-grazing law by the state government before and after the current regime of attacks and lastly, ways in which the farmers-herdsmen conflict has affected the availability and use of land for agricultural purposes in the study area. Conflict experiences of the respondents were classified as direct or indirect exposure. Respondents were provided with a list of statements to which they indicated their most used coping strategy during conflict using a binary response scale of Yes (1) and No (0). Respondents were asked how the conflict affected their livelihoods in general. Farmer's livelihood was divided into assets, abilities and capabilities and statements on a binary response scale of Yes (1) and No (0) were used. The mean scores obtained were further used to categorise effects as high or low.

In order to ascertain the ways in which land-use conflict had affected land availability and its use among the farmers, respondents were provided with a list of items covering a wide range of possible effects as generated from literature. Respondents indicated Yes or No to the items. Respondents' perception of the recently enacted anti-open grazing law by the government before and after the current regime of attacks were measured using a list of statements on a 5-point Likert-type scale of strongly agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1). Coping strategies of respondents were classified into three, namely: problem oriented (POCS), emotional oriented (EOCS), social support seeking coping strategies (SSCS). Statements on possible coping strategies were adapted from existing literature and respondents reacted to them as Yes or No. Data obtained from the survey were analysed and summarised using descriptive statistics (frequency counts, percentage and mean) and inferential statistics (t-test) to test the hypothesis at 5% level of significance. The independent sample t-test was considered relevant in this study since each of the two samples (farming household heads from Logo and Guma areas) involved has no bearing on each other. Therefore, in order to test the difference between these two samples with respect to their livelihood impact, the independent sample t-test was considered most appropriate.

Table 1. Respondents background characteristics

Variables	Frequency	Percentage	Mean ± SD
Sex			
Male	62	56.4	
Female	48	43.6	
Age (years)			
<35	24	21.8	51.6 ± 1.6
36–50	30	27.3	
51–65	38	34.5	
>65	18	16.4	
Level of education			
No formal education	84	76.4	
Primary	11	10.0	
Secondary	11	10.0	
Tertiary	4	3.6	
Farm size (acres)			
≤10	84	76.4	9.14 ± 5.75
11-21	22	20	
>21	4	3.6	
Farming experience (years)			
<20	51	46.2	27.7 ± 14.16
21–50	53	48.1	
>50	6	5.0	

Table 2. Distribution of respondents based on their conflict experiences

Conflict experience	F (%)
Direct exposure	
Suffered physical harm or injuries	38 (34.5)
Household suffered loss of lives/property	93 (84.5)
Properties destroyed or vandalised	108 (98.2)
Crisis led to homeless	108 (98.2)
Indirect exposure	
Occupation or source of income affected	109 (99.1)
Prices of goods and services increased	108 (98.2)
Access to the market got hindered	110 (100)

Percentages in parentheses

RESULTS AND DISCUSSION

Background characteristics of the respondents

Table 1 on the respondents’ personal characteristics shows that more than half (56.4%) of the household heads in the study area were male. This confirms several studies on farming population in Nigeria (Adebisi Adelani et al., 2011) which shows predominance of male headed households. The almost half proportion (43.6%) of the female headed households however suggests that the female folks are likewise playing major leadership roles at the family front in many farming households in the study area. Incidences of female headed households are not so common in most traditional communities due to cultural restrictions,

but where an adult male is absent either due to death, migration or other circumstances, women are left with no alternative than to fill the gap for household maintenance and stability. The average age of farming household heads in the study area was 51.6 ± 1.6 years. This suggests the dominance of the young adults in decision relating to farming activities in the study area. The relatively young age of the farming household heads in the communities gives an indication of the capability available in the area for farm operations. This is plausibly the reason for the comparatively high production outputs from agriculture in Benue state when compared with many states in Nigeria where the farmers are mostly aged (Odoemenem and Otanwa, 2011). The respondents’ level of education shows that

Table 3a. Distribution of respondents based on effects of farmers-herdsmen land-use conflict on their livelihood

Effect on farmer's livelihood	F (%)
Abilities	
Number of active family labour	109 (99.1)
Average labour per day/per week	107 (97.3)
Level of training/skills	103 (93.6)
Assets	
Conflict affected assets in the village	110 (100)
Conflict affected available markets in the village	110 (100)
Profits from enterprise before and after	109 (99.1)
Personal savings and earnings from investment	107 (97.3)
Recurring conflict affected landlords and house owners	110 (100)
Number of family members/hired labour	109 (99.1)
Membership in the social group	105 (95.5)
Loss of production tools and machines	105 (95.5)
Activities	
Recurring conflict affect income generating activities (on-farm)	109 (99.1)
Off-farm activities have slowed down	109 (99.1)
Non -farm activities have declined	105 (95.5)

