SOCIO-ECONOMIC ANALYSIS OF CROP FARMERS AND NOMADIC PASTORALISTS CONFLICT IN ZAMFARA STATE, NIGERIA

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A DISSERTATION SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION FACULTY OF AGRICULTURE, BAYERO UNIVERSITY KANO, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF DEGREE OF MASTERS OF SCIENCE (M.Sc.) IN AGRICULTURAL ECONOMICS

SEPTEMBER, 2019.

DECLARATION

I hereby declare that this work is the product of my research efforts undertaken under the supervision of Prof. Amina Mustapha and Prof. Aminu Suleiman and has not been presented anywhere for the award of a degree or certificate. All sources have been duly acknowledged.

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CERTIFICATION

This is to certify that the research work for this dissertation and the subsequent write-up by Sulaiman Muhammad Gusau (SPS/15/MEX/00002) were carried out under my supervision.

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DEDICATION

This Dissertation is dedicated to my late Parents, Alhaji Muhammad Liman Gusau and Hajiya Balkisu Muhammad Liman for their moral and financial supports and all that matters in child upbringing till their death. May their soul rest in peace.

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ABSTRACT

The research was conducted in Zamfara state on socio-economic analysis of crop farmers and nomadic pastoralist conflict. Data was collected by the use of structured questionnaire administered to 240 respondents. Multi- stage sampling technique was employed in selecting the respondents. Three (3) local government areas, were purposively selected because of the prevalence of crop farmers and nomadic pastoralist conflict in the area. Second stage involves the purposive selection of three (3) villages from each of the (3) local government areas selected. Third stage involve random selection of crop farmers and the snow ball sampling method was used to obtain a list of nomadic pastoralist. Data collected were analyzed using Descriptive statistics, Alternative cost technique, t-test and Foster-Greer and Thorbeck model. The result of the study indicated that majority of the crop farmers and nomadic pastoralist were married and fell between 20 and 59 years with mean age of 36 and 40 years respectively. Result also shows that 60% and 74.2% of crop farmers and nomadic pastoralist had no formal education. Majority of crop farmers own less than 4 hectares of land, while most of the nomadic pastoralist keep a herd size of less than 60 cattle. Result also reveals the perception of respondent about the major causes of the conflict, were crop damage, inadequate grazing reserves and land encroachment.The result of Foster- Greer and Thorbeck measure of poverty revealed that, 85.83% (103), of nomadic pastoralist and 80.83% (97) of crop farmers were living below the poverty line. The total value of the loss incurred by was₦ 98,363,475.00.The study found that, both crop farmers and nomadic pastoralist employed the use of problem-oriented coping strategies more than other types of coping strategies. Amongst the recommendations were, Government should provide infrastructures such as adequate grazing reserves, cattle route, dams and educational facilities.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Agricultural land use for food production is influenced by other land uses, including forest, residential, commercial, industrial, recreational, and open space. The interaction among this sometimes incompatible uses can lead to social conflict. Further, land degradation due to desertification, soil erosion and deforestation is accelerating at an unprecedented rate, leading to loss of productivity, increased poverty and subsequently, conflict on available land (USAID, 2007).

Agriculture provides the means of livelihood and economic sustenance for the majority of the population of Nigeria. Farmers and pastoralists are the main agricultural practitioners, make significant contributions in meeting the nutritional needs of the country and thus contributing to food security (Obioha, 2005). They are almost wholly dependent on crop production to sustain their vocations. In recent times, access to water and grazing land has become more competitive and has led the farmers and pastoralists into arguments on a regular basis. This is a worrisome trend because both have coexisted inter-dependently for centuries, sharing the same fields for farming and grazing with a manageable level of tolerance and accommodation (Oyetade, 2007).

Agricultural and pastoral lands are common pool resources in the Nigerian Savanna. Although by virtue of the land use act all land is vested in the hand of the government, in reality every community appears to be in charge of the lands in their domain. The land and the associated resources provide the basic means of livelihood to members of these communities. Farming activities are tied to seasons. Thus the rainy season (April to September) also double as the busy period for crop farmers. The dry season

(October to March) is generally a low farming activity period except in limited places where the farmers have access to water for irrigation. On the other hand, the sedentary (agro-pastoralist) and nomad's pastoralists are constantly on the move in search of forage and pasture for herds. They hardly request any permission to move or stay around any community, and are thus regarded as invaders by the host communities.This perception creates a priori divide between them and the host communities. In the absence of dedicated grazing reserves, the agro-pastoralists and nomads are forced to move from place to place and any location where the grasses and herbs are green, including the host communities' farms. The natural result is constant tension and conflict between the herders and crop farmers. (Fasona, Tadross, Abiodun, and Omojola, 2011).

Environmental conflict or resource-use conflict between farmers and pastoralist is a social conflict. Social conflict generally implies an interaction between groups in a competitive setting and such interaction need not be "violent" or transform in to a "war" before it is considered as a conflict. (Abba and Usman, 2008). Resource-use conflict can have both positive outcomes (for example, when it leads to the development of new institutions, new rules and the empowerment of disempowered group) and negative outcomes (for example destructive violence, social breakdown etc.) (Abba and Usman, 2008).

Pastoralism is a livestock-based production system where ruminant livestock freely graze in open grass lands. It is widely practiced in many countries of the world. Pastoralism is viewed as a livelihood system that integrates livestock husbandry with other activities, and a rational economic activity with strong social, environmental and cultural objectives (Momole,2003; Hesse and Macgregor,2006). Despite various criticisms about pastoralism and its relevance in modern world, it remains a

successful strategy to support a population where there is little access to social, cultural, physical, biological and environmental amenities. Thus, pastoralists are people whose major source of livelihoods is livestock herding, and the importance of this industry particularly its contribution to food production in the developing world cannot be overemphasized. This has made pastoralism to become a way of guarantying food security in marginalized rural communities (Bhasin, 2011).

Pastoralist-farmer conflict in Nigeria has persisted and stands out a threat to national food security, livestock production and eradication of poverty with pastoralists often regarded as the most vulnerable. Pastoralist-farmer conflicts not only have a direct impact on the lives and livelihoods of those involved, they also disrupt and threaten the sustainability of agriculture and pastoral production in west Africa (Moritz,2010).

Adisa (2010) identified some coping strategies towards conflict among farmers and herdsmen in north-central Nigeria as; increase farm/herd size, relocate farm/herds, borrow money, multiple farm plots/herd splitting, increase labour input, bought food crops, cattle feed, early harvesting/stock disposal, supplementary occupations, stayed late on farm/ herd at night, use charms, prayer for peace, pretense, use drugs/alcohol, assistance from union/association, assistance from relations/friends, assistance from local leaders, sought litigation and assistance from government among others.

1.2 PROBLEM STATEMENT

Farmer-pastoralist clash remained a major crisis, claiming hundred lives of people and causing destruction to thousands of animals and farm produce worth millions of naira in the northern part of Nigeria(Adamu,2011). Zamfara state serves as a transit zone for pastoralist migrating from neighboring states and the Niger republic towards central and south western Nigeria in search of pasture at the end of the wet season.

Soil or land as a medium for plant growth and also an important factor of production (input), both farmers and pastoralists absolutely depend on it to sustain their livelihoods through crop cultivation and rearing of animals, hence over dependence on it poses serious threat. Therefore, any changes related to the environment result in increases in competition between users. It is recognized that the environment and its associated factors such as environmental degradation, resource scarcity and climate change often play a role in the causation and continuation of conflict (Shettima and Usman,2008).

Three-quarter of world poor and hungry are located in rural areas who depend directly or indirectly on Agriculture and Agriculture related activities for their food and income. (USAID,2005). As population increases, access to land resource dwindles for these rural dwellers. However, with rapid population increases and a finite land area, available land per individual shrinks continuously. Resources based conflict, especially over right of access to land and land use, are therefore increasing in frequency and intensity (Yamano and Deininger, 2005).

The movement of pastoralist from one area of the country to another is usually caused by the increasing demand for fresh grazing grounds especially during draught period, when the pastoralists move southwards because of the availability of pasture. In most cases, the pastoralists do encounter problems with the local people because farmers' crops were being destroyed by their cattle (Olaleye et al, 2010)

Violent conflicts have economic causes and economic consequences. In addition to the loss of lives, injuries and the overall scale of human suffering that conflicts create, they also destroy assets and institutions. The consequences, the intensities of conflicts and their linkages with human endeavors to protect people from critical threats are not

only a major national, but also an international developmental challenge. Recovering and rebuilding takes many years, and the irony is that efforts do not always succeed (World Bank, 2009).

Zamfara state like other states in Nigeria, has a history of rampant clashes between farmers and pastoralist. One of the recent conflict between the two groups in the state has been reported by Abubakar (2016). However, previous researches on conflict between crop farmers and nomadic pastoralist in Zamfara state have focused on causes and resolution of the conflict. This information gap in the previous studies necessitates this research to investigate on socio-economic effect of conflict between crop farmers and nomadic pastoralist in the state with special focus on determine the poverty level of respondent as a result of the conflict and estimation of economic losses due to conflict in Zamfara state.

It is in this regard that this study was design to provide answers to the following research questions.

i. What are the socio-economic characteristic of crop farmers and nomadic pastoralist inZamfara state?
ii. What are the causes of the conflict between crop farmers and nomadic pastoralist?
iii. What are the poverty status of the crop farmers and nomadic pastoralist as a result of the conflict?
iv. What are the economic loss of the conflict on crop farmers and nomadic pastoralist?
v. What are the coping strategies employed by crop farmers and nomadic pastoralist against the conflict in Zamfara state?

1.3 OBJECTIVE OF THE STUDY

The general objective of the study is the socio-economic analysis of crop farmers and nomadic pastoralist conflict in Zamfara-State. The specific objectives are to:

i. describe the socio economic characteristics of crop farmers and nomadic pastoralist in Zamfara state,
ii. determine the causes of conflict between crop farmers and nomadic pastoralist,
iii. determine the poverty status of crop farmers and nomadic pastoralist as a result of the conflict,
iv. estimate the economic loss from the conflict between crop farmers and nomadic pastoralist; and
v. assess coping strategies employed by the crop farmers and nomadic pastoralist in Zamfara state.

1.4 JUSTIFICATION OF THE STUDY

This study has become necessary in view of the persistent clashes between crop farmers and nomadic pastoralist in Zamfara State, which has left scores of innocent citizen dead, with numerous of valuable properties destroyed by the ravaging conflict. Such conflict affect crop production and availability of milk and beef for consumption and standard of living of the communities in general.

More importantly is the new dimension in which pastoralist and their cohorts masquerade as nomad and join forces with cattle rustlers'. The frequency at which this conflict has continued to manifest calls for its proper investigation. This study is expected to provide useful information to farmers, pastoralist, researchers, policy makers, and other stakeholders.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 THEORETICAL FRAMEWORK

2.1.1 Conflict Theory

Conflict theory suggest that human behavior in social contexts result from conflicts between competing groups. There are theories developed by scholars to explain the causes, impact and resolution of conflict.Shettima and Tar (2008) have offered an excellent review of the different theoretical perspectives of conflicts between herders and farmers. The review shows convergence on the centrality of resource scarcity and environmental decline, as shown by excellent review of the theory of 'the tragedy of the commons' (Hardin, 1968). However, demonstrated, such conflicts have always had negative consequences for both human and physical security at regional, national, and international level.

2.1.2 Eco-violence Theory

Eco-violence theory is One of the relevant theoretical perspectives Pioneered by Homer-Dixon (1999). Homer-Dixon and Blitt (1998) argued that large population in many developing countries are highly dependent on four key environmental resources that are very fundamental to crop production; fresh water, crop land, forest and fish Scarcity or shrinking of these resources as a result of mis-use, over-use, or degradation under certain circumstances will trigger off conflicts. The fundamental theoretical assumption of the theory is that resource scarcity is the product of an insufficient supply, too much demand or an unequal distribution of a resource as a result of environmental hazards that forces some sector of a society into a condition of deprivation and violence. These four source of scarcity are in turn caused by variables such as population growth, economic development, pollution and obviously climate

change. Thus, environmental resource scarcity will constrain agricultural and economic productivity, further inducing the disruption of economic livelihood, poverty, hunger and migration.

Homer-Dixon (1999) defines environmental scarcity as the sum of the dynamic interactions of three sources of scarcity, namely (1) Supply-induced scarcity, caused by environmental degradation (2) Demand-induced scarcity, caused by population growth, and (3) Structural-induced scarcity, caused by an un equal distribution of resources.

Homer-Dixon sees three types of conflict that can arise from the different types of resource scarcity he presents.

