

**Section: Agriculture****Impacts of Fulani Herdsmen-farmers' Conflicts on Food Production in Gujba and Tarmuwa Local Government Areas of Yobe State, Nigeria.****M. Babagana<sup>1</sup>, Madaki M. J.<sup>2</sup>, G. Y. Ibrahim mcpn<sup>3</sup>, A.Adamu<sup>4</sup>, A.A. Gujja<sup>5</sup>**

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**Corresponding Author: M. Babagana****Received: 2019-01-14; Accepted 2019-02-08, Publish Online 2019-02-11****Abstract:**

The research which studied impacts of Fulani herdsmen- farmers' conflicts on crop production in Gujba and Tarmuwa Local Government Areas of Yobe state, Nigeria was conducted between the months of January- February, 2019. Descriptive survey design involving mixed methods was used. Self-made Closed ended questionnaire and Structured Interview Guide were the data collection instruments used. Purposive and Systematic Random sampling techniques were used to select the 397 respondents who participated in the study. The sample size comprised of Fulani herdsmen, farmers, village and ward heads as well as some officials of the Department of Agriculture of the two L.G.A. Data collected was analysed in SPSS Version 20 using Descriptive Statistics and Chi square. Findings revealed that the majority of the respondents including both herdsmen and farmers were subsistence farmers though few also engage in commercial farming. Regarding the causes of the conflicts, lack of grazing fields, indiscriminate bush burning, crop destruction, Boko Haram insurgency etc. were responsible for the occurrence of the clashes. No significant difference was found in the perceptions of the herdsmen and farmers on causes of the conflicts. Impacts of Fulani herdsmen-farmers' conflicts as revealed by the study included loss of crops, reduced productivity, loss of lives, increase in prices of agricultural products, increased poverty etc. Based on the findings made, it was concluded that, if the causes of herdsmen-farmers' conflicts were not properly addressed; its impacts will continue to escalate with devastating consequences. Besides, the menace of food insecurity and Boko Haram insurgency which have bedeviled the areas for many years can also be worsened by the impacts of such conflicts especially that poverty, food insecurity and increased tension were also cited by many scholars as some of the factors fuelling Boko Haram insurgency in the areas studied. Thus, it was recommended that, in order to bring an end to the conflicts between herdsmen and farmers, governments at all levels should work out modalities on how to stop crop destruction by establishing cattle tracks and grazing zones where crop farming will be severely restricted and prevent indiscriminate bush burning. Sensitization programmes on how to maintain cordial relationships between farming communities and herdsmen should be organized by the government and other stakeholders while the issue of Boko Haram insurgency which led to decrease in farmers' productivity should also be well addressed by the government

and bring an end to it. Besides, the current land tenure system should be relaxed such that land acquisition becomes easier so that farm owners can expand their farms and produce more food crops and herdsmen can have access to more grazing fields.

**Key words:** Impacts, Fulani-herdsmen, Farmers, Crop production, Gujba, Tarmuwa, Yobe, Nigeria.

## Introduction:

It is probably inarguable that resource ownership and utilization have directly and indirectly defined the dimensions of most conflicts involving man since time immemorial. Of all resources, however, land has remained an overwhelming source of conflicts among various user groups as well as individuals at varying thresholds. In particular, conflicts between farmers and herdsmen in the use of agricultural land are becoming fiercer and increasingly widespread in Nigeria, largely due to 'intensification and extensification' of production activities that are necessitated by increasing human population (Gefu and Kolawole 2005; Fasona and Omojola 2005 cited in Adisa and Adekunle, 2010).

The vital role of agriculture in the development of conflicts between pastoralists and farmers have been noted as an example of Low Intensity Conflict emanating from environmental degradation, resource scarcity, demographic and climate change (Shettima and Tar, 2008). Within the West African sub-region, a large section of the population depend on the production of livestock and crops production for their livelihood and survival, more than 12 million people in West Africa depend on the production of livestock and crop production as their primary means of support whereas over 70 million people in the same region also depend on livestock and crop production related enterprises for their livelihood, farmers and pastoralists interdepend on each other for survival. The Fulani own over ninety percent of the livestock population which accounts for one-third of agricultural GDP and 3.2% of the entire GDP in Nigeria (Fabiya & Otunuga, 2016 cited in Ajibefun, 2018). However, the Fulani herders in most cases settled in fertile areas to rear their cattle and when the migration continued to be dictated by economic and socio-political factors, increased trends of conflicts between the herders

and their host communities (farmers) escalated. Pastoralists move their herds to graze on farmlands belonging to crop farmers and also acquire the food stuffs produced by crop farmers. Farmers on the other hand require from pastoralists protein and dairy products. The survival of pastoralists is dependent upon their interaction with sedentary people. Thus both farmers and pastoralists depend on each other for water, fodder, land and other resources (Monod, 1975).

The resultant increase in competition for arable land has often times led to serious manifestation of hostilities and social friction among the two user-groups in many parts of Nigeria. The conflicts have not only heightened the level of insecurity, but have also demonstrated high potential to exacerbate the food crisis in Nigeria and other affected countries due to loss of farmer lives, animals, crops and valuable properties (Cotula *et al.*, 2004 cited in Adisa and Adekunle, 2010). The relationship existing between farmers and pastoralists therefore makes conflicts inevitable as competing interest arises over the use of natural resources. These conflicts are occasioned by the seasonal weather conditions which forces pastoralists to move from the semi-arid areas in search of pastures further south, which results in competition over access to available land for crop cultivation and grazing pastures for the cattle.

Farmer-herdsmen conflict has remained the most preponderant resource-use conflict in Nigeria (Ajuwon, 2004; Fasona and Omojola, 2005 cited in Rashid, 2012). The necessity to provide food of crop and animal origin, as well as raw materials for industry and export in order to meet evergrowing demands, has led to both "intensification and extensification" of land use (Nyong and Fiki, 2005

cited in Rashi, 2012). The competition between these two agricultural land user-groups, however, has often times turned into serious overt and covert manifestation of hostilities and social friction in many parts of Nigeria. The conflicts have demonstrated high potential to exacerbate the insecurity and food crisis particularly in rural communities where most of the conflicts are localized, with reverberating consequences nationwide.

For instance, the conflict in Darfur region of Sudan started as a resource based conflict between herdsmen and farmers before transforming into a full-blown war that has claimed over 200,000 lives and rendered over a million people homeless FEWS-NET (2005). In a newspaper study of conflicts/crises in Nigeria between 1991 and 2005, Fasona and Omojola (2005) found that farmers-herdsmen conflicts accounted for 35% of the major clashes reported by selected Nigerian newspapers. Another study of 27 communities in Central Nigeria showed that over 40% of the household surveyed had experienced agricultural land-related conflicts, with respondents recalling conflicts that were as far back as 1965 and as recent as 2005.

