IMPACTS OF VIOLENT CONFLICTS ON THE ECONOMIES OF RURAL COMMUNITIES IN NASARAWA STATE, NIGERIA

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A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, NASARAWA STATE UNIVERSITY KEFFI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTERS OF SCIENCE (M.Sc.) DEGREE IN AGRICULTURAL EXTENSION AND COMMUNICATION

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DECLARATION

I, Ernest Ogezi, hereby declare that this dissertation titled "**Impacts of Violent Conflicts on the Economies of Rural Communities in Nasarawa State, Nigeria"** has been written by me, being an output of a research work I conducted. This work has not been presented in any previous application as a requirement for the award of Masters of Science Degree. All quotations are reflected and sources of information are clearly acknowledged by means of references.

……. ……...

Ernest Ogezi Date

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CERTIFICATION

This dissertation titled; **Impacts of Violent Conflicts on the Economies of Rural Communities in Nasarawa State, Nigeria** by ERNEST OGEZI, meets the requirements and regulations governing the award of Masters of Science Degree of the School of Post Graduate Studies, Nasarawa State University, Keffi and is approved for its contribution to knowledge.

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DEDICATION

I dedicate this work to the Almighty God, the most Holy Trinity, within whom I have been hidden and offered the grace to complete this work in nothing short of the miracle only God can perform. I am a living testimony to the syllogism that if there is a man to pray there, indeed, is God to answer.

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Abstract

Violent conflicts have proved to have severe and significant impacts on rural economies in Nigeria and efforts to manage these conflicts will improve rural agrarian economies. The study analysed the impacts of violent conflicts on the economies of rural communities in Nasarawa State, Nigeria. Primary data were collected from the respondents using a structured interview schedule, while focus group discussions (FGD) sessions were employed to assess effects of conflicts on communities. Data were analysed using simple statistics, alternative resource cost stimation (ARCE) and content analysis while the Likert scale was used to measure the perception of respondents towards the causes of conflicts. The results revealed that the population was young with a mean age of 36 years. Mean annual income of respondents was ₦885,563.30 and standard deviation was ₦7,298,054.40 implying huge income inequality. There were six (6) major categories of conflicts identified in the area. These categories were communal conflicts, ethnic conflicts, resource conflicts (most often land conflicts), politically motivated conflicts, conflicts due to traditional chieftaincy, and the conflicts between state forces and militia groups. Expansion of agro-pastoralism (4.6) and Extensive sedentism (4.5) were very serious factors that were perceived to lead to conflicts. A total of ₦2,289,859,549 worth 30.28% of the State's 2018 IGR were lost in these conflicts. It was recommended that laws regarding people with diverse backgrounds and socioeconomic needs and population growth in relation to limited resources should be developed with great care and attention paid to all the parties involved in the process.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In today's development decade, rural development is of utter importance for several reasons. For one, most of the population in developing nations live in rural areas where the most critical poverty situations prevail. Most of the developing nations have young people as a vast majority of their population who dwell mostly in rural areas. This simply means the development of the youth is imperative for any meaningful development to take place. More than 80% of the world's young people between the ages of 15 and 24 are said to live in developing countries and are mostly unemployed (Sarkar, 2007; UNICEF, 2005; Braimoh and King, 2006; Akande, 2014). A vast majority of the world's poor, especially poor populations in Sub-Saharan Africa, are from rural areas mostly involved in farming (World Bank, 2008; Ayoola *et al*., 2000; Okunmadewa, 2002; Spencer, 2002; Alayande and Alayande, 2004; Poulton *et al*., 2005; Apata, 2006). Nigeria's poor populations are reported to be predominantly rural dwellers and households whose livelihoods and sustenance base depend on them subsisting (World Bank, 2000; NBS, 2012; Babatunde *et al*., 2008).

Agriculture still holds clear cut dominance in sectoral involvement for many households in Nigeria, particularly in rural areas where it employs almost 84% of households and accounts for 56 per cent of rural net income. To increase agricultural productivity, and therefore incomes and livelihoods of the rural people, labour, fertilizer, agricultural advisory service, and diversification within agriculture are the most important factors (World Bank, 2014). This requires innovativeness, technology savvy and dynamism

typical only of youths. This need is further amplified by the huge dominance of youth populations in rural locations.

Several contexts affect the rural economy in Nigeria and define or influence definitions of livelihood strategies of dwellers thereof. Conflict is a very critical context. This is coupled with population pressure and hence, land scarcity, land conflicts have raised concerns over likely food insecurity and high poverty incidence in the affected areas (Andre and Plateau, 1998; Deininger and Castagnini, 2006). Farmers and pastoralists have identified conflict as the most important problem they face in the course of executing their different trades (Negedu, 2005; van't Hooft *et al*., 2005). Most households in Nigeria's middle belt have reportedly experienced land-related crisis and several villages have experienced conflicts of different forms and varying proportions (Nyong and Fiki, 2005; De Haan, 2002).

Sociologists define conflict as a social fact in which at least two parties are involved and whose origins are differences either in interests or in the social position of the parties (Imbusch, 1999). Wehrmann (2005) posited that land conflict can be understood as a misuse, restriction or dispute over property rights to land. Viewed as such, land conflicts may be aggravated even further when the conflicting parties have considerable differentials in social status, this is to the disadvantage of the party further lower in the social hierarchy. Zartman (1991) advances that conflicts are ineluctable in human interactions and are essentially concomitant with decisions and choices. This point of view projects the position of conflict theorists who see conflicts as effectively unavoidable in society.