The first conflict, conflict scenario Homer-Dixon (1991-1994) Presents, is simple scarcity conflicts, caused by degradation of land, which further, according to him, results in loss of agriculture and improvement. Such conflicts are caused by either (1) A supply-induced scarcity, implying that there are simply not enough resources because they are degraded or destroyed, or (2) A demand-induced scarcity meaning that the demand is higher than the availability, caused by population growth. When population increases, the demand for resources will rise and conflict break out when competition extends. Homer-Dixon (1991, 1994) argues that there will be an increased pressure on agriculture when population grows, and this will cause both a decrease in production and economic decline. “Reduction in the quantity or quality of a resource shrink the resource pie, while population growth divides the pie into smaller slices for each individual”. (Homer-Dixon 1994). This can further lead to population displacement and disruption of legitimized institutions and social relations (Homer-Dixon 1994, 1995). In contrast to supply-induced scarcity, which means that

availability of resources is limited and usually declining, this view holds that the demand is too high. Homer-Dixon (1991) sees land degradation as the potentially most threatening environmental change, because this can cause decrease in agriculture, which he believes is likely to lead to impoverishment. Moreover, he says that the social effects of environmental scarcity, such as lower agricultural productivity, can lead to "objective socio-economic deprivation and, in turn, raise the level of grievance in the affected population "(Homer-Dixon and Percival 1995).

The second scenario Homer-Dixon (1991, 1994). Sees, is group identity conflicts, caused by clashes between different ethnic groups who have been forced to migrate into other areas as their home territories have been destroyed by environmental change, or because their agricultural or pastoral land have been degraded or impoverished.

Finally, Homer-Dixon states that also social structures and economic decline can trigger conflicts, based on poverty or impoverishment, or more often unequal distribution. This, he says, can lead to relative deprivation conflicts (Homer-Dixon 1994, 1995). This is linked to a structural-induced scarcity, meaning scarcity caused by structural problems, like resource distribution.

2.1.3 Theory of the Tragedy of the Common

Theory of the tragedy of the commons, the theory states that when a resources is collectively owned by a group of people, each will exploit the resources, over using it, ignoring the group's collective interest, and thus ultimately destroy the resources. The theory postulated by Hardin (1968). He explained the "tragedy" by using the example of a pasture which is open to all to use. This open pasture is used by herdsmen to allow their cattle to graze and each herdsmen will continue to add cattle to the pasture

so as to expand the amount of proceeds coming from their herd. An open access, free of charge, resource is at risk of being over exploited by individual users, since it is in their interest to take as much as possible before others take it. The resource may thereby be destroyed for everyone. This is called the tragedy of the commons, a name given by the Ecologist G. Hardin.

2.1.4 Structural theory of conflict

The structural theory attempts to explain conflict as a product of the tension that arises when groups compete for scarce resources. The central argument in this sociological theory is that conflict is built into the particular ways societies are structured or organized. It describes the condition of the society and how such condition or environment can create conflict. Structural conflict theory identifies such conditions as social exclusion, deprivation, class inequalities, injustice, political marginalization, gender imbalances, racial segregation, economic exploitation and the likes, all of which often lead to conflict. (Oakland,2005).

Structuralists maintain that conflict occurs because of the exploitative and unjust nature of human societies or because of domination of one class by another.

2.2 CONCEPTUAL FRAMEWORK

2.2.1 Concept of Crop Farmers and Nomadic Pastoralist Conflict

According to Horn by (1995), conflict is a serious disagreement, argument, struggle and serious difference of opinions, wishes or a clash. The threat is directed towards limiting or eliminating the access of one party to some resource or goal (Robinson, and Clifford 2010). This could be seen in cases of land disputes between crop farmers and grazers in the grass-fields where they share the same environment for farming and

grazing. According to Ekong (2003), Conflict may arise where there is difference of opinion between group leaders or in situation where one group tends to be exploiting the other. Conflict between personalities may lead to group quarrel and division of the community into several factions. Conflicts has both positive and negative effects on the society. Its negative effects include the disruption of social unity, generation of bitterness which may lead to destruction of property and bloodshed, generation of inter-group tension disruption of normal channels of cooperation and diversion of member attention from groups goals. Conflict have been perceived to begin with the basic premise that there should be a different distribution of some scarce resource in society and that one group or individuals should have more equitable opportunity to maximized their potentials than others.

According to YaganaBukar (2016), Conflicts over access to and control of natural resources are a common phenomenon in areas where farming and pastoralism co-exist particularly in the semi-arid region of the world. The continued expansion of cultivation and increased in herd sizes over the years has resulted in mutual encroachment with pastoralist and farmers now competing directly for access to same resources with attendant increase in incidences of conflicts. Conflict helps to bring to light the areas of discontent and suggested solutions to reach consensus and achieve equilibrium, (Charles, 2005). Conflict can be said to be part of the society. Conflicts can be of various forms, which include religious, political, cultural, social and economic. Although it could be said that there is hardly any society without one form of conflict or the other bedeviling it, yet it measures for the purpose of ensuring their group existence or continuance of corporate interests and inter personal relationships.

However, Albert (2001). Stated that Conflict is usually viewed in a negative sense as the source of anxiety, fear and destruction but is, in fact, a source of creativity, change

and development. It is an inevitable consequence of human interactions that has the potential for both functional and dysfunctional outcome (Isard,1992). The possible outcomes of conflict are threefold; a win-win outcome, a zero-sum or win-lose outcome, and lose-lose outcome. The most desirable of these is a win-win outcome in which the interest of conflict parties are taken into consideration in the resolution process. These conflicts significantly vary in dimension, process and the groups involved. It was observed by Momale (2003) that, while some conflicts arise between same resource user group such as between one farming community and another, others occur between different user groups such as between herders and farmers or between foresters and farmers. Adisa (2012) observed that the farmers-herdsmen conflict has remained the most preponderant resource-use conflict in Nigeria.

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 pastoralists 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

2.2.2 Concept of Pastoralism and Pastoralist in Nigeria

Pastoralism is a production system based on mobility of herdsmen and their herds, enabling them to adapt to their environment and sustainably exploit its natural resource. This mobility takes various forms, from daily movements to seasonal migrations either joining together or competing with one another for access to resources. The most common categorization of pastoralism is by the degree of movement from highly nomadic through transhumant to agro pastoral. According to

Azarya (1996), pastoralism refers to an economy that is based on rising livestock, which could be under taking by sedentary or nomadic groups.

Pastoralism is a livestock-based production system where ruminant livestock freely graze in open grass lands. It is widely practiced in many countries of the world. Pastoralism is viewed as a livelihood system that integrates livestock husbandry with other activities, and a rational economic activity with strong social, environmental and cultural objectives (Momale,2003, Hesse and Macgregor,2006). Until recent years, pastoralist depended primarily on livestock production for their livelihood, milk being the dominant source of nutrition and income to families. The milk economy is managed by the women, who process it locally and sell its products in both rural and urban markets.

Nomadism, on other the hand, refers to the extent of spatial movement of pastoralist, Azarya (1996), i.e. their movements are opportunistic and follow pasture resources in a pattern that varies from year to year. Transhumant pastoralists often have a permanent homestead and base at which the older members of the community remain throughout the year. Transhumance is often associated with the production of some crops, although primarily for herder own use rather than the market. Many pastoralists in North Africa send their animals to transhumance by truck or train (Trautmann, 1985). Wealthier countries in the Persian Gulf, such as Oman and Saudi Arabia, make vehicles available at subsidized rates to assist pastoralist with animal transport.

The pastoralists are the major players in livestock production, particularly in the breeding of ruminant livestock. In west Africa, livestock production contributes to nutritional and food security; to poverty reduction; and foreign currency earnings in most Sahelian Countries. In Nigeria, livestock was accounting for about 26% of the

agricultural GDP and about 10% of the Nation's Gross Domestic Product in the 1990's (Maina, 1998) but the level of this contribution has significantly declined with agriculture contributing only about 19.65% of the GDP in the first quarter of 2014 (NBS, 2014).

Pastoralists are people who live mostly in dry areas, their livelihoods depend on their intimate knowledge of the surrounding ecosystem and wellbeing of their livestock. They derived more than 50 percent of their incomes from livestock and livestock product, (International Fund for Agricultural Development(IFAD) 2014).

Today there are nearly 200 million pastoralists in the world generating income where conventional farming is limited or not possible (IFAD,2014).However, pastoral communities are marginalized and generally not given due consideration in wider socio-political analysis, although the livelihood of these communities are vulnerable to climate change, shifting global markets, population growth and increase competition for land and other natural resources, pastoralism remains a viable natural resource management system (IFAD,2014).

Having raised livestock for centuries, the Fulani have evolved a herding system that withstands time, weather, social change, and government intervention. The movement of the Fulani over the years has led to a pastoral calendar in which the location and the grazing habits of the Fulani can be predicted (Iro, 1994). Describing the annual herding cycle of the Fulani, Iro (1994) stated that the herding season begins with southward movement of the herds along rivers and stream valleys from October to December – marking the end of rainy season and beginning of dry season. January to February is the harmattan season that is characterized by longer grazing hours, herd splitting, and more frequent visits to stable water sources. The months of March and

April are usually the toughest for the herdsman and his cattle, as it is the hottest period in the grazing calendar. Indeed, he now herds his cattle only in the evenings and nights (Iro, 1994). May and June signify the end of dry season and vegetation begins to appear. This also marks the beginning of northward movement of cattle herds. From this period up till September, which is the peak of rainy season, though characterized by cattle breeding, more milk production and shorter grazing hours, cattle herding coincides significantly with arable crop production. Farmer-herdsmen conflict therefore becomes prevalent during this period (Iro, 1994).

Momale, (2015) Reported that, the most important changing trends in animal husbandry were identified as; increasing sedentarisation of pastoralists households thereby transforming nomadic pastoralists to sedentary agro-pastoralists, but with an increasing migration of livestock (while their households remain in permanent or semi-permanent settlement). The nature of the social relations between pastoralists and farmers has also changed. Livestock productivity has declined due to inadequate pasture (feeds), resulting from the degradation of grazing lands caused by climate change, overgrazing and encroachments on pastoralists traditional grazing areas. The negative developments have reduced the number of livestock holding per household, thereby affecting the livelihood levels of pastoral families. The scenario has already established a vicious cycle of poverty, frustration, and socio-cultural deviations in the affected households and communities.

2.2.3 Concept of Arable Cropping in Nigeria

According to Adisa, (2012) Nigerian agricultural production is dominated by rural-based small scale arable crop producers, who account for about 80% of total food requirement. Most arable crop farmers rely on rainfall to produce, with farming activities normally beginning as soon as the onset of rains. Apart from being veritable

sources of income for farmers; arable crops are processed into other useful items at industrial and household levels. Crop farming is practiced by sedentary farmers who are defined as farmers living in permanent settlements gaining their livelihood mainly from crop production, with domestic animals providing supplementary income (Hussein, 1998). Low land dry farming systems are thus crop livestock production systems occupying around 10% of the world's dry lands and supporting ten times the number of people that live under pastoral production systems. In such environments, unreliable rainfall often creates acute shortage of food and unless livestock are few and integrated closely with crops production, overgrazing may occur and add to environmental degradation (UNRISD, 1997). In more recent times, there has been a dramatic increase in the spates of conflict between herders and farming communities alongside the attendant problems of rural banditry and cattle rustling. This increase in conflict result from increasing sedentarisation along grazing routes. Increased sedentarisation could be seen as pastoralist communities' response to the numerous challenges and constraints they are facing, sedentarisation has been one means of adopting to changing conditions over time.

Agricultural and pastoral lands are common pool resources in the Nigerian savanna. Although by virtue of the land use act all land is vested in the hand of the government, in reality every community appears to be in charge of the lands in their domain. The land and the associated resources provide the basic means of livelihood to members of these communities. Farming activities are tied to seasons. Thus the rainy season (April to September) also double as the busy period for crop farmers. The dry season (October to March) is generally a low farming activity period except in limited places where the farmers have access to water for irrigation. On the other hand, the sedentary (agro-pastoralist) and nomad's pastoralists are constantly on the move in search of

forage and pasture for herds. They hardly request any permission to move or stay around any community, and are thus regarded as invaders by the host communities. This perception creates a priori divide between them and the host communities. In the absence of dedicated grazing reserves, the agro-pastoralists and nomads are forced to move from place to place and any location where the grasses and herbs are green, including the host communities' farms, is good enough for grazing. The natural result is constant tension and conflict between the herders and crop farmers (Fasona, Tadross, Abiodun, and Omojola,2011).

2.2.4 Nigeria's Grazing reserves

Grazing reserves are tracks of land set aside by government for use by farmers to hold and graze their cattle (Jazuli, 2016). For the past 20 years' Nigerian government policy has been centered on the establishment of grazing reserves in cattle producing areas with the objective of providing livestock owners with legal grazing rights and title to land as a response to the increase pressure on traditional grazing lands by arable crop farmers and Government Agricultural Projects. By encouraging livestock owners to settle within the grazing reserves, it is hoped that they would enjoy access to Veterinary and Extension Services (Moses, 1987). There are several reasons for the official interest in settling Nigeria's livestock owners, it is estimated that traditional livestock owners control over 90 percent of total national herd but have no right to land, the movement of herds limit their access to health facilities and Governments inability to institute an improved management of traditional livestock owners do not participate in political decision making process, that affects them. Furthermore, it was envisaged that settlement will provide incentive for the gradual transfer of technologies that will lead to modernization of traditional livestock production systems (Moses, 1987).The problem of increasing land scarcity, both for farming and

grazing purpose, and the tendency for competition for land between different ethnic and occupational groups results in inter-communal conflict, the problem is further entrenched by the pressures of climate change, especially the challenge posed by desertification and erosion. (Egwu,1998). Another relevant factor was the deforestation resulting from increasing reliance on wood fuel for cooking. The combined effect of dam development, desert encroachment, and deforestation has been a series of conflicts and violence induced by resource scarcity and growing social and economic misery. In 1976, the government of northern Nigeria passed the grazing law, primarily to encourage the settlement of herdsmen for several reasons, including addressing their lack of land rights, reducing or limiting movement of herds (which limits access to health facilities and improves the management of the herds), facilitating the adoption of a modernized approach to cattle rearing, and the institution of ranching system (Awogbade,1987). Unfortunately, there had been no remarkable progress in the establishment of grazing reserves until the establishment of the National livestock development project (FLDP), the FLDP was established with the support of the world bank, including a #21million in 1977, and a counter-part contribution of 50% and 25% by the Federal and State Government, respectively.