### **Background to the Study:**

Socioeconomic impacts of herdsmen and Farmers conflicts are problems of concern especially in Africa where competition over resources forms the basis of such conflicts as well as other related crises. For many years Nigeria has been seriously threatened by herdsmen and farmers clashes which have been exacerbated in recent years. It has therefore been considered to be a major potential threat affecting Nigerians mostly on the part of socio-economic activities of the country. The herdsmen and farmers crisis is posing a serious obstacle to a successful national economy. It has become a major threat to the national security and development of Nigeria due to the fact that its increased operation has caused diversion and removed government attention on some key areas of the economy, as huge amount of human and material resources are channeled into curbing the

menace. In the case of Nigeria, the frequent occurrence of herdsmen and farmers (Crop Producer) crisis has left adverse effects on food security and socio-economic development of the people. The murderous campaigns and vicious onslaughts on individuals and institutions provide highly unfavorable business environment for internal and foreign investment, which is a major factor in the achievement of sustainable development.

A study of constraints to cassava production in Kwara State by Vanthoof *et al.*, (2005), found that over 90% of interviewed farmers indicated that their greatest problem in cassava production is cattle rearers encroachment of their farms. On their own part too, the Fulani cattle herdsmen have also identified conflicts arising from land use as the "most important" problem they face in their occupation. Several other studies have documented increasing conflict-induced frustrations experienced by these two groups within and outside Nigeria. Similarly, Nyong and Fiki (2005) reported that losses from these conflicts are of far-reaching dimensions and implications on both sides, in a study carried out in Nigeria's Guinea savannah, within which is Kwara State reported that out of about 150 households interviewed, 22 reported loss of a whole farm of standing crops, 41 reported losses of livestock, while eight households from both sides reported loss of human lives. Other studies also indicated that stores, barns, residences and household items were destroyed in many of the violent clashes, serious health hazards are also introduced when cattle are reared to water bodies that serve rural communities. Similarly, the invasion of Tipto, Kisa, Samne, Bangi, Wurke and Gure communities in Lamurde local government area of Adamawa State by cattle rearers with guns left unconfirmed number of dead and injured persons with over 2,000 rendered homeless due to the destruction of villages (New Nigerian, February 1, 2010 cited in Bello, 2013). The political economy of land use in Nigeria is inherently biased against pastoral Fulani interest within the system of resource use.

The implications of all these may put question marks on the achievability of the 10 percent growth rate in the agricultural sector being proposed by the federal government of Nigeria. Neither would it be easy for the Nigeria to achieve 20 percent increase in area under actual cultivation nor grain yields from the present 0.99 to 2.5 metric tons per hectare being proposed in its State Economic Empowerment and Development Strategy (SEEDS) as released by the State Planning Commission (Egedu, 2005).

### **Statement of the Problem:**

Nigeria is seriously threatened by herdsmen and farmers crisis and therefore considered to be a major potential threat affecting Nigerians mostly on the part of socio-economic activities of the country. It also poses a serious obstacle to a successful national economy and has become a major threat to the national security and development of Nigeria due to the fact that its increased operation has caused diversion and removed government attention on some key areas of the economy, as huge amount of human and material resources are channeled towards curbing the menace. In the course of these conflicts, farmers have at certain times, taken up weapons to counter the attacks from the Fulani herdsmen, claiming to do so in self-defense.

Here in Yobe state, frequent occurrence of Fulani herdsmen and farmers clashes have become a common phenomenon especially in areas with considerable populations of the Fulani cattle rearers. Although farming activities is more prominent in Gujba LGA than in Tarmuwa because of its geography that favours agricultural activities more, clashes between herdsmen and farmers are common to both areas. In most instances, losses incurred from such conflicts tend to be enormous. In spite the killings recorded on both sides and other social problems associated with the conflicts, economic impacts such as reduced crop production, destruction of farms, killing of animals, destruction of stored crops etc. are also associated with these sorts of conflicts. Besides, both parties spend a lot of money in judicial processes sparked by the conflicts.

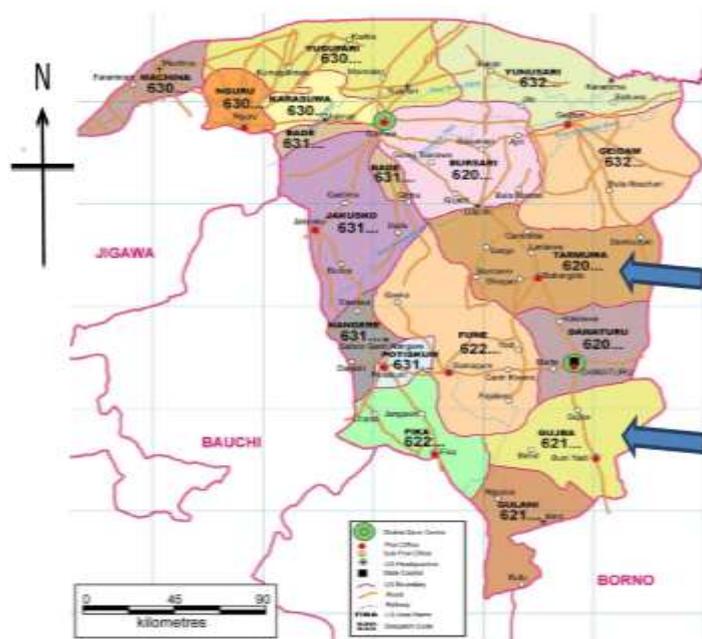
Despite efforts by governments at all levels aimed at curtailing this menace, clashes between herdsmen and farmers is still going on in different places in Yobe state and is becoming a matter of serious concern to the state government because of the serious socioeconomic consequences attributable to it. Besides, with the emergence of *Boko Haram* insurgency, Fulani herdsmen-farmers' conflicts is taking another dimension in the state especially as result of the similarities in the nature of attacks employed by the clashing factions which makes it very difficult for authorities to differentiate such clashes from *Boko Haram* attacks. Thus, it is against this background that this study was initiated with sole aim of assessing the impacts of Fulani herdsmen-farmers' conflicts on food production in the two LGAs that are homes to thousands of crop farmers and Fulani cattle rearers.