The entire basis of violent conflicts is a complex subject with grave consequences. Factors that combine to lead to conflicts within the West African region range from a smorgasbord of environmental, social, political to cultural factors (Flores, 2004). Land-related conflicts are increasingly becoming a threat to rural economic activities such as agriculture in most sub-Saharan African Countries (Yamano and Deininger, 2005; Deininger and Castagini, 2006). For instance, in the first half of 2014 alone, Nigeria witnessed 11,640 cases of violent deaths which were more than all the cases of violent deaths recorded in 2013.

Land issues are a leading factor of conflict in Nigeria (Nigeria Watch, 2014). Access to land has been shown to be important to poverty reduction, economic growth, and the empowerment of the poor (Fabusoro *et al*., 2008). The importance of territory is perhaps why land conflicts are so prevalent, and why they are more difficult to solve than other conflict issues (Olabode and Ajibade, 2010). Timing is crucial; "if two adversaries are unable to settle their territorial questions early in their relationship, the resulting dispute is likely to last for many years." If a dispute lasts for years, a legacy of conflict is constructed that makes any type of peacebuilding effort much more difficult.

Nigeria has experienced many decades of land conflicts, and the number of people dying per annum because of them continues to rise. The prevalence of these conflicts is escalating at a time when crop yields are stagnant or even declining for some countries in the region (Otsuka, 2006). Without adequate food security, the post-conflict scenarios of mass migration, starvation, sectoral collapse and death due to sustained hunger and disease (rather than combat) have a greater likelihood of occurrence. Therefore, the need

to secure the food and nutrition requirements of populations in conflict situations becomes a necessary precursor for recovery (Flores, 2004).

The nature of violent conflict has been altered tremendously in the past 60 years. In place of wars fought between the organized armies of states, current conflicts tend to be internal contests between governments and armed opposition groups. As noted by Wiley (2009), since 2000 48 per cent of internal conflicts around the world have taken place in Africa. Moreover, 55 of the 70 conflicts that were underway in 2009 were located in developing agrarian economies. International attention has been focused on these combined factors (though not always the resources) on the need to understand and address the land- and natural resource-related bases of conflict in Africa (Wiley, 2009).

The EU-UN (2012) asserts that land and natural resource issues usually do not constitute the sole cause of conflict. Land conflicts metamorphose to violence when linked to wider processes of political exclusion, social discrimination, economic marginalization, and a perception that peaceful action is no longer a viable strategy for change. Clearly, conflict is disruptive and has strong implications for rural and agricultural development and growth. The short-term emergency responses to address the needs of people suffering the consequences of the conflict need to be embedded within a broader long-term perspective of food policy framework aimed at improving people's and food system resilience (Flores, 2004).

According to FAO (2011), the total global land area is 13.2 billion ha. Of this, 12 per cent (1.6 billion ha) is currently in use for cultivation of agricultural crops, 28 per cent (3.7 billion ha) is under forest, and 35 per cent (4.6 billion ha) comprises grasslands and woodland ecosystems. Low-income countries cover about 22 per cent of the land area

(2.9 billion ha). Agricultural Cultivation is a leading land use (25% or more of the land area) in South and Southeast Asia, Western and Central Europe, and Central America and the Caribbean. Land use dedicated to agricultural cultivation is less important in sub-Saharan and Northern Africa, where cultivation covers less than 10% of the area. The global area of cultivated land has grown by a net 159 Mha since 1961 (FAO, 2011).

The world's current population, of well over 7 billion, is expected to have risen to about 9 billion by 2050 (United Nations, 2009; Ochi and Toro, 2006). When this occurs, it is estimated that an additional one billion tonnes of cereals and 200 million extra tonnes of livestock products will need to be produced annually (Bruinsma, 2009; Alexandratos and Bruinsma, 2012). Developing countries have a stronger imperative to advance agricultural growth at such pace. The challenge is not only to produce food but to ensure that families have access to food that will bring them to acceptable food security levels.

About a billion people today are undernourished, Sub-Saharan Africa (239 million) and Asia (578 million) are of particular interest. Even if agricultural production doubles in developing countries by 2050, one in every 20 persons is still at risk of undernourishment – this is equivalent to 370 million hungry people, most of these people will be located in Africa and Asia (FAO, 2011). Conflicts present a whole new paradigm to food situations in developing nations. Strong implications for food security have a correlation with a decrease in human capital as well as physical and social capital. The economic cost links closely with the social cost. Goodhand (2001) asserted that one of the most devastating consequences of wars or conflict is the scarcity of food items; this lack directly leads to poverty and diseases. The effects and dynamics of conflict on the mechanisms and

engines that drive human welfare need to be comprehended in order to organize appropriate mechanisms for post-conflict recovery and conflict prevention (Flores, 2004). As far as causality is concerned, except for the Islamist uprising of Boko Haram, the current wave of violence in the north and the Middle Belt region of Nigeria is predominantly designated by clashes between Fulani pastoralists and farmer groups and sporadic inter-ethnic clashes in the major cities (Idemudia and Uwem, 2006). Nigeria's middle belt region is the country's most ethnically diverse. The region is also the country's most productive in terms of agricultural productivity potentials and real productivity statistics.