The Nigerian Grazing Reserve Act of 1964 was passed as an initial attempt to improve Fulani access to grazing land for their cattle, simultaneously encouraging sedentarisation in order to address existing conflicts between farming and grazing communities and improve provision of essential amenities to pastoralist families. In a broader sense, it was expected that the policy would help address some of the wider constraints facing livestock development in Nigeria at the time, such as disease control and market supply (Ingawa*et al*., 1989). Following this, the National Agricultural Policy of 1988 declared that a minimum of 10% of the national territory,

equivalent to 9.8 million hectares, would be allocated for the development of grazing reserves in an attempt to protect pastoralism. However, this policy has not been enforced; as at 2012 only 2.82 million hectares has been acquired in a total of 313 reserve.

According to 2009 official report of the Federal Ministry of Agriculture and WaterResources, Nigeria has officially demarcated 4125 grazing reserves or routes. Out of thisnumber, only one third is put in use, whereas 270 grazing reserves have been put intocultivation. In order to curb farmers-pastoralists‟ clashes, the Federal Government inSeptember 2009 carried out demarcation of a grazing route running through the central statesof Nasarawa, Benue and Plateau. Other grazing routes also marked out and demarcated werestarted across Katsina and Bauchi States, spanning across Abuja. Further grazing routes were also demarcated from Sokoto in the Northwest to Oyo State in the Southwest as well as another 2,000km grazing route from Adamawa State in the Northeast to Calabar in the Niger Delta.All these were done to strengthen the relationship between the two groups, but the relationship keeps on degenerating. The question not yet answered is why have all these efforts and resources not produced the desired result? What is clear to all, however, is that something fundamental is amiss. Could it be the defective public policy, in some cases, the lack of policy or the failure of the Fulani to avail themselves to modernization (Iro, 2000).

2.2.4.1 Nigerian grazing reserves established to provide feed and water for pastoralist use in various states.

Table 1: Showing Grazing Reserves in Nigeria their Size and Status.

S/No	State	Number of Grs	Total size (Ha)	Number Gazetted (No)	Number Ungazetted (No)	Size Gazetted (Ha)	Size Ungazetted (Ha)
1.	Adamawa	69	195,432.44	31	38	122,143.33	73,289.00
2.	Bauchi	42	244,478.30	27	15	230,285	14,193.00
3.	Benue	10	28,000	Nil	10	Nil	28,000.00
4.	Borno	56	446,583	15	41	108,799.00	337,784.00
5.	Gombe	23	221,378	4	19	152,857.00	68,521.00
6.	Jigawa	2	13,555	2	Nil	13,555	Nil
7.	Kaduna	7	129,112	2	5	84,612	44,500.00
8.	Katsina	1	122,000	1	Nil	122,000	Nil
9.	Kebbi	24	822,378	1	23	557,000	24,000.00
10.	Kogi	5	20,775	1	4	7,620	13,155.00
11.	Kwara	17	147,340.30	1	16	21,156	126,184.30
12.	Nasarawa	7	128,000	7	Nil	128,000	128,000.00
13.	Niger	18	104,308	2	16	44,302	60,007.00
14.	Sokoto	15	88,783	8	7	65,883	22,900.00
15.	Taraba	39	137,800	9	30	27,400	110,400.00
16.	Yobe	28	263,208.60	17	11	92,134.60	171,074.00
17.	Zamfara	37	969,184	6	31	830,044	139,150.00
18.	Plateau	8	132,000	1	7	74,000	58,000.00
19.	Ogun	1	61,000	0	1	0	61,000.00
20.	Oyo	2	0	2	Nil	0	N/A
21.	FCT	4	0	4	Nil	33,485.00	33,485.00
	TOTAL	**415**	**4275326**	**141**	**274**	**2,715,276.23**	**1,513,642.31**

Source: NLPD 2000

2.2.5 Causes of Crop farmers and Nomadic pastoralist conflict

Conflict causes can be defined as those factors which contribute to people grievances and can be further described as factors that built into policies, structures and fabric of a society and may create the pre-conditions for violent conflict or its further escalation, sometimes apparently symptomatic of a deeper problem (Abba and Usman 2008). The causes of conflict are complex and varied. (Ladan,2016) Identified some root causes of conflict as (1) Poor implementation of constitutional measures to address past socio-economic and political injustices, inequalities and imbalances and a feeling of among the diverse Nigerian populace, a sense of marginalization, discrimination, exclusion and dis-advantage. (2) Failure by the state to effectively prevent and control the proliferation of small arms and light weapons (SALW) and their possession by militant sectarian and ethnic militia groups, among others. (3) Rising unemployment rate among youths (4) Politicization of ethnicity and manipulation of religion by the elites for the selfish ends.

Conflicts among the pastoral communities are largely caused by competition over control of and access to natural resources particularly water and pasture. Other causes of conflicts include historical rivalry deep seated cultural values land issues political incitements idleness amongst the youth and more recently proliferation of illicit arms (USAID, 2005). Conflict over access to and control of natural resources are a common phenomenon in areas where farming and pastoralism co-exist particularly in the semi-arid region of the world. The continued expansion of cultivation and increase in herd size over the years has resulted in mutual encroachment with the pastoralist and farmers now competing directly for access to same resources with attendant increase in incidences of conflict. Such conflicts have reached alarming proportions and attained additional dimensions such as political and ethno-religious. Disputes that

began as natural resource conflict over access has become framed in ethno-religious terms and this has reconfigured farmer- pastoralist conflict in new and striking ways. (YaganaBukar 2016). However, Mathew et al. (2009) observes that the exploitation of natural resource and other relatedenvironmental stresses are crucial in the phase of the conflict, from outbreak and perpetuation of violence to undermining prospects for peace. They note that at least 40% of the intra state conflict in the sixty years are associated with natural resources. In some part of Sudan, for instance conflict have intensified due to the dwindling natural resources caused by severe drought (United Nation Development Programmed Sudan, 2010).

The genesis of conflicts over access, use and management of land resources between nomadic cattle herders and sedentary farmers is as diverse as the nature of the conflicts themselves (Abubakar, 2012). In general terms, however, the expansion of population throughout northern Nigeria has led to the expansion of farming activities into areas utilized by cattle herders for the purpose of livestock production. This phenomenon is particularly noticeable in Hausa land where the traditional pastoralist grazing area (*hurumai*), stock routes, and water points have been turned into farming areas over the years (Baba, 1987).

According to De Haan (2002). 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 range lands and Fadama and blockage of stocks routes and water points by crop encroachment are important direct reasons cited by the pastoralists. Ingawa, Ega, and Erhabor (1999) reported that they key underlying causes of farmer herdsmen conflicts in Nigeria are:

Changing resource access rights, whereby traditional access rights to communal grazing and water resources are being obstructed by the individual's tenure ship of arable farmers. This is particularly severe on the traditional trek routes, which become favorite cropping sites because of their better soil fertility resulting from the concentration of animal manure from the trekking herds in these areas. Within the fadama areas, this is exacerbated by the fragmented nature of the crop plots, which makes prevention of animal straying in the crop plots difficult;

i. Inadequacy of grazing resources, as increasing crop cultivation (and increasing commercialization of the crop –residues) and poor management of the existing grazing reserves have resulted in a significant reduction in available livestock feed resources, in particular in the northern states.

ii. Decline in internal discipline and social cohesion, as the adherence to the traditional rules regarding grazing periods, and the authority of the traditional rulers is breaking down. This is exacerbated by increased rent seeking of the formal and traditional authorities in managing resource access.

Other perceive causes of farmer-herdsmen conflict include inequitable access to land, diminishing land resources, antagonistic values among user groups, policy contradictions, and non-recognition of right of indigenous people. Whatever the causes of farmers-herdsmen conflict are, it is evident that the conflicts have been of great negative effects. These range from economic effect (such as loss of income, resources, yield) to physical effects (such as home, farm destruction, body injury or death of family member) and socio-psychological effect such as emotional exhaustion, job dissatisfaction (Adisa, 2011.)

Hoffmann *et al.* (2008) opined that the relationship between farmers and nomadic Fulani's started degenerating when the Hausa farmers began to raise animals, including cattle. The farmers would take crop residues to their animals, and as a consequence, forage became scarce for herders in the dry season. Probably, out of frustration, the settled herders invited the nomadic ones to carry-out group herding on farmers' field even while crop were yet to be harvested. When the farmers attempted to challenge them, violence erupted. This shows that nomads"-farmers" conflicts can be determined by ethnicity.

Government policies can also be seen as a cause of nomads/farmers conflicts. For example, Hoffman *et al.* (2008) further explained that the conflicts do occur as the size of the existing reserve shrink due to encroachment and government approved expansion of farmlands. This leads to the conversion of water points and stock routes into farmlands.

2.2.6 Effect of Crop Farmer-Nomadic Pastoralist Conflict

In conflict situations, food producing regions experiencing seizing or destroying of food stocks, livestock and other assets, interrupting marketed supplies of food not only in the regions but also in neighboring regions. Bearing these risks in mind, the farming population tend to flee, decline or stop farming. Agriculture may be reduced to subsistence and survival production by farmers who manage to stay, because there is no incentive to invest deeply in production, (Pierre and Fred,2006).

According to (Ladan, 2016), conflict create enormous insecurity in the society with tremendous impact on individuals, social groups, communities, and the nation in general. The impacts of conflicts include (1) Loss of thousands of lives and millions worth of property (2) Social tensions and new patterns of settlement. (3) Social

dislocation and displacement. (4) Disruption of family and communal life. (5) Dehumanization of women and children e.g. Rape, Child abuse. (6) Deeping of hunger and poverty in the society. Violent conflict contributes to poverty by causing damage to infrastructure, institution and production, the destruction of assets, the breakup of communities and social networks, forced displacement, increased unemployment and inflation, changes in access to and relationship with local exchange, employment, credit and insurance markets, falls in spending on social services, death and injury to people (USAID,2014, Addison et al. 2010).

It was Reported that, Nigeria cross-sectoral conflict assessment attributed the set of related conflicts to many factors. The first was the ineffective management of natural resources, which could accentuate competition for resources in this case, land and water. The second relates to the negatives effect of climate change, including encroachment on nomadic herders' corridors and grazing reserves, which has decreased the land available to both pastoralists and farmers. The third pertains to the existence of economic needs and economic grievances, which could lead to violence if not properly managed. The fourth has to do with the absence of sustainable conflict management mechanisms. The missing mechanisms could enable all parties to adjust to changing conditions and agree to peaceful resolution their absence was found to be another major underlying explanation for herder-farmer conflict in Nigeria, USAID, (2014).

Moore (2005), noted that conflict per se, is not bad; it is perhaps a necessity in the evolution and development of human organizations. But when conflicts degenerate to violent, destructive clashes, they become not only unhealthy but also counterproductive and progress-threatening.

Fasona and Omojola (2005) found that conflicts over agricultural land use between farmers and herdsmen accounted for 35 percent of all reported crises. Politico-religious and ethnic clashes occurred at lower frequencies. The threat to human security occasioned by these conflicts is quite real. Indeed, however, the study showed that there appears to be a "very strong correlation" between the patterns of the clashes and human security. Another study of 27 communities in north central Nigeria showed that over 40% of the households surveyed had experienced agricultural land related conflicts, with respondents recalling conflicts that were as far back as 1965 (Nyong and Fiki, 2005).

Yahaya (2008), noted that the two groups accuse each other of the cause of the conflict. For instance, farmers accuse nomads of deliberately destroying farm products, and as such this is the immediate cause of the violent conflicts between the two groups. On the other hand, the nomads claimed that the cultivators were fully expanded their farms beyond areas demarcated for animal grazing, and that the dry season cropping has claimed most of the uplands and lowlands (Fadama) allocated to cattle herders for grazing. Cattle routes and water points have also been tampered with by the farmers.

2.2.7 Concept of Poverty

A precise definition of poverty has become a controversial issue both in theory and policy because poverty is relative to people, countries, geographical location, contexts, developmental approaches and national wealth (Fakoya, *et al.*, 2010). Poverty has been described as a social problem whereby the household income is insufficient to ensure suitable livelihoods, consequently leading to hunger, malnutrition, ill health and mortality from illness. It is however generally agreed that

poverty is a condition in which one cannot generate sufficient income required to secure a minimum standard of living in a sustainable pattern (Fakoya*et al.*, 2010).