### **Study Area:**

Gujba is one of the 17 Local Government Areas in Yobe state with its capital at BuniYadi. It lies in the southwestern part of the state at 11<sup>o</sup>29'52''N 11<sup>o</sup>55'51s''E occupying an area of 3,239 Km<sup>2</sup> with a 456 meters elevation above the sea level and a population of 130,088 at the 2006 census. It lies mainly in the dry sahel savanah belt where conditions are hot and dry for most of the year. However, the area has a relatively thicker vegetation cover compared to many other parts of the state. The hottest months being March, April and May when temperatures range between 30<sup>o</sup> C – 42<sup>o</sup> C. Rainy season is usually short and lasts 120 days from June – September and annual rainfall range is normally 500m – 1000m.

Tarmuwa LGA with its headquarters at Babbangida covers an area of 4,594 km<sup>2</sup> and lies within 12<sup>o</sup>06'27''N 11<sup>o</sup> 45'14''E with a population of 177,204 at the 2006 census. The area has an average temperature of 34<sup>o</sup>C with long stretches of dry and sandy flat lands with sparse vegetation unlike Gujba LGA. The major vegetation type is the Sahel savannah. It consists of open thorny savannah with short trees and grasses. The trees are about 5 to 10 m high (YOSADP, 1992). The topography of

Tarmuwa is mainly flat; most of the region lies between 200 and 400 meters (660 and 1,310 ft) in elevation. Average wind speed in Tarmuwa is put at 11 km/h and annual rainfall ranges from 500mm to 1000mm while the rain season is normally from June- September. It shares border to the north by Bursari Local Government, Geidam to the north-east, Fune to the west, Damaturu Local Government to the south as well as Bomo state to the east ([www.nigeriaroute.com/yobe.php](http://www.nigeriaroute.com/yobe.php)).



**Figure 1: Map of Yobe state showing Gujba and Tarmuwa Local Government Areas**

**Materials and Methods:**

The study was conducted between the months of January-February, 2019 in 8 villages from the two LGAs with the sole aim of assessing the impacts of Fulani herdsmen-farmers' conflicts on food production. It made use of the Descriptive Survey design involving mixed methods. A total of 64,288 people formed the target population of the study. Slovene's formular for determining sample size was used to select the 397 respondents who participated in the study which included 170 Fulani herdsmen, 215 farmers, 4 officials of the Department of Agriculture of the two Local Government Areas as well as 8 Village Heads. Sample size proportion for the study areas is shown in the table below:

**Table 1: Sample size proportion**

S/N	AREA	POPULATION	SAMPLE SIZE
<b>GUJBA LGA</b>			
01	Katarko	4,008	24
02	Goniri	3,878	24
03	Buni Yadi	24,755	153
04	Wagir	4,546	28
<b>TARMUWA LGA</b>			
05	Madadawa	3,236	20
06	Babbangida	18,450	114
07	Lantewa	3,180	20
08	Biriri	2,235	14
<b>TOTAL</b>		<b>64,288</b>	<b>397</b>

Source: Field work, 2018.

Purposive and Snowball sampling techniques were used to sample the respondents. To collect quantitative data for the study, a researcher made closed ended questionnaire with Liker's scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used while a structured Interview Guide was also used to collect qualitative data from some of the respondents especially the Village Heads. All data collection procedures were self-administered. Quantitative data was analyzed in SPSS Version 20 using Descriptive Statistics while Thematic method was used to analyze the interview responses.

**Results and Discussions:**

**Demographic characteristics of the respondents**

In order to clearly understand nature of the impacts of herdsmen-farmers' conflict, in the eight areas studied, rudimentary knowledge of the respondents' demographic and occupational characteristics becomes vital and ought to be studied especially with respect to their age, level of education, marital status, tribe, religion, income, farm sizes, number of animals reared and so on.

**Table 2: Demographic characteristics of the respondents**

Variables	Frequency	Percentage
<b>SEX</b>		
Male	277	70
Female	120	30
<b>Age</b>		
20-25 yrs	45	11.3
26-30 yrs	56	14.1
31-35 yrs	124	31.2
36-40 yrs	87	22.0
41-45 yrs	30	7.6
46-50 yrs	21	5.9
Above 50 yrs	14	3.5
<b>Tribe</b>		
Fulani	122	30.7
Kanuri	111	28.0
Hausa	45	11.3
KareKare	65	16.4
Others	54	13.6
<b>Religion</b>		
Islam	338	85.1
Christianity	46	11.6
Others	13	3.3
<b>Marital status</b>		
Married	323	81.4
Single	63	15.9
Divorced	11	2.8
<b>Level of education</b>		
None	245	61.7
Primary certificate	77	19.4
Secondary certificate	49	12.3
Diploma/NCE	7	1.8
Others	19	4.8
<b>House hold size</b>		
1-5 members	39	9.8
6-10 members	134	33.8
11-15 members	122	30.7
16-20 members	55	13.9
Above 20 members	47	11.9
<b>Years of residence in the area</b>		
1-5 yrs	35	8.8
6-10 yrs	72	18.1
11-15 yrs	86	21.7
16-20 yrs	97	24.4
Above 20 yrs	70	17.6
Nomadic	37	9.3

Source: Field work, 2018.

Demographic characteristics of the respondents indicate that the majority of the respondents (86.2%) were youth within the age group of 20-45

years, 81.45% were married, and 61.7% did not have any formal education while another 90.3% had large family sizes.

**Table 3: Occupational characteristics of the respondents**

Occupation (Crop Farming) n=215		
Variables	Frequency	Percentage
<b>Crop Grown</b>		
Corn	11	5.1
Millet	0	0
Maize	0	0
Beans	0	0
Groundnut	0	0
Beniseed	7	3.3
Mixed	197	91.6
<b>Farm Size</b>		
< 1 Hectare	56	26.0
1-2 Hectares	61	28.4
3-4 Hectares	67	31.2
>4 Hectares	31	14.4
<b>Type of Farming</b>		
Subsistence Farming	144	67.0
Commercial Farming	71	33.0
<b>Alternative occupation</b>		
None	86	40
One	87	40.5
Two	42	19.5
<b>Annual Average Income (₦)</b>		
<100,000	43	20.0
100,000-399,000	78	36.3
400,00-699,000	56	26.0
700,000-999,000	23	10.7
1000,000	12	5.6
>1000,000	3	1.4
<b>Occupation (Livestock Farming) n=170</b>		
<b>Animal Reared</b>		
Cattle	98	57.6
Goats	5	2.9
Sheep	17	10.0
Mixed	50	29.4
<b>Number of Animals</b>		

<10	0	0
20-40	41	24.1
41-60	56	32.9
61-80	23	13.5
>80	50	29.4
<b>Type of Farming</b>		
Subsistence Farming	146	85.9
Commercial Farming	24	14.1
<b>Alternative occupation</b>		
None	141	82.9
One	19	11.2
Two	5	2.9
Three	5	2.9
<b>Annual Average Income (₦)</b>		
<100,000	12	7.1
100,000-399,000	47	27.6
400,00-699,000	32	18.8
700,000-999,000	36	21.2
1000,000	22	12.9
>1000,000	21	12.4

Source: Field work, 2018.