The concept of youth means a different thing in different societies across the world. A universal concept to the status of youth does not exist. In Europe, for example, the predominant European model defines youth as persons within the age bracket of 14/15/16 and 29/30 years and it is applied by countries including Andorra, Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Denmark, Georgia, Italy, Lithuania, Hungary, Moldova, Germany, Poland, Russia, Slovenia, Serbia, Turkey, Croatia, Montenegro, Czech Republic and Spain (European Commission, 2015).

The Nigerian national youth policy (NNYP, 2009) defines youth as male and female citizens between the ages of 18 and 35 years. On the other hand, the National Population Commission of Nigeria (NPoC, 2013) defines youth are defined as individuals between 15 and 34 years of age. According to UNESCO (2017), the term 'youth' refers to those persons between the ages of 15 and 24 years. This, according to the UN, is for statistical consistency across regions without prejudice to other definitions by the Member States.

For the purpose of this study, the definition by Nigerian national youth policy was adopted.

1.2 Problem Statement

A Mercy Corp study of 2015 concluded that annual economic losses due to violent conflicts emanating from 4 middle belt states (Benue, Kaduna, Nasarawa and Plateau) could reach 109 million naira and losses in internally generated income (IGR) stood at 347 million naira. The study put Nigeria's macroeconomic progress in a conflict-free scenario at US$ 13.7 billion per annum. Furthermore, microeconomic costs of farmer-pastoralist conflicts were estimated to reach up to US$ 9.2 billion annually constituting about 2.9% of formal and informal GDPs of the affected states. Agriculture was the hardest hit sector as it is the mainstay of the region's economy (McDougal *et al*., 2015a). More so, the continuous accumulation of development that results from one development continuum forming the foundational structure upon which subsequent development eras would stand is continually lost as social systems that are conflict-prone continue to return to the lowest, or near lowest, development levels. A situation that forces them to begin all over again. The socio-economic costs of conflicts over the past 10 – 20 years in Nasarawa State are very scarce. While estimates for state-wide and multi-state losses occasioned by perennial violent conflicts in the middle belt and other regions in Nigeria have been made (McDougal *et al*., 2015a; 2015b; Sulaiman and Ja'afar-Furo, 2010; Sulaiman *et al*., 2010; Ikurekong *et al*., 2012; Chikaire *et al*., 2016; Kughur *et al*., 2017), in order to fill the gap in literature on socio-economic impact of conflict in Nasarawa State, the study seeks to provide answers to salient research questions as follows:

i. what are the socio-economic attributes of rural dwellers in conflict zones of Nasarawa State?

ii. what are the remote and immediate causes of recent conflicts in the study area?

iii. what are the major types of conflicts that occur in Nasarawa State?

iv. what are the effects of conflicts on rural households and communities in Nasarawa State?

v. what are the economic and social impacts of conflicts on rural households and communities in the study area?

1.3 Research Objectives

The broad objective of this study is to ascertain the impacts of violent conflicts on the economies of rural communities in Nasarawa State, Nigeria. The specific objectives of the study are to:

i. describe the socio-economic attributes of respondents;

ii. identify the remote and immediate causes of recent crises in the State;

iii. ascertain the major types of conflicts that occur in the area;

iv. describe the effects of conflicts on households and communities;

v. determine the economic and social impacts of conflicts on the rural households and communities.

1.4 Significance of the Study

Economic and social losses from conflicts as well as the prevailing circumstances during a conflict that may alter or derail developmental processes have remained nearly insidious and are not considered during the formulation of policies relevant to development in Nigeria. This research intends to uncover true challenges faced by

varying youth and gender subgroups during the conflict in order to provide a typical picture to guide national or international interventionist programmes relating to rural development, agriculture and rural economies in a conflict-prone community. The study also attempted to show the costs of internal conflicts between farmers and pastoralists by estimating economic costs of human, agriculture and infrastructure/facility losses in order to awaken the realization that peace is not just a state of absence of conflict but also an economic prerequisite without which enormous economic potential will lay in waste.

As environmental resources continue to dwindle and climate change continues to drive populations to increase pressures on limited resources, government and relevant agencies can no longer ignore land-resource management or management of conflicts that arise from them. The need for an institutional framework that will work for all actors sharing the limited resources has never been direr. This research intends to enter the grassroots in order to identify the root causes of perennial farmer-pastoralist conflicts and in effect provide a workable blueprint that will help government and international agencies direct resources more efficiently toward solving causes of conflicts instead of constantly trying to ameliorate effects of these conflicts.

The needs to establish resilience in social systems that will enable them to easily to absorb shocks that arise as a result of conflict is pertinent. This will help in the resuscitation of affected economies and peoples along with food and economic lines. Also, the weight of such conflicts on state and national economies as well as the humanitarian and food situations that will immediately result should be forethought and attended to accordingly. Policies on food security should take into cognizance the importance of conflicts against the actualization of food security and immediate

consequences of food scarcity and outright unavailability. The research will also elucidate the dimensions and magnitude of the problem and form the foundation upon which future research of similar definition will be based.