According to World Bank, (2001) poverty is the denial of choices, opportunities and a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means insecurity, powerlessness and exclusion of individuals, households and communities. It is broad, multidimensional, partly subjective phenomenon, often viewed as both the cause and symptom of underdevelopment. In the same light, poverty is seen as the result of the interaction of economic, political and social processes in an unfavorable way to generate deprivation and reductions in people's standard of living. Though economic growth is essential to reduce the incidence of poverty, it has been recognized that the presence of massive inequality could affect its effectiveness in reducing the extent of deprivation (World Bank,2001). On the basic needs approach, poverty can either be absolute or relative. Absolute poverty refers to a situation where income is insufficient to meet subsistence need. Relative poverty exists where households within a given country have per capita income of less than one-third of the average per capita of such country (World Bank, 1990).

Relative poverty would occur where certain sections of a society do not have adequate income to enable them have access to some basic needs being enjoyed by other sections of such society. Poverty may arise from changes in average income or changes in the distribution of income. It is generally agreed that in conceptualizing poverty, low income or low consumption is its symptom. This has been used for the construction of poverty lines.

The incidence of poverty in Nigeria has generally been on the rise since 1980, with two significant dips during 1985- 1992 and 1996-2004. Focusing on the most recent

surveys (1996 and 2014), the national poverty incidence was 65.6 percent in 1996 and declined to 54.4 percent in 2004 and rises to about 71 percent in 2014 (Ajakaiye, 2014). Similarly, in 1996, the poverty depth (P1) and poverty severity (P2) were 0.358 and 0.207, but these decreased respectively to 0.225 and 0.122 in 2004 (IFPRI, 2014).

Further analysis also suggests that poverty in Nigeria is predominantly a rural phenomenon, with rural poverty increasing from 28.3 percent in 1980 to 63.8 percent in 2004. However, the proportion of the urban poor also rose from 17.2 percent in 1980 to 54.1 percent in 2004 and 71.6 percent in 2014. Thus, within rural areas approximately 44.4 percent of households in 2004 could not meet their food expenditure requirements. Another 19.4 percent could meet their food expenditure requirements, but not the minimum expenditure to cover other basic needs (NBS, 2007).

In the case of urban households, 26.7 percent were not able to meet their required food expenditure requirements while 16.4 percent could meet their food expenditure but no other non-food basic expenditure needs (Ajakaiye, 2014).

The North West, North East and North Central zones have the highest poverty incidence, depth and severity in descending order while the South West, South East, and South-South have the lowest poverty incidence, depth and severity in ascending order. All zones witnessed reductions in their poverty measures (incidence, depth and severity) from 1996 to 2004 except the North West where poverty incidence increased from 72.7 percent to 76.4 percent. The reductions in the poverty incidence, depth, and severity for rural households in the southern zones are greater than those achieved by their northern counterparts. Hence, it could be concluded that poverty is more prevalent in the northern zones than in the southern zones (Akanngbe, 2011).

2.2.8Measurement of Poverty

The purpose of poverty measurement is to find out who is poor, how many people are poor, and where the poor are located. There are two approaches to the construction of poverty line, the absolute poverty approach and the relative poverty approach. The former is based on cost of basic needs (CBN) approach in which some minimum nutritional requirement is defined and converted into minimum food expenses. A household is then defined as poor if its income or consumption level is below this minimum. The relative approach which this study adopted takes a proportion of mean per capita household expenditure as the poverty line. (Durojaiye, 1995; World Bank, 1996; Ayinde, 1999; Omonona, 2001). The most frequently used measurements are:

1. The head count poverty index given by the percentage of the population that live in the household with annual income per capita less than the poverty line.
2. The poverty gap index which reflects the depth of poverty by taking into account, how far the average poor person's annual income is from the poverty line.
3. The distributionally sensitive measure of squared poverty gap which reflects the severity of poverty.

Though some studies have used income as indicator for poverty line (Aromolaran *et al.*, 2002; Ayinde, 2003).

2.2.9 Dimension of poverty in Zamfara State

Zamfara state is one of the States of the federation with poverty rate above 70 percent. At the end of 2012, the poverty rate in the state was 70.8 percent. (NBS, 2014). According to the information, other states with over 70 per cent poverty rate include Katsina, 74.5 per cent; Adamawa, 74.2 per cent; Gombe, 74.2 per cent;

Jigawa, 74.1 per cent; Plateau, 74.1 per cent; Ebonyi, 73.6 per cent; Bauchi, 73 per cent; and Kebbi, 72 per cent (NBS, 2014).

The state with the lowest poverty rate was Niger with 33.8 per cent, followed by Osun with 37.9 per cent and Ondo, 45.7 per cent. Others with less than 50 per cent poverty rate were Bayelsa State, 47 per cent and Lagos State, 48.6 per cent (NBS, 2014).

According to National Bureau of Statistics (NBS) (2014), national unemployment rate stood at 23.9 per cent at the beginning of 2012. There were no figures for 2011 but the 2012 statistics represented an improvement in the figures released by the bureau for 2010. For unemployment rate, Zamfara State had the highest rate of 42.6 per cent, followed by Bauchi, 41.4 per cent. Other states with above 30 per cent unemployment rate included, Gombe, 38.7 per cent; Nassarawa, 36.5 per cent; Jigawa, 35.9 per cent; Edo, 35.2 per cent; Adamawa, 33.8 per cent and Kaduna, 30.3 per cent. According to the records, unemployment was least in Osun followed by Kwara and Lagos (NBS, 2014).

2.2.10 Concept of Coping Strategies

Coping is defined as constantly changing cognitive and behavioral efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person. (Lazarus & Folkman 1984). Coping is considered as a set of strategies that are available to be implemented to match specific situations. Coping may take one of the two general forms; Emotion-focused or Problem-focused. Emotion-focused coping strategies are focused on internal emotional states, rather than on external situations that trigger emotional responses. Emotion-focused coping is most likely to occur when an appraisal has been made that nothing can be modify the harmful, threatening, or challenging environmental conditions. This form of

coping is directed towards altering the individual emotional response to the problem and includes strategies such as wishful thinking, minimization, or avoidance.

Contrarily, problem-focused coping functions to alter the stressor by direct action. This form of coping is more probable when conditions are appraised as amenable to change. Problem-focused strategies include learning new skills, finding alternative channels of gratification or developing new standards of behaviours. Some coping strategies, such as seeking social support, may serve both emotion and problem-focused forms of coping are used by most individuals in response to stressful events (Folkman and Lazarus 1986). An individual cognitive appraisal of the stressful circumstance plays an influential role in coping selection. While neither problem-focused nor emotion-focused coping is inherently adaptive or maladaptive. (Folkman and Lazarus 1986).

Coping strategies refers to a set of measures adopted to attempt to meet the psychological, social, economic and political needs of everyday life of a person. Coping strategies are responses to an immediate and irregular decline in access to resources (FAO,1997).

The measures or actions that is taken could also be term techniques or behaviours. These techniques or behaviours are called coping strategies. Coping strategies mostly employed by the resource users were classified into three namely; Problem-oriented coping strategies (POCS), Emotion-oriented coping strategies (EOCS), and Social-Support coping strategies (SSCS). Umar S. and Umar B.F (2013).

The result of a research conducted by Umar and Umar (2013) showed that, farmers generally used a combination of strategies, as no single strategies is enough to bring

the needed succor to the harm caused by conflict. While the herders generally used less of problem-oriented coping strategies than the farmers and fishermen. This perhaps is an indication that farmers and fishermen considered the conflict situation from the problem perspective more than the herders. The herders probably faced less problems or direct consequences of the conflict than the farmers and fishermen.

Adisa (2010) identified some coping strategies towards conflict among farmers and herdsmen in north-central Nigeria as follows; increase farm ; herd size, relocate farm /;herds, borrow money, multiple farm plots ; herd splitting, increase labour input, bought food ; cattle feed, early harvesting ; stock disposal, supplementary occupations, stayed late on farm ; herd at night, use charms, appeasement, prayer for peace, pretense, vengeance, use drugs ; alcohol, help from union ; associations, help from relations ; friends, help from local leaders, sought litigation and help from government among others.

Umar (2008) stated that Miyetti Allah Cattle Breeders Association of Nigeria (MACBAN), the biggest and most influential herders' association in the country is the best institution that manage the conflict in Zamfara state. MACBAN averts crisis between the two groups by timely reporting to the relevant authorities, acts that can cause crises. The association is also represented in the state farmer-nomads dispute resolution committee of all the local government areas. Gyong (1998) stated that the traditional method of conflict management and coping strategies before the advent of colonialism in Africa was better than the present strategies. According to him, the desire was to remove the cause of the dispute and reconcile the two parties in such a way as to restore the social structure of society to its state of equilibrium. That settlement of conflict was usually done in a village square under the leadership of a

team of elders representing various clans, and they amicably settle and reconcile the parties involved.

CHAPTER THREE

3.0 METHODOLOGY

3.1 DESCRIPTION OF THE STUDY AREA

The study was conducted in Zamfara state. The state was created on 1st October 1996 with Gusau as its capital. Zamfara state has 14 local government areas with a population of 3.260 million based on the 2006 census and with population growth rate of 3.5 per annum, it is expected to hit 5,644,798 by 2019. (Zamfara state government, ZSG 2019 and NPC 2006).

Zamfara state is located at the North-west Region of Northern Nigeria. It covers a land area of 38,418 square kilometers. The state shares boundary with Sokoto state and republic of Niger to the North, Kebbi and Niger state to the west, Katsina to the east and Kaduna to the south. Zamfara state has two distinct season, Dry season (November-April) and Rainy season (May- October). The state is lies between latitude $10^0\ 21^1$ N to $13^0\ 15^1$N and longitude $6^0\ 20^1$E. (Zamfara state government, ZSG 2019). It is estimated that over 3.5 million hectares are cultivated in Zamfara area, representing about 30 percent of the area. Agriculture remains unique in the economy of Zamfara state. It is estimated that agriculture, in its various forms, provide the means of livelihood to over 80 percent of the population of the area.

Zamfara is blessed with a large area of arable and fertile land that support the production of variety of crops. Bakalori irrigation scheme had brought well over 30,000 hectares' land under cultivation for the production of wheat, rice, tomatoes, sweet potatoes and other food and cash crops. Zamfara was the second largest producer of groundnut and third largest producer of cotton to the entire country. In addition to production of food and cash crops, the inhabitant of Zamfara engage in

massive livestock development. A large number of cattle, sheep, goat and poultry are increasingly being reared. It's estimated that the livestock population in the area is well over 9 million heads (ZSG 2014)

Hundreds of years before the emergence of modern Nigeria, the ancient Zamfara kingdom is leading cereal producer in the whole western and central Sudan region, which now occupies the larger mid-section of the west African sub-region, (Kabir,2016).

Besides crop production, pastoralism and animal husbandry was the next important activity in Zamfara state. There are Agricultural population who engage in the rearing of animals (cow, sheep, andgoat) on a large or small scale but there are nomadic groups, notably Fulani, who engage in pastoralism by not only rearing animals but essentially depended on animal's husbandry as their sole means of livelihood. For the pastoralist, livestock provide them with their daily means of sustenance as well as the means to engage in all social relations with wider society, (Kabir,2016).

The selection of the state was informed by its high population of farmers and pastoralist (who constitute over 80% of the people) and for its relatively large number of grazing reserves (e.g. Zamfara and Kuyambana grazing reserve). The state also serves as a transit zone for pastoralist migrating from neighboring states and the Niger republic towards central and south western Nigeria in search of pasture at the end of the wet season. Zamfara state like other states in Nigeria, has a history of rampant clashes between farmers and pastoralist. One of the recent conflict between the two groups in the state has been reported by Abubakar (2016).