Occupational characteristics of the respondents revealed that 91.6% of the crop farmers grow mixed crops while only 29.4% of the herdsmen rear other animals such as goats and sheep along with cattle meaning that more often, the Fulani herdsmen rear only cattle. The majority of the herdsmen did also own big number of cattle. The optimum Fulani cattle herd size lies between 80 and 100. With a preponderance of female over male at ratio 4:1, the Fulani maintains a balanced functional species composition that is made up of 'beefers, milkers, breeders, carriers, and stock beautifiers' (Bello, 2013). Considerable population of both herdsmen and farmers (89.5% and 67.0%) respectively were subsistence farmers involved in farming activities just to take care of their families meaning that, more crop farmers engage in commercial farming than the livestock farmers. Similarly, more herdsmen (82.9%) do not have any alternative occupation while a good number of the crop farmers (60.0%) had two or three alternative occupations. With respect to annual income, the Fulani herdsmen were found to be richer than crop farmers because 80% of the crop farmers earn between 400,000-1000,000

Naira annually while on the part of the livestock farmers 92.9% earn same amount annually.

### Causes of Herdsmen-Farmers' Conflicts in the Areas Studied:

Table 4 below presents responses made by the respondents on possible causes of Fulani herdsmen-farmers' conflicts in Gujba and Tarmuwa Local Government Areas. All factors with mean values less than 2.0 were considered rejected while those with more than 2.0 mean values were considered as accepted. Although, the two groups had similar perceptions on causes of the conflicts, they did differ a little in some respects. However, statistical analysis did not reveal any significant difference between perceptions of the two groups.

**Table 4: Questionnaire responses on causes of herdsmen-farmers' conflicts**

S/N	Factors	Mean value	Status
01	Crop destruction	4.57	Accepted
02	Indiscriminate bush burning	3.77	Accepted
03	Cultural difference	1.62	Rejected
04	Scarcity of forage	2.89	Accepted
05	Drought	1.03	Rejected
06	Boko Haram insurgency	3.87	Accepted
07	Poor land use planning	3.43	Accepted
08	Harassments	2.98	Accepted
09	Religious difference	1.20	Rejected
10	Corruption	3.23	Accepted
11	Reprisal attacks	3.56	Accepted
12	Poverty	1.01	Rejected
13	Historical grudges	0.78	Rejected
14	Indiscriminate livestock defecation	0.98	Rejected
15	Pollution of water sources by livestock	1.33	Rejected
16	Scarcity of grazing fields	4.12	Accepted
17	Political reasons	1.22	Rejected
18	Desertification	3.86	Accepted

Source: Field work, 2018.

Findings made by this study revealed many factors as the root causes of clashes between the mainly Fulani herdsmen and farmers in the areas studied. However, it should be noted that the nature and

causes of such conflicts could vary in different contexts. According to Bello (2012), the types of conflicts for survival between the Fulani pastoralists and farmers in North-eastern Nigeria vary in form and intensity from one community to another. Social and economic factors continue to provoke violent conflicts among the Fulani pastoralists and farmers. The intensity and variations of the conflicts largely depend on the nature and type of the user groups where the herdsmen graze. These conflicts have constituted serious threats to the means of survival and livelihoods of both the farmers and pastoralists and what both groups are tenaciously protecting and projecting. The conflicts, through provocative claims over access rights to farmland and cattle routes (*labi*), have become ubiquitous and seem to have defied solutions (Abbas, I.M, 2009 cited in Bello, 2013). Although, both parties had similar perceptions with regards to the causes of the conflicts, they did differ in some respects. Majority of the Fulani herdsmen stated harassment by the host communities, scarcity of forage, lack of grazing fields, indiscriminate bush burning, reprisal attacks, Boko Haram insurgency and lack of efficient land use planning as the major causes of the clashes while the crop farmers added destruction of crops, reprisal attacks, corruption and Boko Haram insurgency as other possible reasons. In addition, both parties also agreed that desertification was another cause of the standoff between herdsmen and farmers. Other factors put forward to the respondents that received less than 2.0 mean values were political reasons, historical grudges,

drought, ineffective land tenure system, religious differences, pollution of water points by livestock, poverty and indiscriminate livestock defecation.

The findings stated above do agree with those made by Abijefun, (2017) who in addition to the causes identified by this study also found out that other causes of the herdsmen-farmers' conflicts in Kwara state of Nigeria were theft of cattle, sexual harassment of females and indiscriminate defecation by cattle in streams. However, in his study, Abijefun (2017) found no significant difference between perceptions of the herdsmen and the farmers as to the causes of the conflicts. He further stated that, findings on hypotheses testing revealed in hypothesis 1 that no significant difference existed between farmers and Fulani perception of the causes of Fulani – Herdsmen and farmers clashes in Nigeria. This implies that the farmers and Fulani perception of the causes of Fulani – Herdsmen and farmers clashes in Nigeria were almost the same. The finding agreed with the conclusion of Nweze (2005) who concluded that the farmers' and Fulanis' perception of the causes of Fulani – Herdsmen and farmers clashes in Nigeria are similar. However, with regards to perceptions of the herdsmen and farmers on the causes of the conflict, this study disputes the findings of Abijefun (2017).

Figure 2 below shows percentages of responses on the causes of Fulani herdsmen-farmers' conflicts in the areas studied.