*Percentages in parentheses

most farming household heads (76.4%) in the study area had no formal education. The generally low level of formal education among the respondents may have implications on their ability to cope with shock and stress arising from conflicts with the herders. Also, the respondents cultivated an average farm size of 9.14 ± 5.75 acres and had been involved in farming for an average of 27.7 ± 14.16 years. This finding indicates that most of the farmers operated small to medium scale farming and are well experienced in the operation. (Bond, 1983) noted that bulk of the food produced and consumed in most parts of sub-Sahara Africa comes from peasant farmers. This shows the relevance of these farmers to national development, hence the need to ensure solution to the conflict issue which currently confronts their operations.

Respondents' conflict experience

Table 2 shows that respondents were exposed to both direct and indirect consequences of conflict in the study area. The Table suggests that direct exposure to conflict such as destruction of properties (98.2%), homelessness (98.2%) and loss of property/lives (84.5%) were the most experienced by the farmers. Seddon and Hussein (2002) reiterated that the loss of a household member through death may be a critical economic loss particularly, if that person was a major contributor to the household's livelihood. The availability and cost of labour is also affected because many rural households depend on cheap family labour. Only 34.5% of the respondents indicated experiences of direct physical harm or injuries. On the other hand, indirect exposure suffered by the farming households

as a result of conflict in the area included poor access to market (100%), hike in prices of goods and services (98.2%) and negative influence on their occupation or source of income, which is agriculture (99.1%). This gives an indication of the toll on the economic, social and physical wellbeing of the respondents due to farmer-herdsmen conflict. By implication, the conflict generally affected most aspects of the respondents lives and livelihoods. Avav (2002) posited that land-use disputes have a long-term significant negative effect on the future of rural households which includes famine since most farmers invest their last resources on the farms which they usually abandon in the face of conflict. There is also an increase in the level of illiteracy among respondents since most often victims who drop out of school cannot afford tuition fee in areas where they flee to for safety. Furthermore, availability and access to social amenities like education, workshops, trainings, cooperatives, and financial institutions which are pivotal to sustainable livelihood are hampered due to insecurity of the environment.

Effects of farmers-herdsmen land-use conflict on the livelihoods of the respondents

Table 3a on effects of farmers-herdsmen land-use conflict on the livelihood of the respondents shows that the conflict affected every aspect of the farmers livelihood, varying from items on livelihood abilities such as reduced number of active family labour (99.1%) and average labour per day/week (97.3%) to access to training/skills (93.6%). The crisis also had an effect on livelihood assets of the farmers as above 95% of the respondents indicated in the affirmative

Table 3b. Level of effects of land-use conflicts on respondents' livelihoods

Level of effect on livelihood	Scores	F	%	Mean
Low	24-27	20	18.2	27.75 ± 0.879
High	28-33	90	81.8	

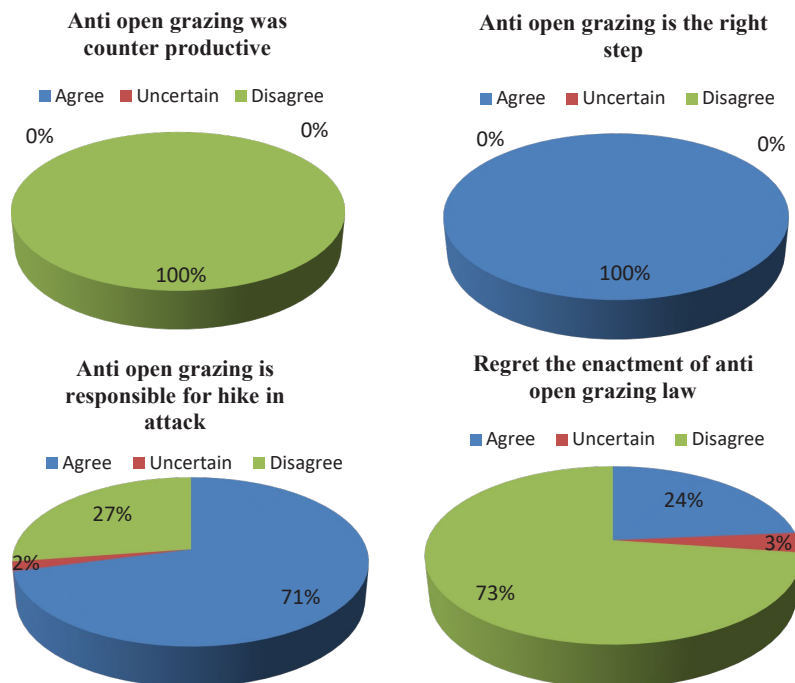


Figure 1. Respondents' perception of the state's anti-open grazing law (N = 110)