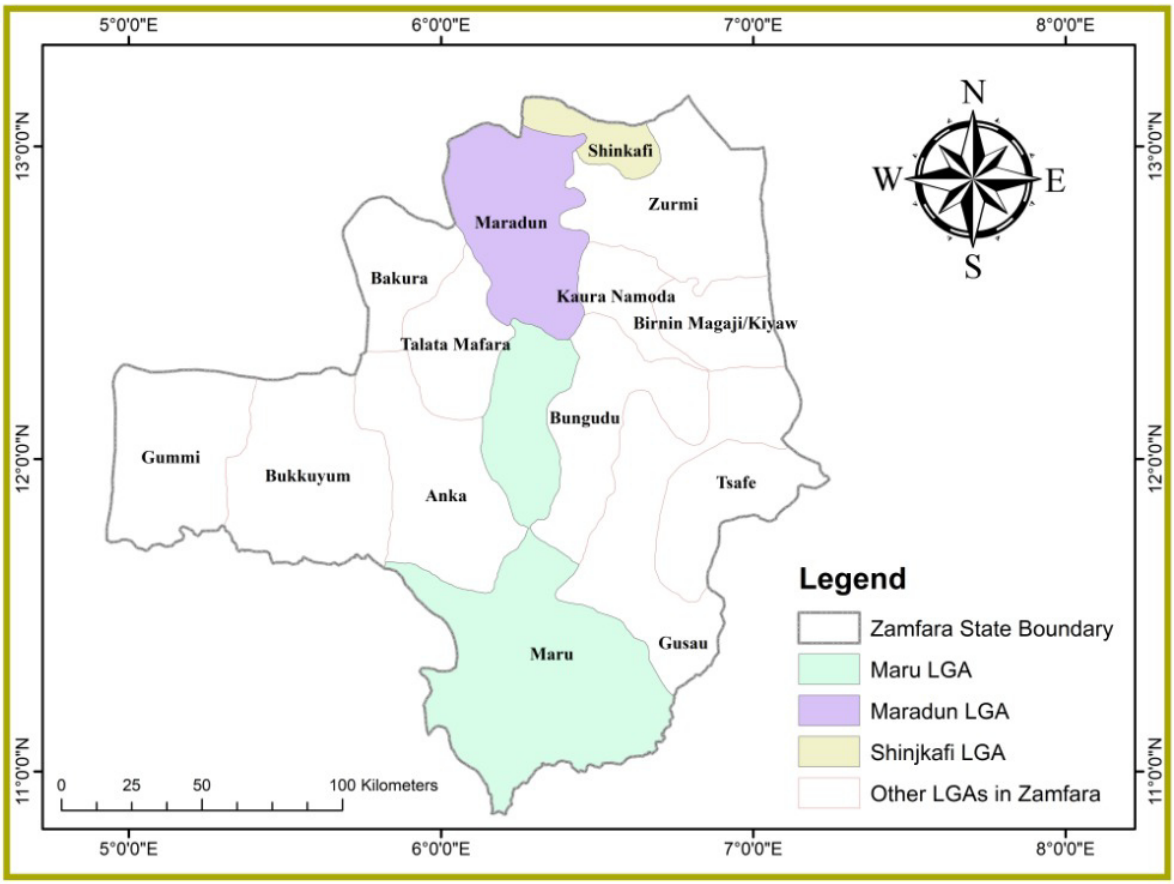

Figure 1: Map of Zamfara State showing the study Area.

Source: Geography Department BUK,2018.

3.2 SAMPLING PROCEDURE

The target respondents for the study are crop farmers and nomadic pastoralist in Zamfara state. The study employed the use ofmulti-stage sampling technique. The first stage involved purposive selection of three (3) Local Government Areas from three(3) administrative zones of Agricultural development project (ADP) in Zamfara state. The selection of the three (3) LGAs was based on the prevalence of crop farmers and nomadic pastoralist conflict. The LGA's selected are Maru in Gusau zone, Maradun in Gummi zone and Shinkafi in Kaura zone.

The second stage also involve the purposive selection of three (3) villages from each of the (3) LGAs selected based on the list of the affected villages obtain from Zamfara state emergency management agency (ZEMA), and also on the prevalence of crop farmers and nomadic pastoralist conflict in the area. Yar'Galadima, Dangulbi, and Bindin of Maru LGA, Sububu, Rudunu, Tangilla of Maradun LGA, Maberia, Badarawa, Kuka Tara of Shinkafi LGA. A total of nine (9) villages was selected for the study.

The third stage involve random selection of crop farmers from each of the nine (9) villages selected.The list of victims was obtaining from Zamfara state emergency management agency (ZEMA). In the case of nomadic pastoralist due to nature of their settlement, grazing places, economic activities and their market was detected. The snow ball sampling method was used to obtained a list of nomadic pastoralist and their camps around each of the selected villages for the study. The snow ball method was used to identify one respondent that helps the researcher to identify the others. Therefore, in each village the list was segregated between crop farmers and nomadic pastoralist. using the list of victims of the crop farmers and nomadic pastoralist conflict in the villages.

Raosoft sample size calculator was used to determine the sample size, using a confidence interval of 95% (i.e. 5% LOS) and a population of 626, the sample size was 240. The sample size (240) was selected across nine (9) villages of the three (3) LGAs proportionally.

Simple proportional formula was used to calculate the number of respondent in each village selected.

nc= $\frac{n}{N}\ xNc$

Where N is sampling frame for whole population, Nc is sampling frame for the community and nc is the sample size for the community.

For community level sample size

nc= $\frac{Total\ sample\ size}{Total\ sample\ frame} \times Village\ Sample\ Frame$

Example of Yargaladima village:

nc= $\frac{240}{626} \times 260 = 99$Therefore, a total of 240 questionnaires were administered to the respondent, as shown in the table 2.

Table 2: Summary of Sample Frame and Sample Size of the Respondents**.**

Zones	**LGA Selected**	**Villages Selected**	**No. of Victims**	**%**	**Sample Size for Respondents**	**Sample Size (Nomadic/ Pastoralist**	**Sample Size for Farmers**
Gusau	Maru	Y/Galadima	260	41	100	50	50
		Dangulbi	86	14	32	16	16
		Bindin	62	10	24	12	12
Gummi	Maradun	Sububu	42	7	16	8	8
		Rudunu	32	5	12	6	6
		Tangilla	30	5	12	6	6
	Shinkafi	Badarawa	59	10	22	11	11
Kaura		Kuka tara	30	5	12	6	6
		Maberia	25	3	10	5	5
TOTAL			**626**	**100**	**240**	**120**	**120**

Source: Preliminary Survey 2017

3.3 DATA COLLECTION

Primary data was used for the study. The data was obtained with the aid of questionnaire and checklist for key informant whichwas administered to the selected respondents. Data wascollected by the researcher with the assistance of trained enumerators.

3.4 TOOLS OF DATA ANALYSIS

Data collected for the study was analyzed using both descriptive and inferential statistics. Descriptive statistics such as mean, percentage, frequency and Likert scale was used to achieved objective 1,2 and 5 Foster, Greer and Thorbeck (FGT) poverty model, was used to achieved (objective 3) while (objective 4) to analyzed the

economic losses of the conflict on crop farmers and nomadic pastoralist in Zamfara state was analyzed using Alternative Cost Technique.

3.4.1 Descriptive Statistic

Descriptive statistics are concerned with scientific methods for summarizing, presenting and analyzing data as well as drawing valid conclusion and making reasonable decision on the basis of such analysis (Adamu and Tinuke, 1997). For this study, the descriptive statistic was used to achieve objective 1 and 5. These include the use of frequency distribution, mean and percentage.

3.4.2 Likert Scale

A Likert scale is a type of rating scale used to measure attitude or opinions. With this scale, respondents are asked to rate items on a level of agreement. Once the respondents have answered, numbers are assigned to the responses. This enables you to assign meaning to the responses. Therefore, this scale dwelt on causes of conflict between crop farmers and nomadic pastoralist. Here the respondents were requested to indicate the extent to which a list of causes of conflict between crop farmers and nomadic pastoralist on a 5 point Likert scale type as stated below:

Strongly disagree = 1

Disagree = 2

Undecided = 3

Agree = 4; and

Strongly agree = 5.

Therefore, any cause of the conflict with mean score greater than or equals 3 were regarded as a cause of conflict between crop farmers and nomadic pastoralist in the study area.

3.4.3 Foster, Greer and Thorbeck (FGT) Poverty Model

Foster-Greer-Thorbeck (1984). This is used to determine the poverty status of crop farmers and nomadic pastoralist.

The model is specified as;

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{Hi}\left(\frac{Z - Y_i}{Z}\right)^\alpha \quad \text{----------(1)}$$

Where;

P = Poverty index of households (Crop farmers / Nomadic pastoralist)

N = Total number of Crop farmers / Nomadic pastoralist

Z = Poverty line (2/3 of the mean per capita household expenditure for crop farmers / nomadic pastoralist)

Hi = Number of Crop farmers / Nomadic pastoralist below poverty line (less than Z)

Yi = Expenditure of Crop farmers / Nomadic pastoralist

a = Poverty index parameter, which takes the value of 0,1 and 2, representing incidence of poverty, poverty gap and severity of poverty respectively.

3.4.3.1 Construction of the poverty line

This study used per capita expenditure for the construction of the poverty line. Therefore, the poverty line was defined as the two-thirds (2/3) of the mean per capita household expenditure for crop farmers / nomadic pastoralist in the study area.

First step: Monthly Household expenditure divided by the household size = (MPCHHE).

Second step: The mean per capita household expenditure (MPCHHE) was calculated by the summation of all the MPCHHE and dividing it by the total number of crop farmer/nomadic pastoralist. Therefore, two-third of MPCHHE of the sampled crop farmers/nomadic pastoralist was the poverty line, below which a respondent is classified as being poor and above which a respondent is classified as being non-poor.

The component and derivation of the Foster-Greer and Thorbeck model are:

i. Head count ratio: this gives the percentage of sample household living with expenditure per capita less than poverty line. In other words, it measures the number of poor as a percentage of the total population. The poverty aversion parameter equal zero.

$$P_{\alpha} = \frac{1}{N}\sum_{i=1}^{Hi}\left(\frac{Z - Y_i}{Z}\right)^{\mathbf{0}} \quad \text{---------- (2)}$$

ii. Poverty depth: It can be used to determine the percentage of expenditure required to bring every household below the poverty line up to the poverty line. A useful index is obtained when the poverty aversion parameter is equal to one.

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{Hi}\left(\frac{Z - Y_i}{Z}\right)^{\mathbf{1}} \quad \text{----------(3)}$$

iii. Severity poverty index: This measure the severity of poverty and proportion of inequality exist among poor nomadic pastoralist and crop farmers at a point in time. The closer the value to 1 (100%) the harder the condition of the household. A useful index is obtained when the poverty aversion parameter is equal to two.

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{Hi}\left(\frac{Z - Y_i}{Z}\right)^{\mathbf{2}} \text{----------(4)}$$

3.4.4 Alternative Cost Technique

The approach to the analysis of economic losses incurred in the conflict was similar to that employed by Yonguan et al. (2001) when analyzing the environmental cost of water pollution in Chanquing, china and Sulaiman A. (2008) in analyzing economic effect of farmer-grazer conflict in Bauchi State. The analysis by Yonguan et al. (2001) was specifically on the damage to human health and life. Using the strategy of estimating the resources cost of the water pollution which actually consisted of two items:

1. Resource spent to mitigate the impact, e.g. the cost of treatment of ill health.
2. The loss of potential G.D.P, the loss through absence from work by the victim. For the dead, they employed the loss of production (the production possibility forgone) expected production and or it value by the victim.

The approach is embedded in the opportunity cost concept expressed by Lipsey and Chrystal (1995) as choice measuring the cost of anything that is chosen in term of the

best alternative that could have been chosen instead. The sacrifice alternative measures of the cost obtaining what is chosen. However, in the conflict situation circumstance determine the choice and the alternative, but in principle of opportunity cost, the alternative is used to measure the choice as the case of cost of water pollution. This establishes the alternative cost principle, the alternative cost technique (ACT).

The implicit form of the ACT can be expressed in the following relationship.

$\mathrm{ACT} = \sum_{l=i}^{n} \mathrm{TLDC}$---------- (5)

Where: -

ATC = Alternative cost technique

$\sum$ = Summation

TLDC = Total lost due to conflict

n = Sample size stating from the ith respondent, 1,2,3 ----n

In applying the principle for the analysis of the economic losses incurred from the crop farmer and nomadic pastoral conflicts, the element was categorized into the following component and process of the analysis.

I. Loss due to death of human (LD)

LD=EEPO+EESO+EEOS----------(6)

Where:

EEPO=Expected earnings from primary occupation

EESO=Expected earnings from secondary occupation

EEOS=Expected earnings from other source.

II. Loss Due to injury (LI)

LI= CT +EETI----------(7)

Where:

CT=Cost of treatment of injury.

EETI=Expected earnings during period of treatment.

IV. Loss of shelter

I. Loss due to damage shelter(LDS)

LDS=CR+CFD----------(8)

Where:

CR=Cost of repair of shelter

CFD=Cost of family displacement during time of repairs.

II. Loss due to total loss of shelter (LS)

LS=PVS+CFD+VHPL----------(9)

Where:

PVS=Present value of shelter (depreciated value)

CFD=Cost of family displacement

VHPL=Value of household property loss

vi. Lost due to loss of farm/farm produce (for both crops and livestock) =(LFL)

LFL=Y*P-C----------(10)

Where:

Y=Total quantity produced/expected to be produced.

P=unit price of the produce.

C=Cost of production.

Therefore, the total loss (in monetary terms) due to the crop farmers and nomadic pastoralist conflict:

TLDC= (LD+LI+LDS/LS+LFL) ---------- (11)

$$t = \frac{x1-x2}{std}$$----------(12)

CHAPTER FOUR

4.0 RESULT AND DISCUSSION

This chapter presents and explains the findings of this study in line with the objectives of the study. The first section of this chapter deals with the analysis of data using descriptive statistics which includes frequencies and percentages. The second section involves using Likert scale to determine the causes of conflict. The third section also involves using FGT model to determine poverty status of respondents. Also, the fourth section involves using ACT to estimate economic loss from the conflict. Lastly, the coping strategies employed by the crop farmers and nomadic pastoralists were also be discussed.