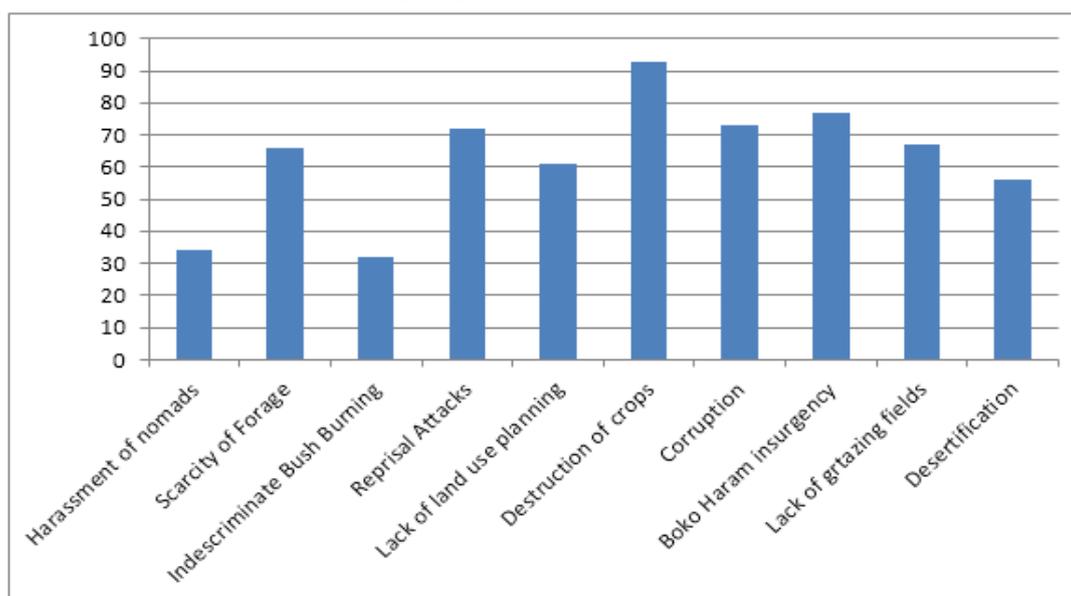


Figure 2: Showing causes of herdsmen-farmers' conflicts in the areas studied.

Source: Field work, 2019.

### **Harassment of nomads by host communities:**

One of the factors mentioned by the herdsmen as one of the causes of clashes between them and farmers was harassment by the host communities especially the youth where 34% of the respondents agreed with. According to them, most often members of the host communities harass the Fulani nomads. Such harassments were mostly in the form abuses, abusive jokes, sexual harassment of females, cheats as well as unnecessary attacks on their cattle especially at watering points. Thus, in retaliation the herdsmen revenge by grazing their animals in farms belonging to the farmers.

### **Scarcity of forage:**

Certainly, with the sparse nature of vegetation in most areas of Yobe state especially Tarmuwa LGA, scarcity of forage especially during dry seasons is not a new thing. Generally, the vegetation of the State is characterized by sparse shrubs, grasses and trees such as *Acacia albida* (*Gum Arabic shrub*), *Acacia nilotica*. (*Gum Arabic shrub*), *Pennisetum maximum*. (*Guinea grass*), *Cenchrus ciliaris*. (*Buffel grass*), *Cynodon nlemfuensis*. (*Star grass*), *Pennisetum purpureum*. (*Elephant grass*) , *Andropogon gayanus* (*gamba grass*), *Andosonia digitata* (*baobab tree*), *Butyrospermum parkii*. (*Shea tree, Kadanya*), and *Azandrata indica*. (*Neem tree*) (Bello, 2013). The natures of seasonal grasses of this area dry up completely during the dry season. As such, on the onset of rainy season around the months of June when there were no more forage for animals to graze while planted crops have started germinating in most farms, the Fulani herdsmen allow their animals to graze in such farms because according to them they could not stop the animals from encroaching into the farms since there were no forage for them. Such actions tend to spark clashes between the herdsmen and farmers when the farmers retaliate by angrily attacking the animals.

### **Lack of grazing fields:**

Some years back, there were cattle tracks or routes specially set aside by the government for grazing livestock where farming activities were restricted.

However, as the demand for food production continues to increase proportionately with the growing human population, most of these cattle tracks or routes have been taken over and converted into crop farms. Consequently, grazing fields became scarce thereby forcing herdsmen to graze their animals anywhere forage is available including crop farms belonging to other farmers. Perhaps, an issue that further compounds the problem of lack of grazing fields is the inaccessibility to land resources as a result of ineffective land tenure system. This is a serious issue in Nigeria and perhaps in most developing countries. According to Adisa and Adekunle, (2010), land tenure was positively significant because of the problems of access to and use of land posed by the prevailing land tenure. This is consistent with the findings of Dohrn (2008) cited in Adisa and Adekunle, (2010) that insecure land tenure impedes fair resource management - which could lead to conflict. For instance, as at 2016 in Abia State, there was no grazing law yet and the government has not indicated interest to make one despite the fact that the State is one of the States in the South-East that has often witnessed clashes between herdsmen and natives (Alaribe, 2016).

According to Tenuche and Ifatimehin (2009), in eastern Africa, land use and land cover change dynamics are evident in privatization of pastoral land and sedentarisation in pastoral communities. Perhaps, the threat facing sustainability of arable lands is not only posed by agricultural activities alone especially now that the need for efficient food production is greater than before. But the earth's ability to feed the people is experiencing challenges. Some of the factors threatening the sustenance of arable land are urbanization which is reducing land availability, climate change, lack of rain and water, soil degradation and low farm yield in ¼ countries and there is short supply of animal protein (Mark *et al.*, 2014).

### **Indiscriminate bush burning:**

Certainly, the ever increasing demand for food production sparked by the ever growing human population always led to the need for the acquisition of more farms. Traditionally, in their quest to

acquire more or bigger farms, crop farmers in these areas embark on unnecessary bush burning to clear land in order to make it ready for cultivation. Consequently, considerable areas used for grazing animals were destroyed making it vulnerable to desertification and useless for livestock farmers. This always led to the destruction of the few forage available for grazing which angers most of the Fulani herdsmen. Besides, the environmental consequences of bush burning can as well be so serious leading to land degradation.

#### **Reprisal attacks:**

Majority of the respondents agreed that, whenever herdsmen and farmers dispute over certain issues, the best vengeance mechanism they employ was to attack each other. Fulani herdsmen usually revenge by allowing their animals to rampage crop farms thereby destroying crops worth hundreds of thousands of Naira while the farmers on their side revenge by attacking and killing cattle belonging to the Fulani nomads. Most often, this led to serious clashes leading to loss of lives on both sides as well as destruction of many valuable properties including crops, animals, granaries, barns houses etc.

#### **Lack of efficient land use planning:**

Consequences of ineffective land use planning and the abuse of land use plans most often lead to social unrests and clashes among communities with different interests. Definitely, the lack or abuse of clear demarcation of land for various uses had led to deadly conflicts between nomads and farmers in these areas. Ideally, there should be well established cattle tracks and grazing areas specifically designed for use by cattle rearers so as to avoid clashes with farmers. In those days, there were cattle tracks established by the government for use by nomads where farming activities were restricted. But with the ever growing demand for crop production, these tracks have already being converted to farms leaving most of the nomads with no options but to encroach into farms established along these tracks. Encroachment of animals into such farms always led to deadly violence with heavy casualties and economic losses. Besides, due to ineffective land tenure system as a result of which access to land becomes difficult to farmers further compounds the whole issue. Tenuche and Ifatimehin (2009) in their study observed that there is no resource sustainability in Nigeria. Because of this there is

difficulty for a majority of its citizens who require land for farming and grazing to have access to land.