1.5 Scope and Limitation of the study

This study is limited to Nasarawa State and the peculiarities that the State faces as a result of violent conflicts. The inferences and conclusions of the study are subject to the methodologies employed. The scope of the study is limited to the impacts of violent conflicts on the economies of rural communities in Nasarawa State.

1.6 Definition of operational terms

1. **Violent conflict** refers to the fact that conflicting parties use lethal violence to gain control over some disputed and perceived indivisible resource, such as a piece of land or local political power.
2. **Ethnic conflict** is a form of conflict in which the objectives of at least one party are defined in ethnic terms, and the conflict, its antecedents, and possible solutions are perceived along ethnic lines.
3. **Rural communities** in Nigeria are settlements with less than or approximately 20,000 people living in them. The main form of sustenance is agriculture and inhabitants are usually peasant with a lot of reliance on nature to eek a living.
4. **Conflict resolution** means a process of resolving dispute or disagreement. It mainly aims at reconciling opposing arguments in a manner that promotes and protects the human rights of all parties concerned.

5. **An economy** is an area of the production, distribution and trade, as well as consumption of goods and services by different agents. Economic activity is spurred by production which uses natural resources, labour and capital.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

The concept of conflict

Conflict is defined as a situation in which two or more parties strive to acquire the same scarce resources at the same time (Wallensteen, 2002). Scholars agree that there has to exist multiple factors acting to have a conflict and that the time as a factor of conflict is important. What does cause concern, however, is the term 'scarce resource'. The focal point of this argument is scarcity, but resources need also be included in the discussion. Wallensteen (2002) pointed out that resources are not only economic in nature, and that the terminology may very well exclude in its scope conflicts involving economic orientation, human security, environment, historical issues, et cetera. Such conflicts are not necessarily about resources, and when they are, these resources are, more importantly, not necessarily scarce. In congruity, Gausset *et al*. (2005) asserted that "the same territory, landscape or resource can be perceived very differently by different people, and what has been interpreted as conflict over scarce resources often appears to be conflict of perspectives, over the definition of resource, and over the resource management rules." Conflict is said to exist when two or more groups engage in a struggle over values and claims to status, power and resources in which the aims of the opponents are to neutralize, injure or eliminate the rivals (Jeong, 2000).

A conflict is, moreover, in many cases based on perceptions, rather than on attitudes or behaviour as it has generally been defined (Wallensteen, 2002). Conflict is a demonstration of parallel purposes of distinct or similar political groups which often ends in political violence and political violence. According to Anifowose (1982), who

contextualized it in a Weberian sense, in his book Violence and Politics in Nigeria, conflict is an acceptable weapon to ventilate anger. Conflict also depicts different perceptions, which may not strictly result in hostility. This way, conflict simply means 'a different perception' or view to an issue or situation (Barash and Webel, 2002). Here, it may mean a different interpretation of a motive or a different world-view as perceived by different people from their own partial perspectives. These include religion, customs, cosmologies or values. Such differences may never culminate in direct and sharp confrontations. On the other hand, however, different perceptions, values or world-views may transcend just 'differences' and result in the extreme connotation of conflict. Inter-faith violence is a critical example of such breakdown. Conflict may also refer to hostility or physical confrontation (Jeong, 2000). When goal incongruence or perception/value differences reach a climax, a manifestation of actual hostility or clashes is possible. Yet conflict is necessary for the perpetuation of society, "the desire to eradicate conflict, the hope for harmony and universal cooperation, is the wish for a frozen, unchanging world with all relationships fixed in their patterns – with all in balance" (Rummel, 1976).

In the sense of language, all wars are conflicts but not all conflict situations are wars. War is a state of mutually declared aggression between two or more parties prosecuted by conventional (uniformed and armed) soldiers, with the knowledge and observation of a third (neutral) party who sees to it that acts are within the rules of engagement (Waltz, 2007). This conceptualization presents a unique contradiction in a number of conflicts across different global regions and in the world at large. The conflict in Mali is regarded as a state of war. On the other hand, the crisis in the Democratic Republic of Congo (DRC) is not 'war' but 'conflict'. This is because the M23 in DRC is not a conventional

army, and it lacks any such legitimacy to declare war. It is a rebel group that seeks to topple a legitimate government using illegal and unrecognized means.

The Somali crisis can be referred to as 'conflict' and not 'war' because the Al-Shabab is an illegitimate Islamist group that seeks most unconventional means to destabilize the state and impose extreme Al-Qaeda Sharia system on a constitutionally secular entity. However, exclusive situations present acceptable exceptions, for example, the multinational coalition legitimated by the United Nations against Al Qaeda is a war in a technical sense not because it has been legitimated by the UN but because the Al Qaeda group has declared explicitly offensive against the West and its allies (Folarin, 2013).

Most conflicts are social in character and usually arise as human beings pursue their different survival and security needs. Rummel (1976) viewed conflict as a balancing of vectors of powers, of capabilities to produce effects. It is a clash of powers. However, conflict does not amount to a balance, or equilibrium, of powers. It is not a stable resultant. 'Conflict is the pushing and pulling, the giving and taking, the process of finding the balance between powers.' Rummel further established that conflict existed in the chronological levels of *potentiality*, *dispositions*, and *manifestations*.