4.1 SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

The Socio-economic characteristics of the respondents which includes Sex, Age, Education, Household size, Farm size and Herd size were considered to elicit relevant information on conflict in the study area.

Table 3: Sex, Educational level, Marital status of Crop farmers and Nomadic pastoralist in Zamfara state

	Crop farmers		Nomadic pastoralist		Pooled	
	Frequency	Percentage	Frequency	percentage	frequency	Percentage
Sex						
Male	113	94.2	120	100	233	97.1
Female	7	5.8	0	0	7	2.9
Total	**120**	**100**	**120**	**100**	**240**	**100**
Education level						
Quranic	72	60.0	89	74.2	161	67.1
Adult	27	22.5	18	15.0	45	18.7
Primary	16	13.3	13	10.8	29	12.1
Secondary	5	4.2	0	0	5	2.1
Total	**120**	**100**	**120**	**100**	**240**	
Marital status						
Married	111	92.5	98	81.7	209	87.1
Single	2	1.7	22	18.3	24	10.0
Widow	7	5.8	0	0	7	2.9
Total	**120**	**100**	**120**	**100**	**240**	**100**

Source: Field Survey; 2018

4.1.1 Sex:

The result of this research indicates that, 113 Crop farmers representing 94.2% of the sampled crop farmers were males and only 5.8% were females. In the case of the Nomadic pastoralist all the 120 respondents representing 100% of the sampled Nomadic pastoralist are males. This is an indication that, both crop farming and pastoralism are male dominated enterprise, and males are however more energetic and also regarded as the protectors of the community. The research established that, the

tendency for being involved in conflict is higher in males than females. The result was "consisted" with the findings of Abdu (2015) in his research on causes and resolution of conflict between cattle herders and crop farmers in Katsina state, that all the respondent's herdsmen were males.

4.1.2 Education level

As presented in the Table 3, it revealed that majority of Nomadic pastoralist (89.2%) interviewed had no formal education at all, only (10.8%) attended primary education. Majority of crop farmers (60%) attended Qur'anic education while (22.5%) attended adult class, and only (17.5%) have attended western education. This implies that most of the nomadic pastoralists had no formal education compared to the crop farmers, and goes to show that education amongst nomads is not considered a priority as a result of their nomadic life style which makes them to keep migrating from place to place. However, lack of education can lead to expansion of the conflict.

4.1.3 Marital status

The majority of crop farmers and nomadic pastoralist affected by the conflict were married. (92.5%) of crop farmers and (81.7%) of nomadic pastoralist respectively. While only (1.7%) of crop farmers and (18.3%) of nomadic pastoralist were single. The few among the respondent were widow (5.8%). This implies that majority of the crop farmers and nomadic pastoralist have more responsibilities, and therefore marital status is an important variable to be considered in establishing any programme aimed at changing the society since family decision is very essential in any activity to be embarked upon. If married people were affected by the conflict, their ability to provide the family with the basic needs and to carter with family responsibilities will be affected.

Table 4: Age and Household size of Crop farmers and Nomadic Pastoralist in Zamfara state.

	Crop farmers		Nomadic pastoralist		Pooled	
	Frequency	Percentage	Frequency	percentage	frequency	Percentage
Age						
20-29	18	15.0	29	24.2	47	19.6
30-39	46	38.3	57	47.5	103	42.9
40-49	29	24.2	18	15.0	47	19.6
50-59	14	11.7	4	3.3	18	7.5
Total	**120**	**100**	**120**	**100**	**240**	**100**
Minimum	20		21			
Maximum	59		69			
Mean	40		36			
Std deviation	12.80		11.0			
Household Size						
1-5	22	18.3	52	43.3	74	30.8
6-10	72	60.0	47	39.2	119	49.6
11-15	26	27.7	21	17.5	47	19.6
Total	**120**	**100**	**120**	**100**	**240**	**100**
Minimum	1		2			
Maximum	15		14			
Mean	7		6			
Std deviation	3.43		3.62			

Source: Field Survey; 2018

4.1.4 Age

The result of the research also indicates that, majority of the respondents were within the age range of 30-39 years for crop farmers (38.3) and (47.5) for nomadic pastoralist respectively. These indicates that pastoralism attract more youth than crop farming. This implies that, the youth who are energetic, more productive, more innovative are also more prone to conflict.

4.1.5 Household size

Table 4: Shows the distribution of respondents based on their household. Household size is an important socio-economic parameter that determine the poverty status and social responsibility of the household. The result shows that 18.3% of crop farmers had a household size between one and five people and 60% has six and ten peoples, while 21.7% had a household size of between eleven and fifteen peoples. For Nomadic pastoralist the result shows that 43.3% had a household size between one and five, 39.2% between six and ten while 17.5% had a household size of between eleven and fifteen. This implies that household size in the study area was large and may be as a result of polygamous nature of the household and the perception of the respondents that large family is a source of cheap labour, more people to cater for and more hands to work on the farm and help with cattle herding.

Table 5: Farm size, Herd size of Crop farmers and Nomadic Pastoralist.

	Crop farmers			Nomadic Pastoralist	
	Frequency	Percentage		Frequency	Percentage
Farm size			Herd size		
1-2	17	14.2	1-30	33	27.5
3-4	47	39.2	31-60	51	42.5
5-6	37	30.8	61-90	36	30.0
7 and above	19	15.8			
Total	**120**	**100**	**Total**	**120**	**100**
Minimum	0.5		Minimum	1	
Maximum	7.0		Maximum	90	
Mean	3.3		Mean	45	
Std deviation	2.50		Std deviation	26	

Source: Field Survey; 2018

4.1.6 Farm size

The result of this research indicates that majority of the crop farmers (69.2%) owned a farm of less than 4 hectares, while only (14.2%) own more than 7ha. This indicates that most of the crop famers were predominantly small scale farmers because of the traditional land tenure of inheritance, whereby the land is usually divided into pieces and shared among family members. This implies the increase in the tendency of the farmers to encroach grazing reserve and cattle routes, thereby creating room for conflict.

4.1.7 Herd size

The findings of the research show that majority of the nomadic pastoralist (70%) keep a herd size of less than 61 cattle, while 30% within the range of 61-90. This result is

in line with Iro (2004) that reported the optimum herd size maintains by Fulani's lies between eighty and one hundred cattle. According to nomads this is due to the activities of cattle rustlers.

Table 6: Respondents household consumption expenditure

		Crop farmers		Nomadic Pastoralist	
Scale of operation	Household expenditure	frequency	Percentage	Frequency	Percentage
Small scale	1000 – 10000	86	71.7	79	65.8
Medium scale	11000 – 20000	33	27.5	41	34.2
Large scale	21000 – 30000	1	0.8	0	0
Total		**120**	**100**	**120**	**100**
Mean	₦11,183			₦ 10,950	
Minimum	₦ 6550			₦ 6000	
Maximum	₦22,500			₦17250	
Std error	2.66				

Source: Field Survey; 2018

4.1.8 Household consumption expenditure

The result of the Table 6 shows that about 65.8 percent small scale nomadic pastoralist and 71.7 percent of small scale crop farmers spend between₦1000 and ₦10000 on household per month respectively. 34.2 percent and 27.5 percent of nomadic pastoralist and crop farmers spends between ₦11000 and ₦20000 on household per month. This imply that conflict between crop farmers and nomadic pastoralist had impacted negatively on the wellbeing and overall livelihoods of both nomadic pastoralists and crop farmers in the study area.

4.2 PERCEIVED CAUSES OF CROP FARMERS AND NOMADIC PASTORALIST IN THE STUDY AREA

Conflict between crop farmers and nomadic pastoralists in the study area are caused by many factors. Therefore, crop farmers and Nomadic pastoralist were requested to identify what they perceived to be the causes of their conflict. The responses were graduated on a 5 point Likert scale from strongly disagree = 1, disagree = 2, undecided = 3, agree = 4, strongly agree = 5. The cut-off point was the mean of the cumulative point 1-5 which was calculated as 3.

Table 7: Distribution of Crop farmers according to their Perception on Causes of Conflicts

Item	**Strongly Disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**	**Total**	**Mean**
Crop Damage	-	2(1.7)	1(0.8)	39(32.5)	78(65)	120(100)	4.6
Encroachment of cattle route	19(15.8)	33(27.5)	5(4.2)	50(41.7)	13(10.8)	120(100)	3.0
Inadequate grazing reserves	4(3.3)	28(23.3)	5(4.2)	64(53.3)	19(15.8)	120(100)	3.6
Population Growth	2 (1.7)	5 (4.2)	4(3.3)	91(75.8)	18(15)	120(100)	3.9
Cattle Rustling	11(9.2)	23(19.2)	13(10.8)	52(43.3)	21(17.5)	120(100)	3.4
Traditional land tenure	8(6.7)	19(15.8)	2(1.7)	71(59.2)	20(16.7)	120(100)	3.6
Government Attitude	4(3.3)	9 (7.5)	13(10.8)	71(59.2)	23(19.2)	120(100)	3.8

Source: Field Survey 2018 Crop Farmers (N=120): Figures in bracket are percentages

Table 7, shows the distribution of crop farmers perception on the causes of conflict. The perception of crop farmers indicates they agreed that most of the causes outlined were major causes. Crop damage by cattle (97.5%), which implies that the damage done to farmer's crops by the nomad's cattle would lead to possibility of conflict occurrence between nomadic pastoralist and crop farmers. Population growth (90.8%), The result found that, population growth made farmers expand into areas that are previously used by the nomadic pastoralist. The increase in population means an increase in production of food, so also urbanization and population growth has led to the distortion of cattle routes and encroachment of grazing reserves, which increase the competition for farm and grazing land that consistently leads to frequent clashes between crop farmers and nomadic pastoralist. Government attitude (78.4%), the inability and non-implementation of government white paper on previous conflict, as well as government attitude to check and contain conflict is viewed by respondent as an obstacle to protecting people's lives, livelihood and economic development.

Table 8: Distribution of Nomadic pastoralist according to their Perception on Causes of Conflicts

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total	Mean
Crop Damage	1(0.8)	16(13.3)	12(10)	88(73.3)	3(2.5)	120	3.6
Encroachment of cattle route	-	-	-	17(14.2)	103(85.8)	120	4.9
Inadequate grazing reserves	-	-	-	24(20)	96(80)	120	4.8
Population growth	1(0.8)	3(2.5)	9(7.5)	97(80.8)	10(8.3)	120	3.9
Cattle Rustling	1 (0.8)	4(3.3)	7(5.8)	65((54.2	)43(35.8)	120	4.2
Traditional land tenure	40(33.3)	43(35.8)	9(7.5)	25(20.8)	3(2.5)	120	2.2
Government Attitude	31(25.8)	68(56.7)	8(6.7)	13(10.8)	-	120	2 .0

Source: Field Survey 2018Nomadic pastoralist (N=120): Figures in bracket are percentages

Table 8, shows the distribution of nomadic pastoralist perception on the causes of conflict. The perception of nomadic pastoralist however, indicates they agreed that most of the causes outlined were major causes. Encroachment of cattle route (100%), this indicates that the more the cattle routes are encroached the more the probability to engage in conflict between crop farmers and nomadic pastoralist. This concur with Abdu (2015) in his study on causes and resolution of conflict between cattle herders and crop farmers in Katsina state, that land encroachment is among the major causes

of farmer-herders conflict.Inadequate grazing reserves (100%), this indicates that the more the grazing reserves continues to shrink, the more the probability of conflict to occurred. Cattle rustling (90%), both farmers and nomads engage in cattle rustling. Cattle rustling is a systematic operation, where the syndicate from both sides in agreement systematically arrange their rustling plans. The more the rustling continues to occur, the more likely that conflict between crop farmers and nomadic pastoralist thrives. This is in line with Abdu findings in 2015 who observed similar findings between farmers and herders in Katsina state.

4.3 POVERTY STATUS AMONG CROP FARMERS AND NOMADIC PASTORALIST IN ZAMFARA STATE

The Foster, Greer and Thorbeck reveal the poverty status of crop farmers and nomadic pastoralist.