#### **Destruction of crops in farms:**

Inarguably, the leading cause of herdsmen-farmers' conflicts in the two LGAs studied and possibly in other places was destruction of crops by animals mostly reared by the Fulani nomads. Possibly, crop destruction is not only a cause of the conflict but also an impact of the conflict. Most of the times, destruction of crops mainly by cattle reared by the Fulani herdsmen occur towards the end of the rainy season when crops grown are ripe and ready for harvesting. In most cases, such destructions led to huge economic losses. Obviously, many reasons always led to the destruction of crops in the farms. A little more than 93% of the respondents including both farmers and herdsmen agreed that destruction of crops was the leading cause of such conflicts. According to Rashid (2012), the causes of farmer-herdsmen conflicts are often not far-fetched. However, there appears to be no consensus among both groups as to the causes of their mutual conflict. According to de Haan (2002 cited in Rashid, 2012), '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, whereas burning of rangelands and fadama and blockage of stock routes and water points by crop encroachment are important direct reasons cited by the pastoralists'.

#### **Corruption:**

Corruption which has been the greatest obstacle to numerous aspects of development in Nigeria was also cited as one of the leading causes of herdsmen-farmers' conflicts mainly in Gujba LGA although few respondents also cited in Tarmuwa LGA. Traditionally when conflicts occur tension is raised and to resolve the conflict, farm owners reported the cases of conflict to their traditional rulers and the police. And where a herdsman or men are confirmed to have been responsible for the destruction of crops such herdsmen are fined to pay compensation. However, due to the corrupt habit of some of the traditional rulers, the transgressors who mainly happen to be the Fulani herdsmen get impunity or pay very negligible fines. Consequently, the farm owners get aggrieved and take the laws to their hands by making reprisal attacks on the Fulani herdsmen which eventually lead to further destruction of farms and killing of cattle. Similarly,

the inability of traditional institutions to adequately and positively intervene in the conflict situations might inadvertently contribute to the magnitude and direction of conflict among the two groups. As revealed by this study, the Fulani herdsmen were financially richer than the crop farmers as such they do not hesitate to pay any fine imposed on them. Thus, most of the times, payment of fines does not prevent them from further aggression.

### **Boko Haram insurgency:**

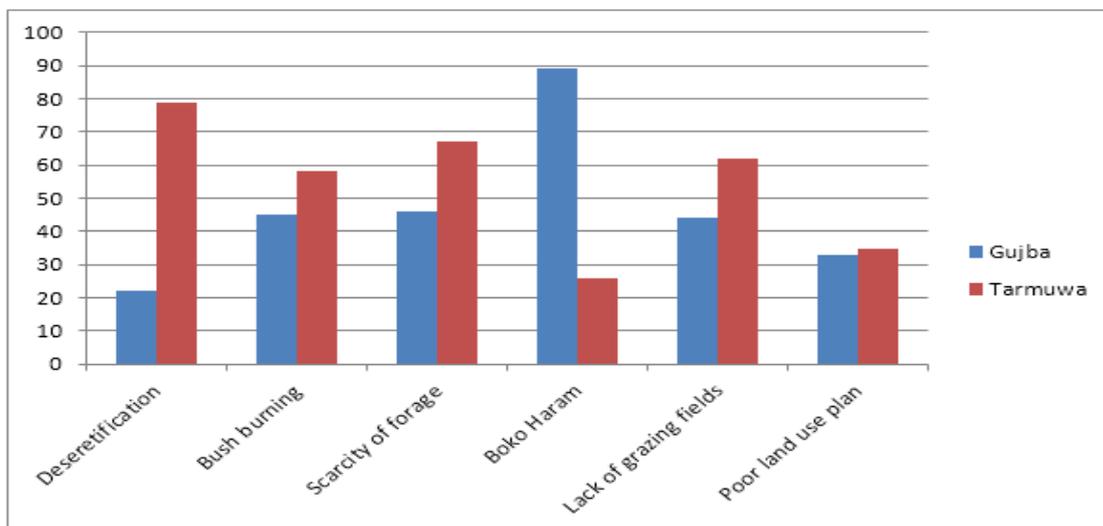
As a result of increasing activities of the dreaded *Boko Haram* insurgents in some parts of Yobe state especially in the two LGAs studied, most farmers have abandoned many of their remote farms as they could not cultivate these farms out of fear of *Boko Haram* attacks instead, they only patronize those farms close enough to the towns. Similarly, many herdsmen also find it very difficult to go deep into the bushes to graze their animals also out of fear of attacks by members of the dreaded group instead; the nomads resort to grazing their animals close enough to the towns. So with the decreased access to land resources due to Insurgency, competition over the little accessible land resources between herdsmen and farmers become fierce leading to increased tensions.

### **Desertification:**

It is a known fact that Yobe state is one of the Nigerian states faced with the menace of desertification with many of its Local Government Areas including Yusufari, Yunusari, Nguru, Geidam and Machina under serious threat of losing considerable sizes of arable lands. Consequently, herdsmen tend to move with their livestock from most of the desertification stricken areas to places

with relatively abundant forage to graze their animals. Thus, the proximity of Tarmuwa LGA to some of these areas battling desertification makes it comparatively a better place for the nomadic herdsmen. However, some parts of it such as Lantewa and Ngadoram are also embattled by desertification as well. Possibly, the large number of cattle reared in and around the villages of Tarmuwa LGA puts extra pressure on the dwindling land resources to the extent that cattle encroach into crop farms thereby destroying crops. Most of the times, such encroachments result in the destruction of crops which led to standoff with the aggrieved farm owners.

The figure below presents results of comparison of responses on some of the causes of the conflicts in the two LGAs. From the table it can be seen that considerable differences existed in the two areas with respect to the causes in question. Apart from Boko Haram insurgency which received higher response rate in Gujba, all other factors received higher responses in Tarmuwa LGA. This could be attributed to the fact that, many towns and villages in Gujba LGA fall within the Sambisa forest zone which is well known for activities by the militant group of Boko Haram unlike Tarmuwa LGA. Hence, expectedly, impacts of the insurgency could be more prominent in Gujba than in Tarmuwa LGA. Besides, the geography of Tarmuwa LGA is more of sparse vegetation while Gujba LGA has comparatively thicker vegetation which makes the former more vulnerable to desertification than the later. This could be the reason why low responses with respect to scarcity of forage and lack of grazing fields were recorded in Gujba LGA.