As a potentiality conflict can be seen to mean the space available for conflict to occur. Potentiality is the environmental provisions that are likely to trigger conflicts as a result of the divergent realities and perspectives that are ever-present. It may be called a conflict-space. Disposition, and powers, on the hand, refers to the potential for conflict gradually transforming toward specific trends and gaining the strength to be manifest. Examples of conflict structures that may describe dispositions are slave and master, bourgeoisie and proletariat, peasant and landowners. If these two actors in the three

categories of examples agree to their position in society then there exists a *conflict structure*. However, if modernity and civilization cause the weaker actors, such as the slaves for instance, in any of the categories to realize the need for equality and strive for it and the masters see the need to secure their position and interests then a *conflict situation* results. That is a manifestation of conflict.

Manifestation is the last level of conflict. In manifestations, the opposing powers are specific and have been fully expressed. It is like slaves finally holding meetings and preparing for a full-scale rebellion with their masters. Manifestations, however, exist is three stages: opposing attempts to produce results (opposing powers), the process of balancing of powers, and a state of the actual balance of the powers. Once powers are balanced the conflict is over.

Environmental scarcity in combination with weak state structures have been proposed to generally augment the risk of communal conflict (Kahl, 2006; Barnett and Adger, 2007; Raleigh, 2010), patronage systems (Berenschot, 2011) and politicised ethnic identity (Pettersson, 2010). Specifically, in Nigeria, analysts point to tensions created during colonialization and at independence; divide-and-rule strategies under military rule; poverty, unemployment and exploitation; political manipulation of religious and ethnic dividing lines; and the increased salience of ethnic identity and indigeneity as a consequence of the federal system (Quaker-Dokubo, 2000; Leith and Solomon, 2001; Nolte, 2002; Akinwale, 2010). At other times these conflicts have been aggravated by uneven disarmament of involved groups by the governments of the affected states (Weiss, 2004; Bevan, 2008; Eaton, 2008; Mkutu, 2008; Pettersson, 2010).

Competition over scarce resources, particularly land and water, forms the root causes of communal conflict or constitutes a complicating factor that exacerbates conflicts (Homer-Dixon, 1999; Ban, 2007). With specific references to land conflicts, Wehrmann (2005) identified a comprehensive list of causes of conflicts and their situational manifestations. *Political causes*, according to Wehrmann, are manifested in change in the political and economic system, including nationalization or privatization of land, lack of political stability and continuity, lack of predictability, introduction of (foreign, external) institutions that are not popularly accepted, War/post-war situation, including a high number of former (now unemployed) military, para-military, or guerrilla fighters – all accustomed to the use of violence (Nigeria's middle belt is quintessential of this), political corruption, state capture and land grabbing, political (and economic) support for big farmers to the disadvantage of poorer peasants.

Economic causes: Evolution of land markets, increasing land prices, limited capital markets. *Socio-economic causes*: poverty and poverty-related marginalization/exclusion, extremely unequal distribution of power and resources (including land), lack of microfinance options for the poor. *Socio-cultural causes*: Destroyed or deteriorated traditional values and structures, rejection of formal institutions (new, foreign, external), low level of education and lack of information on institutions and mechanisms of land markets, high potential for violence, abuse of power, strong mistrust, helplessness of those disadvantaged, unregistered land transactions, fraud by governmental administration and/or individuals, patronage-system or clientelism, strong hierarchical structure of society, heterogeneous society, weak sense of community or lack of identification with society as a whole.

Demographic causes: Strong population growth and rural exodus, new and returning refugees. *Administrative causes*: Insufficient implementation of formal regulations, centralization (e.g. centralized land use planning), administrative corruption, insufficient control over state land, lack of communication, co-operation, and coordination within and between different government agencies as well as between public and private sector (if existent at all), lack of responsibility/accountability, Limited access to land administration, especially for the poor and rural population (distance, illiteracy, costs etc.), insufficient information to the public, limited/non-existent public participation, especially in land use planning and demarcation of concession land, insufficient staff and technical/financial equipment at public agencies, very low wages in the public sector, low qualifications of public employees, missing code of conduct, lack of transparency. *Technical causes*: missing or inaccurate surveying, missing land register (e.g. destroyed) or one that does not meet modern requirements, missing, out-dated or only sporadic land use planning or planning not adapted to local conditions, insufficient provision of construction land, missing housing programs. *Ecological causes*: erosion/drought/floods leading to urban migration, floods and storms in squatter settlements, climate change. *Psychological causes*: fear for one's existence, lack of self-esteem, loss of identity, collective suffering, desire for revenge, thirst for power.

Flores (2004) observed that conflict in West Africa is multi-dimensional and the corresponding policy responses must be tailored toward this fact. More so, conflict may be limited to a specific region or it may occur on a national level. Thus, when defining a policy of food security, it is essential that the policy recognizes who is being affected by conflict, why and how. Ensuring adequate access to food requires putting into place

resilient mechanisms that, even when affected by conflict stressors, can adapt more quickly to the post-conflict environment. With perennial, recurrent conflicts this mechanism becomes even more pertinent. The emergency response that follows crises situations and the long-term development framework must reflect the capacity to match pre-conflict situations and develop further higher (Flores, 2004).