Table 9: Poverty status of Nomadic pastoralist and crop farmers

	Nomadic Pastoralist		**Crop farmers**		**Pooled**	
Variable	**Poor**	**Non-poor**	**Poor**	**Non-poor**	**Poor**	**Non-poor**
Poverty incidence	103	17	97	23	200	40
% incidence	85.83	14.16	80.83	19.17	83.3	16.77
Poverty depth (P1)	0.34403	0.1597	0.296	0.2312		
Poverty Severity (P2)	0.1650	0.1819	0.1080	0.2910		
Poverty line	₦7,300.46		₦7,455.6			
MPCHHE	₦10,950.68		₦11,183.41			

Source: Field Survey 2018

Table 9: Reveals the poverty status of nomadic pastoralist and crop farmers in the study area. It was found that 85.83% of nomadic pastoralist equivalent to 103 and 80.83% of crop farmers equivalent to 97 were living below poverty line, while 14.16% of nomadic pastoralist representing 17 and 19.17% of crop farmers representing 23 were non-poor. The poverty line was ₦ 7,300.46 for nomadic pastoralist and ₦ 7,455.6 for crop farmers respectively. However, the poverty depth index was 0.3403 and 0.269 for nomadic pastoralist and crop farmers, implies that 34% of expenditure is needed to bring nomadic pastoralist up to the poverty line, while 26% of expenditure is needed to bring crop farmers up to the poverty line. The poverty severity for nomadic pastoralist was 0.1650, implies that the poorest nomadic pastoralist accounted for 16.5%, while 0.1080 for crop farmers, implies that the poorest crop farmers accounted for 10.8% only.The result of the Foster- Greer and Thorbeck measure of poverty confirmed that conflict between crop farmers and nomadic pastoralist had impacted negatively on the wellbeing and overall livelihoods of both nomadic pastoralists and crop farmers in the study area.

Table 10: Economic loss on conflict between crop farmers and Nomadic Pastoralist

		Crop farmers		**Nomadic pastoralist**	
Source of loss	Source of cost	Mean value of cost (₦)	Total of loss (₦)	Mean value of cost (₦)	Total value of loss (₦)
Human life lost	Annual earnings from:				
	Primary source:	555,800	12,783,400	561,700	4,493,600
	Secondary source :	32,200	736,000	----	----
Injured person	Cost of treatment	43,475	1,782,475	21,500	688,000
	Expected earnings during treatment	73,000	2,993,000	85,000	2,720,000
Shelter	Cost of repairs	285,000	8,835,000	---	---
	Cost of using alternative accommodation	27,000	162,000	---	---
Farm/farm Produce	Crop expected output value	271,200	40,680,000	---	---
	Livestock expected output value			70,000	20,720,000
	Cattle (296)			15,000	1,770,000
	Sheep/Goat (118)				
Total			**₦67,971,875**		**₦30,391,6000**

Source: Field Survey 2018

4.4 ECONOMIC LOSS ON CONFLICT BETWEEN CROP FARMERS AND NOMADIC PASTORALIST

The result indicates that 23 crop farmers and 8 nomadic pastoralist lost their lives with expected economic contribution of (₦12,783,400) and (₦4,493,600)respectively. The number of injured person as a result of the conflict were 41 crop farmers and 32 nomadic pastoralists, not all injured person are hospitalized, about 80 percent of them stay at home, the cost implication due to the body injuries of the affected persons were (₦4,775,475) and (₦3,408,000). The result also shows that 31 houses were destroyed and 6 respondent used alternative accommodation, but no report of house destruction by nomadic pastoralist, the monetary value of the loss incurred on shelter was (₦8,997,000). The study revealed that, the monetary value of the loss incurred by crop farmers from the loss of farm and farm product was (₦40,680,000) while nomadic pastoralist lost about 296 cattle and 118 sheep and goat with the monetary value of the loss as (₦22,490,000). The total value of loss incurred by crop farmers was (₦67,971,875) while nomadic pastoralist was (₦30,391,600)

Table 11: Loss incurred by crop farmers and nomadic pastoralist compare

Type of loss	Crop farmer N-value	Nomadic pastoralist N-value	Total N-value
Human life lost	13,519,400	4,493,600	18,013,000
Injured person	4,775,475	3,408,000	8,183,475
Shelter (house)	8, 997,000	---------	8,997,000
Farm/farm produce			
Crop	40,680,000	----------	40,680,000
Livestock	----------	2,490,000	22,490,000
Total	**67,971,875**	**30,391,600**	**98,363,475**
Paired sample test			
Mean	40870064.0		
Standard deviation	48368400.5		
Standard error	3420162.0		
T-value	1.424		
Sig (2tailed)	0.844		

Source: Field Survey 2018

4.5 LOSS INCURRED BY CROP FARMERS AND NOMADIC PASTORALIST COMPARED

The losses incurred by crop farmers and nomadic pastoralist shows that, not all classes of loss were incurred by both parties. The result in Table 11 indicates that the crop farmers incurred(₦67,971,875) higher losses in monetary term than nomadic (₦30,391,600), with a difference of ₦37,580,275.

The average loss per crop farmers was (₦566,623.29), while the corresponding loss for nomadic pastoralist was (₦313,168.96). This implies that the losses incurred by crop farmers were higher than that of the nomadic pastoralist by 80.93%. Despite this

the population of poor crop farmers (80.83%) and that of nomadic pastoralist (85.83%) are closed. This is contrary to a priori expectation. However, it is worth nothing that the rate of wealth regeneration could be higher and faster among crop farmers compared to nomadic pastoralist.

The result of the paired sample t-test revealed that, since the tabular t-value is greater than the calculated t-value there was no significant difference in the rate of losses between crop farmers and nomadic pastoralist. The result shows that both parties suffered losses in similar way. The finding tallies with that of sule, 2008. In his study economic effect of conflict between farmers and pastoralist in Nigeria. A case study of Bauchi state.

4.6 COPING STRATEGIES AMONG CROP FARMERS AND NOMADIC PASTORALIST IN ZAMFARA STATE

Different method and strategies of conflict management have been advanced by different scholars. As agriculture remains the main source of livelihood for most of the rural people, it is imperative to have a coping strategies that can help the them to mitigate the effects of conflict shocks. For effective management of conflict between crop farmers and nomadic pastoralist, it is important to assess how both group cope with the conflict.

Table 12: Coping strategies employed by crop farmers and nomadic pastoralist in the study area.

Strategy	Crop farmers (N=120)	Nomadic pastoralist (N=120)
▪ **Problem-oriented coping strategies**		
• Increase farm/ herd size	50.8	29.2
• Relocate farm/ herds	97.5	82.5
• Multiple farm plot /herd splitting	90.0	91.7
• Increase labour input	86.7	40.8
• Bought food crop/ cattle feed	20.0	87.5
• Early harvesting/ stock disposed	97.5	18.3
• Supplementary occupation	55.8	14.2
• Stayed late on farm/ herd at night	15.0	-----
• Migration from conflict areas	93.3	91.7
▪ **Social Support-Seeking Coping Strategies**		
• Help from religious leaders	41.7	25.0
• Help from traditional rulers	95.8	88.3
• Help from relations/ friends	96.7	90.8
• Help from government	62.5	30.8
• Help from union/ association	5.0	89.2
• Sought litigation	89.2	17.5
▪ **Emotion-oriented coping strategies**		
• Prayer for peace	100	90.8

Source: Field Survey; 2018

Table 12 summarizes the results on coping strategies employed by crop farmers and nomadic pastoralist in Zamfara state. Seventeen coping strategies were identified. However, the research used the denomination established by (Lazarus and Folkman, 1984), where coping strategies were classified as "Problem-oriented", Social Support-seeking" and Emotion-oriented coping strategies.

The result shows that both crop farmers and nomadic pastoralist used combination of the three classification of coping strategies, but both group used more of problem oriented coping strategies than the other two types of coping strategies. This is an indication that both crop farmers and nomadic pastoralist perceived the conflict from the problem perspective.

Table 12 Also revealed that, relocate farm (97.5%), early harvesting (97.5%), migration from conflict areas (93.3%), increasing farm size were the most used problem-oriented coping strategies among crop farmers. The implication of this is that the crop farmers were forced to migrate, harvest their crops prematurely as well as relocating their farms as a way of coping with the conflict might have a detrimental effect on crop production. When these strategies were not carried out properly and cattle route are also not considered, conflict with nomadic pastoralist could occurred.

Among the nomadic pastoralist, the most widely used problem-oriented strategies are herd's relocation (82.5%), herd's splitting (91.7%), and migration from conflict areas (91.7%). In the view of the nomads, dividing a herd of animals into smaller groups affords them an opportunity to manage fewer animals and enhances their ability to avoid farmers farm plot. The result further indicates that; the use of emotion-oriented coping strategies was also used frequently. (100%) of crop farmers and (90.8%)of nomadic pastoralist used emotion-oriented coping strategies. The use of prayers for

peace indicates the level of religious attachment of both crop farmers and nomadic pastoralist.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

The study was conducted in Zamfara state, on Socio-economic analysis of Crop farmers and Nomadic Pastoralist Conflict in Zamfara state. The specific objectives of the study were to; describe the socio-economic characteristics of crop farmers and nomadic pastoralist in the study area, identify the causes of conflict between crop farmers and nomadic pastoralist, determine the poverty status of crop farmers and nomadic pastoralist as a result of conflict, estimate the economic loss from the conflict between crop farmers and nomadic pastoralist, asses the coping strategies employed by crop farmers and nomadic pastoralist conflict in Zamfara state.

Primary data for the study were collected using structured questionnaire, administered to 240 respondents in the study area. Multi- stage sampling technique was employed in selecting the respondents. Three (3) local government areas, Maru, Maradun and Shinkafi were purposively selected because of the prevalence of crop farmers and nomadic pastoralist conflict in the area, second stage involves the purposive selection of three (3) villages from each of the (3) local government areas selected based on the list of the affected villages obtain from Zamfara state emergency management agency (ZEMA). A total of nine (9) villages was selected for the study. Third stage involve random selection of crop farmers from each of the nine villages selected. In the case of nomadic pastoralist due to nature of their settlement, grazing places and their economic activities, the snow ball sampling method was used to obtain a list of nomadic pastoralist and their camps around each of the selected villages for the study. Raosoft sample size calculator was used to determine the sample size, using a confidence interval of 95% (i.e. 5% LOS) and a population of 626, the sample size

was 240. The sample size (240) was selected across nine (9) villages of the three (3) local government areas proportionally. Data collected were analyzed using Descriptive statistics, Alternative cost technique, t-test and Foster-Greer and Thorbeck model.

The result of the study indicated that majority of the crop farmers and nomadic pastoralist were married and fell between 20 and 59 years with mean age of 36 years respectively, indicating that middle age or youth are more vulnerable and also victims of conflict in the study area. Result also shows that 60% and 74.2% of crop farmers and nomadic pastoralist had no formal education. Majority of crop farmers own less than 4 hectares of land, while most of the nomadic pastoralist keep a herd size of less than 60 cattle.

The result of the study however, revealed that, majority of the respondents perceived that the major causes of the conflict were crop damage, in adequate grazing land, land encroachment, and population growth.

The result further, indicates that about ₦98,363,475 losses was incurred by crop farmers and nomadic pastoralist, while crop farmers incurred higher losses (₦67,971,875) compared to nomadic pastoralist (₦30,391,600).

The result of Foster- Greer and Thorbeck measure of poverty revealed that, 85.83% (103), of nomadic pastoralist and 80.83% (97) of crop farmers were living below the poverty line. The poverty line was ₦7,300.46 for nomadic pastoralist and ₦7,4555.6 for crop farmers respectively, poverty depth (P1) was 0.3403 and 0.1597 for poor and non-poor nomadic pastoralist, while 0.269 and 0.2312 for poor and non-poor crop farmers respectively, poverty severity (P2) was 0.1650 and 0.1819 for poor and non-

poor nomadic pastoralist, while 0.1080 and 0.2910 for poor and non-poor crop farmers respectively.

The study found that, both parties preferred problem-oriented coping strategies i.e. farm relocation/ herd relocation, migration from conflict areas, multiple farm plot/ herd splitting, than other types of coping strategies.

5.2 CONCLUSION

Based on the findings of the study, socio-economic variables such as age, household size, level of education has significant implication on the conflict. The result of the study indicates that, the youth who constituted the majority in the study area are willing and ready to participate in conflict. This study also revealed that, conflict lead to high level of poverty in the state. This was confirmed by the result of the Foster-Greer and Thorbeck measure of poverty that shows conflict between crop farmers and nomadic pastoralist had impacted negatively on the wellbeing and overall livelihoods of both nomadic pastoralists and crop farmers in the study area.The result of the study revealed that, crop farmers incurred higher losses compared to nomadic pastoralist.

The study found that, both crop farmers and nomadic pastoralist preferred problem-oriented coping strategies than the other two types of coping strategy i.e. social-support seeking and emotion-oriented coping strategies.

5.3 RECOMMENDATIONS

Based on the findings and conclusion of the research. The following recommendations are suggested for proper management of conflict between crop farmers and nomadic pastoralist in the study area.

1. Government should provide infrastructures such as adequate grazing reserves, cattle route, dams and educational facilities, and also design appropriate strategies and policies to create better awareness and compliance to the laid down rules and regulations governing the use of cattle routes and grazing reserves among crop farmers and nomadic pastoralist.
2. Government should assist the conflict victims with relief materials, compensation and subsidized inputs so that they can resume normal production activity and elevate their poverty status.
3. Religious leaders, traditional leaders and non-governmental organization should be more involved in the sensitization and awareness Programme on peace education.
4. The crop farmers and nomadic pastoralist should adopt intensive system of grazing and cultivation by using improved seeds and farm inputs in order to cope with the rapid demographic pressure on the grazing field and declining farmlands in the study area.