**Figure 3: Comparison of some causes of the conflict in Gujba and Tarmuwa**

Although the study did reveal many factors that usually led to herdsmen-farmers' conflict in these areas, all the causes seem to come up as a result of one important issue that is scarcity of grazing fields. Obviously, the ever growing human population which is synonymous to increase in the demand for food production puts more pressure on the dwindling environmental resources especially the land resources. Consequently, many cattle tracks and other fields reserved as grazing areas have been converted into farms. This led to decrease in grazing fields thereby forcing the mainly Fulani herdsmen to encroach into crop farms which eventually led to the so called Fulani herdsmen-farmers' conflict. Thus, it can be concluded that all the reasons cited as the possible causes of conflicts between herdsmen and farmers were borne out of the issue of scarcity of grazing fields and crop destruction.

#### **Impacts Of Fulani Herdsmen-Farmers' Conflict on Food Production:**

Although some differences were discovered in the perceptions of herdsmen and farmers with respect to the causes of clashes between them in the two LGAs, no difference was obtained with respect to the impacts of such conflicts in the two areas. The findings made on the impacts of Fulani herdsmen – farmers conflicts by this study strongly agreed with those made by Bello (2012) who found out that impacts of such clashes in Yobe state, Nigeria included Loss of material resources which was found to be more widespread among farmers. Income loss had the highest relative incidence (92.4%) among farmers, followed by loss of yield (79%), household resources (26.5%) and stored products (27.3%). On the part of herdsmen, losses – whether material or not, were minimal. In point of fact, 13.6%, 26.7%, 4.1%, and 3.6% of herdsmen claimed to have suffered losses in respect of their, income, yield, stored products and household resources respectively.

#### **Loss of lives:**

Due to the confrontational nature of herdsmen-farmers' clashes, in most cases, loss of lives are inevitable. Both the Fulani herdsmen and farmers

agreed to this. At the end of violent confrontations lots more life, properties and settlements were destroyed. Sometimes, whole villages are rampaged involving heavy casualties. Consequently, the population of farmers is reduced; population of widows, widowers and orphans increase, more money is expended on arms and security provision services. Recent studies conducted by Okereke (2012) and Kasarachi (2016) Cited in Adisa and Adekunle (2010) have shown that, serious conflict erupt between Fulani herdsmen and farmers leading to loss of lives, valuable properties and destruction of vast expanse of arable agricultural farmlands thereby posing serious threat to food security since farmers for fear of attack could no longer go to farm and harvest their farm produce. Certainly, this could lead to reduced farming activities which could also translate into reduced crop production.

#### **Decreased productivity:**

More often than not, aftermath of herdsmen-Fulani conflicts tend to be serious affecting both sides. Decreased productivity was cited as one of such aftermaths. Most of the times, after the occurrence of such conflicts, both parties live in fear of reprisal attacks as a result of which farmers do not farm and herdsmen find it very difficult to move around and graze their animals. According to the respondents, sometimes farmers do not farm for the whole year out of fear of vengeance by the mainly Fulani herdsmen. Besides, the respondents affirmed that, poor harvests were recorded every time such conflicts occur. In addition, the huge amount of money spent by both parties due to such clashes in settling themselves, in judicial processes as well as in reviving their farming activities always led to reduced productivity.

#### **Displacements:**

Sometimes, herdsmen –farmers' conflict tend to be so serious resulting in the destruction of houses and other infrastructure as well as losses of lives leading to the displacement of many farmers. Besides, it is also very clear that, the fear of vengeance or justice sometimes led to the migration of farmers to other places considered safe. In both cases, decrease in the

number of farmers are experienced which also led to decreased food production. In recent times, the killings recorded by Fulani herdsmen and farmers clash has rampaged most communities displacing them of their farmlands and loss of their major source of livelihood. This is becoming unbearable with the Fulani herdsmen always having their ways leaving the farmers at their mercy. Herdsmen attribute the roots of the crisis to religious differences resulting in the killing of their cows while the farmers see the herdsmen as a threat to their crops and agricultural produce since the herdsmen allow their cows to feed on the farmer crops (Ajibefun, 2017).

### **Loss of crops in the farms:**

Certainly, loss of crops has been the leading cause of herdsmen-Fulani conflict in many places and has also been one of the devastating impacts of such conflicts. This study revealed that, in most cases, conflicts between herdsmen and farmers in these areas majorly occur when crops are ripe and ready for harvests or when crops have been harvested. Traditionally, crop farmers in these areas tend to keep heaps of farm produce after harvesting in the farm before conveyance to stores at home; an act which attracts the Fulani cattle rearers who usually allow their animals to rampage and destroy these crops. In most cases large amounts of crops are being destroyed. This seriously angers many crop farmers and eventually ends up in serious clashes with devastating consequences. In some instances, whole farms, all harvested crops or large number of livestock are destroyed in such clashes. Nyong and Fiki (2005) reported that losses from these conflicts are of far-reaching dimensions and implications on both sides, in a study carried out in Nigeria's Guinea savannah, within which is Kwara State reported that out of about 150 households interviewed, 22 reported loss of a whole farm of standing crops, 41 reported losses of livestock, while eight households from both sides reported loss of human lives. Many scholars have reported that with the recent increase in the Fulani herdsmen-farmers' conflicts in Nigeria especially the North Central States of Benue, Plateau, as well as North East States like Taraba and

Adamawa, Fulani herdsmen are killing Nigerians and destroying farmlands worth several billions of naira.

### **Loss of produce in storage:**

In most cases, such conflicts can be so serious to the extent that food crops stored in granaries and other traditional stores in the houses were completely destroyed usually by setting the stores ablaze. This usually led to enormous loss of food crops which sometimes led to the shortage of these crops as well as significant increase in their prices especially in most of the small weekly markets in villages close to the conflict zones. Other studies also indicated that stores, barns, residences and household items were destroyed in many of the violent clashes, serious health hazards are also introduced when cattle are reared to water bodies that serve rural communities.

### **Killing of animals:**

Certainly, when Fulani-farmers conflicts occur, lives of cattle cannot be spared as well. The respondents did state that during such clashes many animals especially cattle were killed leading to the migration of many livestock farmers to other places. Consequently, drop in the number of cattle as well as cattle products such as milk were experienced in the areas which often led to increase in their prices. It was also narrated that, when large numbers of cattle were killed in such clashes, clearance of the carcasses took a toll on people living in the surrounding communities. In fact, the Fulani herdsmen – farmers' conflicts have not only heightened the level of insecurity, but have also demonstrated high potential to exacerbate the food crisis in Nigeria and other affected countries due to loss of farmer lives, animals, crops and valuable properties (Cotula *et al.*, 2004 cited in Adisa and Adekunle, 2010).