for effects such as reduced access to markets, reduced earnings and savings and loss of production tools and machines amongst others. The respondent's livelihood activities such as on-farm (99.1%), off-farm (99.1%) and non-farm (95.5%) activities were also indicated to have suffered a decline. This entails losses along the production process, ranging from production, harvesting, preservation and marketing. The reason for this is not far-fetched as herder-farmers' conflict creates an atmosphere of uncertainty, insecurity, breakdown of economic activities and migration of people to safer places. Farmers compromise many production activities resulting in low yield, poor economic return and loss of planting materials. Similarly, agricultural labour usually supplied by rural youths/households is seriously affected due to loss of life and displacement. Most youths migrate to more peaceful locations, thereby creating labour scarcity in the conflict-ridden zones. This negatively impacts on human capital formation as well as agricultural productivity and consequently, farm decision and livelihood activities (Abbass, 2012).

Conflict significantly affected both physical and financial livelihood assets of farmers. Destruction of crop in farms could cause poor harvest, insufficient food supply, loss of productive resource culminating

to poor income, outbreak of hunger, nutrition-related diseases and poverty. This could influence farmers to resort to unsustainable livelihood options as well as increased dependency on neighbours and relations for survival leading to a vicious cycle of poverty among households as shown in the findings of this study. On another hand, when crops are destroyed and the farming environments become unsafe so that farmers abandon crops in the farms; it leads to loss of biodiversity and poor access to human and financial assets. This is in congruence with Ofem and Inyang (2014), who reported that burning of range land, pollution of water source, disrespect for traditional leaders, and destruction of farmland were the major causes of conflict between herders and farmers. Often times in the process of burning, fire spreads into adjoining farms destroying farms, stored food produce in the bans and farm implements (Odoh and Chilaka, 2012).

Also, it adversely affects soil biomass, conservation and sustainability of the environment. Over-stay in a location by herdsmen could result in destruction of farm land, pilfering from farms and burning of rangeland. As herders stay long in an area, the hoof of animal irreversibly hardens the soil upon which they

graze and makes cultivation extremely difficult in most communities.

Table 3b shows the summary of the effects of the crisis on farmer's livelihoods in the study area. Effects of the crisis on the farmer's livelihood were adjudged to be very high by majority (81.8%) of the farmers. This result implies that the respondents' means of livelihood are greatly affected by the recurrence of farmers-herders crisis. In line with this finding, one of the respondents during focus group discussion remarked as follows:

We have lost our homes, lost our properties, lost our farms as well as our pride as we have become refugees in our own mother land. Above all, we have lost our means of livelihood which is our farms. We feed from the farms, send our children to school from the farm, treat our children from the income got from the farm and most importantly, the coat of arm of Benue state is a basket filled with crops not cattle, sheep and goat in it. Let the herdsmen return to their states. There is no symbiotic relationship or mutual benefits again between "Agua" and us again. We have refused consumption of beef since November 2017 and we are still healthy and living, meaning we can do without the beef.

Another respondent, while bearing his mind on the effects of the conflict on his household livelihoods stated that:

Feeding in the Internally Displaced Persons (IDP) camps has been an issue as majority of us have between 15–20 household size making feeding a difficult issue in the entire camp. Food items donated by the government are hardly enough to go around. But, if we are able to return to our homes and cultivate, that will be the greatest gift ever handed over to us.

These foregoing corroborates the position that economic losses, social disturbance and the disruptions to food supply and access associated with conflict is disastrous, especially in low-income countries where there are no effective social safety nets (Raleigh, 2010). In similar vein, Ofuoke and Isife (2009) reveal that farmers lose part or a whole of their farms and assets during conflict. Findings in this study also corroborate Olabode and Ajibade (2010) observation of a wide spread displacement of farmers from their farms following destruction of farms by the invading herdsmen and subsequently, a fall in farm yields as farmers abandoned their more fertile farm lands for safety in the face of conflict. Natural resources including land are the major source of livelihood for rural communities, availability and accessibility to such resources enable farmers to maintain their wellbeing and livelihoods. Forced relocation and migration of farmers have resulted in scarcity and intensified competition over resources due to over-concentration of displaced persons in a particular area.