Gender and youth dimensions in conflicts can be extremely complicating elements. Women in war economies fill up positions made vacant as a result of men leaving them for fighting or through death, women substituting for men in formal employment was witnessed during the two world wars in Europe (Stewart, 2010). The variation of this in developing countries sees females taking up responsibilities of family income, becoming household heads, taking up farming responsibilities and occupying new roles in the informal sector. Female-headed households have risen by a third in Cambodia and Sudan (Stewart, 2010).

Youth unemployment is particularly of immense importance given its impact on the economic and political context of especially rural, but also urban and peri-urban, areas (Okafor, 2011; Ifeoma, 2013; Adesina, 2013). There exists vast youth population dependency on agriculture and the interrelationship between agriculture, youth unemployment and sustainable development is clearly existent (Divyakirti, 2002; Akpan, 2010; Naamwintome and Bagson, 2013).

For women, the worst marginalization is among women in deprived groups. They face tripartite deprivation: (i) as members of a deprived group; (ii) through general gender-based societal inequalities; and (iii) particularly strong gender discrimination within the group. In the event that both parents are deceased as a direct result of the conflicts,

children head families. Youths, therefore, become circumstantial parents to themselves and their dependent siblings (Stewart, 2010).

Farmer-pastoralist and other communal conflict typologies thrive upon the already existing cultural and religious tensions prevalent in several communities and escalate quickly along their trail. The violent clashes between pastoralists and farmers date back several thousand years. The trend of these clashes around Nigeria shows a steady increase in their incidence (Taiwo, 2010). Desertification further north of the country and complications arising from climate change have both impacted upon the distinction between a grazing field and a cropland area, and further made the middle-belt a haven for pastoralists in a desperate search for pasture. For the pastoralists the trend of nomad herding has been altered significantly, nowadays pastoralists do not merely come to graze, they come to stay and stay to conquer. Population explosions have forced farmers into dedicating more land areas to cultivation and climate change has made scarce the desired stock of pasture. Therefore, pastoralists have been forced to enter cropped lands in a bid to meet the herd's nutritional requirements (IRIN News, 2011).

Informal groups, untrained and not respecting formal rules of military engagement, have defined the contemporary trends of violent conflicts the world over (Wiley, 2009). Disorganized warring factions within a state inflict the worse degrees of damage to the state in all ramifications because overall losses are borne by the state as an entity no matter how distinctive the factions may be from one another and also because damages to lives and property can be astronomical as they are perpetrated with profound hatred.

Conflict in Nigeria is predominantly a rural phenomenon and root causes range from climate change, southerly migration trend, the growth of agro-pastoralism, the expansion

of farming on pastures, the invasion of farmlands by cattle, assault on non-Fulani women by herders, blockage of stock routes and water points, freshwater scarcity, burning of rangelands, cattle theft, inadequate animal health care and disease control, overgrazing on fallow lands, defecation on streams and roads by cattle, extensive sedentism, ineffective coping strategies, ethnic stereotyping, to the breakdown of conflict intervention mechanisms (Folami, 2009; Ofuoku and Isife, 2009; Adisa and Adekunle, 2010; Blench, 2010; Odoh and Chigozie, 2012; Solagberu, 2012; Audu, 2014; Bello, 2013; McGregor, 2014).

The ethnic diversity of the middle belt has led to a protracted recurrence of violent conflicts that claim innumerable lives of people and cost millions in losses of property, livestock and agricultural products on a yearly basis with violent conflict recurrences rising to double-digit figures in some locations within the region. Across 4 States of the middle-belt region (Benue, Nasarawa, Plateau and Kaduna) a total calculated cost of the recurrent violent crises was put at 1.25 billion naira (or about 7.6 million USD) (McDougal *et al*., 2015a). On the average, household members from the affected areas were willing to invest up to 15% of this amount in order to ensure that conflicts do not occur – this depicts the degree of desperation crises situations subject people who suffer them to.

2.1.1 Conceptual Model for Causes and Impact of Conflicts

The conceptual framework for this study posits that the causes of conflicts fit into two broad categories — socio-environmental and institutional factors that lead to conflicts. Conflict is a resultant of the combined effects of these two categories of factors. The increase in the incidence and intensity of the individual factors in the two categories of

causal factors increases the chances of conflicts occurring. Conflicts have a strong and negative effect on the rural community and livelihoods of the rural populace. The microeconomic analysis of the cost of conflict can show the true magnitude of conflict on the rural economy. From the framework, the interactions between different sectors of the society at a time of conflict is expected to reflect an overall loss to both rural GDP and informal individual economic losses. The framework is further expected to show the disaggregation of challenges youth and gender subgroups experience in typical conflict situations (Author's Construct, 2018).