### **Reduction in income of crop and livestock farmers:**

Whether directly or indirectly, conflicts of whatever nature affect economic development in many ways with resultant decrease in people's incomes. Due to

loss of crops and animals, displacements of farmers, destruction of infrastructure, expenses on judicial processes, decreased productivity etc. both livestock and crop farmers experience considerable decrease in their incomes as a result of such conflicts. It should be noted that, when such conflicts happen, both parties spend huge amounts of money in judicial process in attempts to claim damages, prove innocence, payment of fines or whatsoever. This greatly affects socioeconomic status of many farmers which in turn affects food production. Besides, these impacts do not only affect the farmers alone but go beyond to affect their business associates as well such as traders of crops and livestock.

### **Scarcity of Agricultural products:**

Obviously, because herdsmen-farmers' conflicts majorly affect the agricultural sector, agricultural products are also affected in many perspectives in places where these conflicts exist as such scarcity of agricultural products such as crops, vegetables, milk, farm animals, hides and skin etc. become inevitable when conflicts of this nature occur. These impacts could be so devastating especially if such conflicts ensue in places known to be as frontline producers of certain agricultural products. For instance, Gujba LGA is known to be one of the agricultural mainstays of Yobe state hence; occurrence of herdsmen-Fulani conflicts could definitely have significant consequences on crop and livestock productions, the impacts of which could be felt even in remote places because crops produced in the area are being exported to other places.

### **Increase in prices of agricultural products:**

It is very clear that whenever products of whatever kind are scarce while demand for them is high, the prices of such products rise up. Usually, one of the aftermaths of most herdsmen-Fulani clashes is increase in prices of agricultural products such as food crops normally grown in the area which arise as a result of their loss and scarcity. It was revealed that whenever such conflicts occur, trading activities in village markets which usually hold

weekly do not hold as a result of displacement of the farmers, loss of crops, insecurity etc. Consequently, prices of stable food crops skyrocket.

### **Loss of houses and properties:**

In most cases, the so called herdsmen-farmers' conflicts which usually start as a little misunderstanding in farms could escalate to engulf even whole villages or towns. In such instances, destruction of houses and properties become inevitable. According to the respondents, during such clashes, hundreds of houses which are usually thatched were set ablaze and completely destroyed along with other valuable properties. Certainly, consequences of this could affect the farmers' productivity in many ways which eventually affect food production.

### **Heavy expenditure on the part of government:**

In an interview with some officials of the Department of Agriculture of the two Local Government Areas of Gujba and Tarmuwa, it was gathered that whenever herdsmen-farmers' conflicts occur, government on its part spends huge amount of money in efforts to bring an end to the menace as well as in settling those affected by the crises. Besides, significant amount of money is also spent by the government in ensuring that peace is restored in all areas affected. It is true that such amount of money could be used by the government in developing the agricultural sector instead.

### **Conclusion:**

In conclusion, this study was able to reveal several factors as to the root causes of Fulani herdsmen-farmers' conflicts in Gujba and Tarmuwa LGAs of Yobe state as well as the impacts of such conflicts. Although some of the causes were perennial, Boko Haram which was also cited as one of the causes was the more recent one. Hence, if these causes were allowed to continue unchecked, Fulani herdsmen-farmers' conflicts cannot be resolved while their devastating impacts of food production would also continue to escalate. It should be noted that, food insecurity has been identified as a major issue of concern since the emergence of Boko

Haram insurgency in 2011 which has bedeviled many parts of Yobe. Thus, in already fragile communities battling insurgency and food crises, the occurrence and reoccurrence of such conflicts could further compound the menace of insecurity, food crises as well as poverty bearing in mind that poverty was cited by many scholars as one of the causes of the Boko Haram insurgency in the north eastern Nigeria. Moreover, uneducated young men were also found to be the easiest targets for recruitment by members of the dreaded militant group. It is worthy of note that demographic characteristics of the respondents revealed that the majority of them were uneducated youth

### **Recommendations:**

Definitely, herdsmen-farmers' conflicts as well as the associated impacts can only be eradicated if all the root causes of such conflicts are clearly addressed. Based on the findings made by this study as well as the conclusion drawn, the following recommendations are hereby proffered:

1. The major cause of this conflict is crop destruction hence, governments at all levels should work out modalities on how to stop crop destruction by establishing cattle tracks and grazing zones where crop farming activities will be severely restricted and prevent indiscriminate bush burning.
2. Sensitization programmes on how to maintain cordial relationships between farming communities and herdsmen should be organized by the government and other stakeholders.
3. The issue of Boko Haram insurgency which led to decrease in farmers productivity should also be well addressed by the government and bring an end to it.
4. Land tenure was positively significant because of the problems of access to and use of land posed by the prevailing land tenure. Land tenure system should be relaxed such that land acquisition becomes easier so that farm owners can expand their farms and produce more food crops.

5. The idea of modernisation of cattle rearing which will maximize the benefits therein in terms of job creation, food security, and eventually end the vexatious farmers-herdsmen conflicts should be adopted. India, China, USA, Pakistan and countries with large populations depend on milk and dairy products to fight hunger, malnutrition, unemployment and promote social harmony.
6. Disputes between farming communities and herdsmen should be resolved amicably whenever it arises so as to avoid reprisal attacks. The inability of traditional institutions to adequately and positively intervene in the conflict situations might inadvertently contribute to the magnitude and direction of conflict among the two groups.
7. The federal government's fight against corruption should be extended to cover activities of traditional rulers who are the first level of authorities to whom cases of herdsmen-farmers' conflicts are reported because corruption by some traditional rulers further fuels the menace of such conflicts.
8. Threats posed by encroachment of desertification in many parts of Yobe state should well addressed by both the state and Federal Governments especially by ensuring that ecological fund allocated to state vulnerable to natural disasters such as desertification is judiciously spent for the purposes it is meant for.
9. The establishment of ranches and grazing lands may seem attractive and a simple way out of the herdsmen-farmers' clashes. The constraints of land and land ownership in tribal areas are also a big challenge. Ranches are established in countries with huge pastoral lands, like in the lush Pampas of Argentina, grass lands, which alone covers over 700,000 square kilometers of land mass or about 80% of Nigeria's entire territory.
10. The nomadic educational system should be revived, strengthened and modernized with added agricultural technical skills.

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