Perception of farmers towards the state enacted anti-open grazing law in Benue

Figure 1 on respondents' distribution based on their perception of the recently enacted anti-open

grazing law shows that all respondents disagreed that the anti-open grazing law was counter-productive. In similar vein, all the respondents perceived the law as the right step to curtail the farmers-herdsmen face-off. Also, a large proportion (73%) of the respondents disagreed that enactment of the law was regretted. While many debaters on the increasing spate of conflict in the study area have traced the upsurge to a revenge from the herdsmen following the passage of the open grazing prohibition law, it is interesting to observe that farmers that seemed to be at the receiving end of the crisis still remained resolute in their support for the law. This implies a total support from respondents to the state government with regard to the recently enacted anti-open grazing law that took effect in November, 2017 (Gever, 2018). Also, worthy of note is the fact that while 71% of respondents agreed to the plausibility of the law being responsible for the hike in spate of attack in recent times, 73% differed to regretting the enactment of the anti-open grazing law. In line with this, one of the respondents during focus group discussion stated that:

We support the state government's move with the bill but at the same time, it has loopholes as the government failed to re-strategise and provide adequate security to back-up the enactment of the law against reprisal attacks from the herdsmen. More so, even before the enactment of the anti-open grazing law, there has been recurring killing. So, regardless of the hike in killings, we are still in support of the law.

Effects of farmers-herdsmen land-use conflict on land availability and use by respondents

Figure 2 shows the effect of land-use conflict on land availability and use among the respondents. The findings showed that more than half (55%) of the respondents indicated that land is not available for use after attack as more often, herdsmen dominate land after attack (80%) and the fear of reoccurrence of attack prevent majority of the respondents from further use of the land (77%). However, some of the respondents agreed to the fact that land is still good enough for agricultural activities after attack (51%) but cannot be accessed as they (farmers) go into hiding for fear of their lives. This implies that there is a low level of cultivation in the study area in recent times as almost all the farming households in Logo and Guma areas are currently hosted in IDP camps. This has led to a general decline in food supply within the state. Hagher (2002) corroborates this finding that conflict during farming season generally has dire consequences on the livelihood of farming households as it affects farming activities thereby causing a mass reduction in agricultural output and farmer's income.

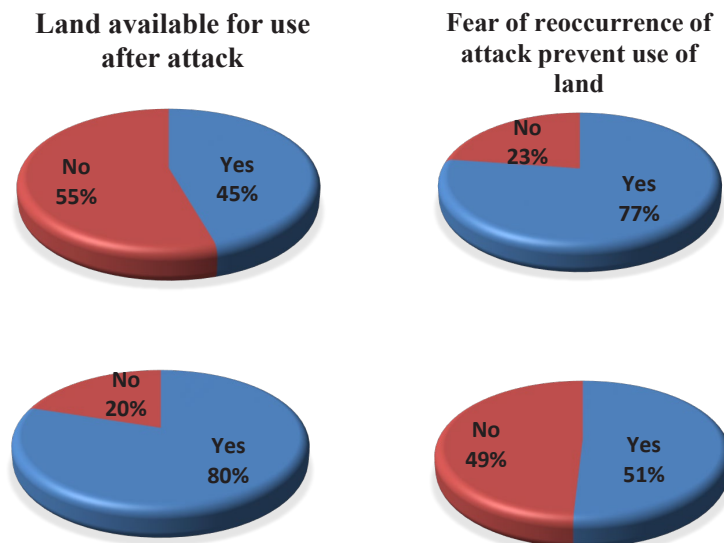


Figure 2. Respondents' perception of land-use conflict effects on land availability and use at post-conflict

Respondents coping strategy with farmers-herdsmen land use conflict

Table 4 summarises the results on respondents' coping strategies during conflict. It is imperative to understand respondents' coping strategies as this helps to know how best to tailor programs to assist them. Twenty-five coping strategies were identified and classified as Problem Oriented Coping Strategies (POCS), Emotion Oriented Coping Strategies (EOCS) and Social Support Seeking Coping Strategies (SSCS). The distribution on use of the strategies generally shows that respondents used combinations of strategies that cuts across the three classifications. However, more respondents used POCS than EOCS and SSCS, respectively. Specifically, strategies such as prayer (100%), use of experience (87.3%) and abandonment of farm (86.4%) were common among a higher proportion of the respondents. On the other hand, use of protective charms (3.6%), transfer of aggression (10.9%) and appeasing the other party (13.6%) were strategies not common among the respondents. The top most priority given to prayer as a means of coping with conflict among the respondents is not uncommon in most West African countries where religion plays critical roles in daily survival of most households (Ogunlela and Mukhtar, 2009). This is also similar to the assertion of Egbe et al. (2014) and Fadairo et al. (2019) that prayer play important roles as a mechanism for coping with climate change among farmers in Nigeria. This finding shows farmers as desiring peace and not crisis. Also, the least priority given to the option of appeasing the other party (herdsmen) involved in the conflict suggests that the chances of securing an amicable solution to the conflict between the parties is very poor if not impossible. It further implies that the farmers perceived themselves as being on the receiving end of