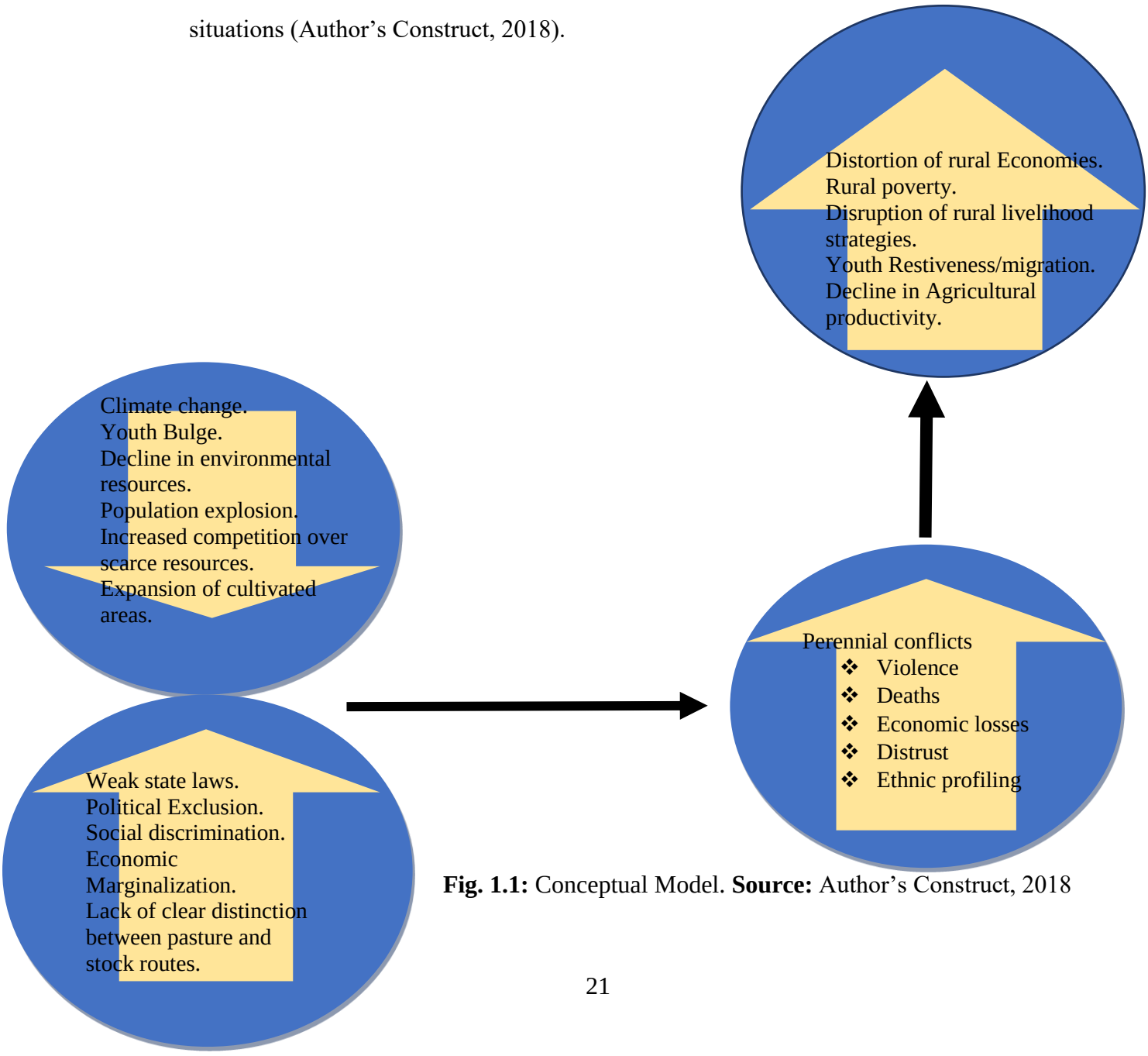

Fig. 1.1: Conceptual Model. **Source:** Author's Construct, 2018

2.2 Theoretical Framework

The Economic Theory of conflict is the theoretical framework that will guide this research work. The economic theory of conflict explicates the economic undercurrents in conflict causality. There is reasonable interaction between politics (power, resources or value) and scarcity. People seek power because it is a means to an end, more often, economic ends. Communities feud over farmlands, grazing fields, water resource, et cetera, and groups fight the government over the allocation of resources or revenue. Scarcity and wants, needs or the fear of scarcity is often a driving force for political power, contention for resource control, and so forth. Conflict is thus not far-fetched in the course of such palpable fear or threat of scarcity. Just as the fear of poverty and deprivation could lead to fraud or corruption; so is the threat of or real famine, deprivation, mismanagement of scarce resources, capable of propelling conflict over resource control (Folarin, 2013).

2.2.1 Youth and Conflict

Conflicts are regarded as ineluctable social realities that occur in as much as societies or social systems are not stagnant. However, the degree and incidence of conflicts can redefine entirely the economic and livelihood strategies of rurality. Ironically, for most conflict-prone communities in Africa costs of conflicts may very well rise into billions of dollars that communities do not have and that was supposed to have covered a long list of social requirements. The roles played by young men and women in conflicts can be far-reaching, multigenerational and economically significant to a rural economy.