5.4 CONTRIBUTION OF THE STUDY TO KNOWLEDGE

This study "Socio-economic analysis of crop farmers and nomadic pastoralist conflict in Zamfara state, Nigeria, helps to analyzed the poverty status, estimate the economic losses as well as assessing coping strategies employed by the crop farmers and nomadic pastoralist.

1. The study established that 85.83% of nomadic pastoralist and 80.83% of crop farmers were living below poverty line, while 14.16% and 19.17% were non-poor, poverty depth (P1) was 0.3403 and 0.269, poverty severity (P2) was 0.1650 and 0.10810 respectively.
2. The result indicates that about ₦98,363,475 losses was incurred by crop farmers and nomadic pastoralist, while crop farmers incurred higher losses (₦67,971,875) compared to nomadic pastoralist (₦30,391,600).
3. The studyrevealed that, relocate farm (97.5%), early harvesting (97.5%), migration from conflict areas (93.3%), were the most used problem-oriented coping strategies among crop farmers. Among the nomadic pastoralist, the most widely used problem-oriented strategies are herd's relocation (82.5%), herd's splitting (91.7%).

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APPENDIX

BAYERO UNIVERSITY, KANO, NIGERIA
FACULTY OF AGRICULTURE
DEPARTMENTOF AGRIC.ECONS & EXTENSION

QUESTIONAIRE FOR SOCIO- ECONOMIC ANAYLSIS OF CROP FARMERS AND NOMADIC PASTORALIST CONFLICT IN ZAMFARA STATE, NIGERIA

FARMERS SECTION

Dear Respondent,

I am a Postgraduate student of the Department of Agricultural Economics and Extension, Faculty of Agriculture, Bayero University Kano. Please, answer the following questions with utmost sincerity. You are assured absolute confidentiality. All information provided by you will be treated confidentially and for academic purpose only. Thus, your responses and time are greatly appreciated.

Local Govt. Area……. District…….

Village…….……

Enumerators Name……. Phone…….

Date of Interview…… GPS Coordinate…….

SECTION A:

SOCIO-ECONOMIC CHARACTERISTIC OF RESPONDENT

1. Name of respondent: _____
2. Local Government Area: _____
3. Village: _____
4. Age of the respondent: _____
5. Gender of the respondent (a) male (b) female. (**tick the appropriate option**)
6. Marital status of the respondent (a) married (b) single (c) divorced (d) widowed
7. Level of education of the respondent (a) primary (b) secondary (c) tertiary (d) informal education (e) Quranic education.
8. Major occupation of the respondent: (a) farming (b) trading (c) civil servant (d) others (specify).
9. Is farming your major source of income? A) Yes b) No
10. What are your other sources of income? (a) Livestock rearing (b) trading (c) civil servant (d) others (specify): _____
11. Household size of the respondent: _____

    i. Number of wives……. ii. Number of children……iii Number of dependent
12. Farming experience: _____years
13. What is the source of your farm land (a) inherited land (b) hired land (c) purchased land (d) family land (e) community land (f) gift?
14. What is the total size of your farm land? _____ (hectares)

SECTION B:

CAUSES OF CROP FARMERS AND NOMADIC PASTORALIST CONFLICT.

1. Kindly choose either 1,2,3,4 or 5 from the followings which best indicate your opinion regarding the causes of the conflict. Please remember to tick only once for each of the listed items.

1= Strongly disagree, 2= Disagree, 3= Undecided, 4= Agree, 5= Strongly Agree

S/No	**CAUSES**	**1**	**2**	**3**	**4**	**5**
1	Inadequate grazing reserve					
2	Encroachment of cattle route					
3	Blocking water sources					
4	Population growth					
5	Change in climate					
6	Commercialization of crop residue					
7	Cattle rustling					
8	Traditional land tenure					
9	Government attitude					
10	Inadequate land for crop production					
Others (specify):						
11						

SECTION C

POVERTY ANALYSIS

1. Kindly indicate the estimate of your annual income?₦_____
2. What are the income from other sources? ₦_____
3. Kindly provide information on your household food and non-food consumption expenditure.

ITEM	**AMOUNT SPENT (N)**
Food	
House rent	
Medical expenses	
Clothing expenses	
Transportation expenses	
Social expenses (Wedding, Naming Ceremony etc.)	
Religion (Contribution, gift etc.)	
Remittance (Monthly Allowance to parent or relation etc.)	
Other expenses (Specify)	

4. Is your earning enough to take care of your expenditure? Yes [ ] No [ ]
5. If no, how do you complement your monthly expenditure? _____

_____

SECTION D

ECONOMIC EFFECT OF THE CONFLICT

1. Were you involved in the conflict? Yes ( ) No ( )
2. Do you incur any loss Yes ( ) No ( )
3. What is the nature of the loss incurred?

   (i) Loss of live (ii) Loss of livestock (iii) Loss/destruction of crops (iv) Destruction of houses (v) Loss of cattle routes (burtali) (vi) Loss of grazing land (vii) Loss of cropped land viii. Body injury.

4. What is the number of lives lost? _____
5. What is the number of injured people? _____
6. What is the number of houses destroyed? _____
7. What is the quantity of crops (bags) lost._____
8. What is the number of livestock lost?

a. Cattle _____

b. Sheep _____

c. Goats _____

9. Did you vacate your house due to conflict Yes ( ) No ( )
10. Did you migrate out of your community Yes ( ) No ( )
11. What is the nature of the movement (a) temporary (b) permanent?
12. What is the state of settlement? (a) Neighboring house (b) Refugee camp (c)Relations house (d) rent house?
13. Mention the effect of the conflict to your livelihood. (nature of effect).
    (a) increase in poverty (b) loss of jobs (c) food insecurity
    (d) breakdown of trust (e) political gain (f) economic gain.
14. Mention major crops cultivated on each plot? _____

    _____

15. Provide the following information on inputs used on farmland.

Input	**2017 Production Season**		
	Qty used in kg/litre	**Cost (₦/kg or litre)**	**Total cost(₦)**
Seed			
Local variety			
Improved variety			
Fertilizers			
S.S.P			
N.PK			
UREA			
Compost			
FYM			
Agrochemicals			
Pesticides			
Herbicides			
Others (Specify)			
Transport			
Bags			

16. Provide the following information on labour utilization on farmland

			Hired Labour		**Family Labour**			
Operations	No. of labourers	No. of hours/ day	No. of days spent	Unit cost (₦)	No. of labourers	No. of hrs spent /day	No. of days spent	Unit cost (₦)
Land preparation								
Planting								
Fertilizer application								
Weeding								
Pesticides								
Herbicides								
Harvesting								

17. Please provide the following information with respect to crop output

Crop	**Total Yield/ha**	**Quantity Sold (kg)**	**Unit price (₦)**	**Total (₦)**	**Qty reserved as seed**	**Qty given as gift**	**Qty stored**

18. Indicate the number of farm equipment you own, their purchased price, present value and their useful period.

Name of equipment	**Number**	**Age**	**Expected life span**	**Source**	**Unit cost in (Naira)**	**Total cost in (Naira)**

SECTION E:

COPING STRATEGIES EMPLOYED BY CROP FARMERS AND NOMADIC

PASTORALIST AGAINST CONFLICT.

19. Which among the following activities do you do to cope with conflict? (**tick**)

S/N	**COPING STRATEGIES**	**STRATEGIES PRACTICE**	**MOST USED STRATEGIES(tick one only)**
I	Increase farm/herd size		
Ii	Relocate farm/herds		
Iii	Multiple farm plot/herd splitting		
Iv	Increase labour input		
V	Bought food crop/cattle feed		
Vi	Early harvesting/stock disposed		
Vii	Supplementary occupations		
Viii	Stayed late on farm/herd at night		
Ix	Migration from conflict areas		
X	Help from religious leaders		
Xi	Help from traditional rulers		
Xii	Help from relations/friends		
Xiii	Help from government		
Xiv	Help from union/association		
Xv	Sought litigation		
Xvi	Prayed for peace		
Xvii	Use drugs/alcohol		
Xviii	Others (specify)		

THANK YOU

BAYERO UNIVERSITY, KANO, NIGERIA

FACULTY OF AGRICULTURE

DEPARTMENTOF AGRIC.ECONS & EXTENSION

QUESTIONAIRE FOR SOCIO- ECONOMIC ANAYLSIS OF CROP FARMERS AND NOMADIC PASTORALIST CONFLICT IN ZAMFARA STATE, NIGERIA

PASTORALIST SECTION

Dear Respondent,

I am a Postgraduate student of the Department of Agricultural Economics and Extension, Faculty of Agriculture, Bayero University Kano. Please, answer the following questions with utmost sincerity. You are assured absolute confidentiality. All information provided by you will be treated confidentially and for academic purpose only. Thus, your responses and time are greatly appreciated.

Local Govt. Area_____ District_____

Village_____

Enumerators Name_____ Phone_____

Date of Interview_____ GPS Coordinate_____

SECTION A:

SOCIO-ECONOMIC CHARACTERISTIC OF RESPONDENT

15. Name of respondent: _____

16. Local Government Area:_____

17. Village: _____

18. Age of the respondent: _____

(**tick the appropriate option**)

19. Gender of the respondent:(a) male**( )**(b) female. **( )**

20. Marital status of the respondent:

(a) married **( )**(b) single **( )**(c) divorced**( )**(d) widowed**( )**

21. Level of education of the respondent

(a) Primary**( )** (b)Secondary **( )** (c)Tertiary**( )**

(d)Informal Education**( )** (e) Quranic Education**( )**

22. Major occupation of the respondent: (a) farming**( )** (b)pastoralism**(**

(c)trading**( )** (d) civil servant**( )** (e) others**( )** (specify)-

:_____

23. Is pastoralism your major source of income? (a) Yes**( )**(b) No**( )**

24. What other sources of income do you have?

(a) Farming**()**(b)Trading**( )** (c)Milk Processing**( )**

(d)Others**( )**(specify)_____

25. Household size of the respondent:

(i) Number of wives:_____ (ii) Number of children_____

(iii) Number of dependent _____

26. Herd Size (no. of animals) _____

SECTION B:

CAUSES OF CROP FARMERS AND NOMADIC PASTORALIST CONFLICT.

27. Kindly choose either 1,2,3 or 4 from the followings which best indicate your opinion regarding the causes of the conflict. Please remember to tick only once for each of the listed items.

1= Strongly disagree 2= Disagree 3= Undecided 4= Agree 5= Strongly Agree

S/No	**CAUSES**	**1**	**2**	**3**	**4**	**5**
A	Inadequate grazing reserve					
B	Encroachment of cattle route					
C	Blocking water sources					
D	Population growth					
E	Change in climate					
F	Commercialization of crop residue					
G	Cattle rustling					
H	Traditional land tenure					
I	Government attitude					
J	Inadequate land for crop production					
Others (specify):						
K						
L						
M						
N						
0						
P						

SECTION C

POVERTY ANALYSIS

28. Kindly indicate the estimate of your annual income? ₦_____

29. What are the income from other sources? ₦_____

30. Kindly provide information on your household food and non-food consumption expenditure.

ITEM	**AMOUNT SPENT (₦)**
Food	
House rent	
Medical expenses	
Clothing expenses	
Transportation expenses	
Social expenses (Wedding, Naming Ceremony etc.)	
Religion (Contribution, gift etc.)	
Remittance (Monthly Allowance to parent or relation etc.)	
Other expenses (Specify)	

31. Is your earning enough to take care of your expenditure? Yes [ ] No [ ]

32. If no, how do you complement your monthly expenditure? _____

_____

SECTION D

ECONOMIC EFFECT OF THE CONFLICT.

33. Were you involved in the conflict? Yes ( ) No ( )

34. Do you incur any loss Yes ( ) No ( )

35. What is the nature of the loss incurred?

(i)Loss of live (ii) Loss of livestock (iii) Destruction of houses (iv)Loss of cattle routes (burtali) (v) Loss of grazing land (vi)Body injury

22. What is the number of lives lost? _____

23. What is the number of injured people?_____

24. What is the number of settlements destroyed? _____

25. What is the number of livestock lost?

a. Cattle_____ Price/animal₦ _____

b. Sheep _____ Price/animal₦ _____

c. Goats _____ Price/animal₦ _____

26. Did you vacate your settlements due to conflict Yes ( ) No ( )

27. Did you migrate out of the community Yes ( ) No ( )

28. What is the nature of the movement(a)temporary( )(b) permanent( )

29. What is the state of settlement?

(a) Neighboring settlements( ) (b)Refugee camp( )
(c)Relative settlement( ) (d) rent house( )

30. Mention the effect of the conflict to your livelihood. (nature of effect).

(a) increase in poverty( )(b) loss of jobs( )
(c) food insecurity( )(d) breakdown of trust( )

SECTION E:

COPING STRATEGIES EMPLOYED BY CROP FARMERS AND NOMADIC PASTORALIST AGAINST CONFLICT.

31. Which among the following activities do you do to cope with conflict? (**tick**)

S/N	**COPING STRATEGIES**	**STRATEGIES PRACTICE**	**MOST USED STRATEGIES(tick one only)**
I	Increase farm/herd size		
Ii	Relocate farm/herds		
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xviii	Others (specify)		

THANK YOU.