the conflict and the ones who needed to be appeased to by the herdsmen. This gives an insight into the gravity of the conflict level in the study area and lessons for the government and non-governmental organisations involved in finding solution to the issue on the enormity of the task ahead. Furthermore, it is important to state that a sizeable proportion of the farmers have also retorted to cultivating farms nearby their residences (75.5%) and most of the times sow lesser than what they have always done before (75.5%). The use of these strategies portends varying implication for agricultural production as well as the farmers. For instance, sowing less implies less agricultural production and supply of food within the state and in Nigeria at large, thus exacerbating the problem of food shortage and less income for the farmers. In addition, there were some farmers who had made up their minds for the worse (80.9%) situation as a way of coping. In line with this, one of the respondents during focus group discussion noted that:

If the crisis is not curbed, we may end up being slaves in our land while foreigners will be king and inherit our lands and homes. But we are prepared for the worse situation. We would rather die in the struggle and leave a legacy for our unborn children than give up our lands.

Difference between Guma and Logo local government areas in terms of effects of farmers-herdsmen land-use conflict on household livelihoods

Table 5 shows that there is no significant difference ($t = 0.051, p = 0.959$) in the effects of land-use conflict on the livelihoods of farming households in Logo and Guma local government areas of Benue state. It can be deduced that farming households within the two local government areas had similar experiences and losses. The reason for this is not far-fetched as the two

Table 4. Respondents' coping strategies during conflict period

Coping strategies	F (%)
Emotion oriented	
Accepting conflict as fate	47 (42.7)
Praying for peace	110 (100)
Transfer of aggression	12 (10.9)
Going into hiding	60 (54.5)
Appeasing the other party	15 (13.6)
Use of drugs	25 (22.7)
Problem oriented	
Prepare for the worse	89 (80.9)
Stop going to farm	95 (86.4)
Tightening farm security	61 (55.5)
Sowing less	83 (75.5)
Practice group farming	94 (85.5)
Borrowing money	52 (47.3)
Use charms for protection	4 (3.6)
Shifting to another job	15 (13.6)
Sell-off farms	32 (29.1)
Buying of foodstuff	85 (77.3)
Use of experience	96 (87.3)
Work harder	93 (84.5)
Not going to long distance farms	83 (75.5)
Social support seeking oriented	
Seek help from relatives	38 (34.5)
Seek help from union and association	39 (35.5)
Seek help from local leaders	42 (38.2)
Joining local cooperatives	49 (44.5)
Resort to litigation	36 (32.7)
Seek help from non-governmental organisations	36 (32.7)

Table 5. Difference in the effects of conflict on the livelihoods of farming households between Guma and Logo local government areas

Local government area	N	Mean	SD	t	df	p-value
Guma	58	27.75	1.08110	0.051	108	0.959
Logo	52	27.75	0.58995			

communities share boundaries with river Benue. In addition, Guma is bounded with Nasarawa state while Logo shares boundaries with Taraba and Nasarawa states along herders grazing routes. This therefore probably makes the area a centre of attraction for the herders who are constantly in search of forage and water for their cattle.

CONCLUSION AND RECOMMENDATIONS

The study concludes that farmers-herders land-use conflict has taken a serious toll on farming household livelihoods in Benue state. Respondents are exposed to both direct and indirect consequences of conflict in the study area and consequently, they are now abandoning their distant farms (main farmlands) for

the small-size alternatives closer to their residences. The conflict aftermath includes losses along production chain, ranging from production, harvesting, preservation and marketing. Also, despite the perceived increase in the rate of incursion of herders' attack on farmers following the anti-open grazing law enactment in the state, the farmers remained resolute in their support for the law. Farmers perceived themselves as being on the receiving end of the conflict and the ones who needed to be appeased to by the herdsman. A concerted effort involving religious institutions, government and non-governmental organisations including persuasion of herders to consider other options of livestock production such as ranching or settlement scheme would add impetus to the on-going efforts to resolve the conflict.

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