Youth involvement in conflict can be said to be a direct consequence of a structural and institutional deficiency in most of Africa and especially Nigeria. Youth in Africa are

forced to grapple with the exclusions and inclusions that exist in a post-colonial Africa (De Boeck and Honwanna, 2005). Youth are frequently accorded an implicit and indirect place within broader international and governmental initiatives (Lopes Cardozo *et al*., 2016). Africa offers little incentives and poses massive constraints on the passage of youth to adulthood (Ukeje and Iwilade, 2012). Two-thirds of Africa's population is under the age of 35 making it the most youthful continent (Richards, 2002). The resulting situation is that the African youth is a demographic majority and a political minority (Momoh, 2011). What follows this marginalization is multigenerational economic deprivation of the youth building them into a rogue army against its State. The implications of social marginalization of youth are easily discerned, among other things, in violent conduct (Cruise O'Brien, 1996; Utas, 2005). Richards and Peters (1998) contend that conflict in Africa is a result of the poverty therein and the presence of militia that offers the huge population of young people economic liberation through violence.

In Nigeria, the youth bulge is in full effect, especially in rural communities. The youth bulge is compounded by economic and social factors including land resources, economic deprivations arising from declines in agriculture and the ever-constant ethnic and cultural struggle critical in the rural. The youth bulge is a common phenomenon in many developing countries, and in particular, in the least developed countries. It is often due to a stage of development where a country achieves success in reducing infant mortality but mothers still have a high fertility rate. (Lin, 2012). Worku (2007) defined youth bulge as a situation where the youth of the age of 15 years to 24 years to the entire adult population are predisposed to violence. When violence takes, its effects are most critical upon the youth who are charged with the execution of ideologies that they do not

necessarily agree with nor are of particular benefits to them. It is important to note that Nigeria holds the record for the most conflict in Africa numbering up to 37 (49 conflict years) between 1989 and 2010 with 7504 fatalities recorded (Elfversson and Brosché, 2012). However, less conservative projections say between 1999 and 2013 more than 11, 000 deaths occurred as a direct result of more than five hundred incidents of communal violence (Itanca and Odukoya, 2016).

Hoover (1944) captured the true essence of this when he said, “Older men declare war. But it is the youth that must fight and die”. Durham (2000) describes “occult economies” where the “potency and potential of youth is extracted to sustain the power of those in authority while young people themselves feel increasingly unable to attain the promises of the new economy and society.” In this sense, young people only sense powers they possess for shaping society, albeit in shapes dictated by the older elite. Youths remain powerless in changing their own lives and opportunities, they only become relevant when they work for the sustenance of an already corrupt system.

It is possible to establish a causal link between this emerging youth role in violence and broader questions about social decomposition, economic crisis, and the critical intersection of the local and the global perspectives (El-Kenz, 1996; Macdonald, 1997; Comarroff and Comarroff, 2005; Aluiagba, 2009). Deconstructing youth participation in violence in Africa is therefore incomplete without an engagement with this important phenomenon: not only does it demonstrate the deep-seated crisis of (dis)empowerment facing many societies, it also provides crucial insights into the way youth navigate this complex terrain and the weapons or tools they use to do so.

UNICEF (2016) reported that more than 25 million young people lived in crisis situations. Conflict violates their basic human right – namely, 'the right to life, liberty and security of person'. They are at increased risk of being killed, injured, orphaned, abducted, or raped in conflict. They are also often forced into roles that make them even more vulnerable, such as providers of sexual services, couriers, cooks, spies, child soldiers, unwilling abductees and suicide bombers. Most of the young people in zones of conflict are cut off from sustained humanitarian aid and basic services. Studies suggest that conflict hugely harms young people even psychologically as they experience strong feelings of guilt, fear, desire for vengeance and an overwhelming sense of loss and hopelessness in conflict.

In conflict, women are represented as the victims and, in most circumstances, they are. But women are also active participants in conflicts (Stewart, 2010). As typical participants in conflict or war situations, women have been identified as combatants in Algeria, El Salvador, Eritrea, Mozambique, Namibia, Nepal, Nicaragua, South Africa and Sri Lanka. A survey of 55 countries in conflict contexts found women active in 38. Women were observed to constitute about 10–33% of fighting forces (Stewart, 2010). But majorly women feature in the support services department of most conflicts (such as cooks, messengers etc.).

A typical example is Nigeria's south-eastern region where Women Development Associations donated food and money to fighters. Kaduna women and women of south-eastern Nigeria served to develop coalitions across fighting factions.

What we hear more often, though, is of women as victims of crises. To this end, Stewart (2010) has observed that rape is a weapon of war; 94% of displaced households in Sierra

Leone were subjected to sexual assault, and a quarter to half of the women in Rwanda's genocide was raped. Women are at greatest risk of sexual and gender-based violence during flight, whereas issues of food and shelter are most acute during the emergency phase. Addressing the challenge entails initiating three standpoints; curtailing opportunities for violence, the vulnerability of displaced populations and the impunity that allows perpetrators to continue their violence (Martin, 2007). Prostitution among women is a chief income source, and women are also recruited into the army as 'army wives', all this exposes a woman to the elements. These indices combine to result in very high HIV/AIDs prevalence among women in conflict areas, positive statuses are particularly high (Stewart, 2010). In conflict, men and boys also become victims of rape or other forms of sexual abuse. Men and boys may be trafficked and suffer other consequences of displacement and forced migration as well (Carballo, 2007).

Asi (2007) depicted gender-based violence as violence on the basis of gender differences. This violence is related to cultural stereotypes and norms and is an expression of unequal power relations between men and women. Rape and sexual abuses have been identified as weapons of war and crimes against humanity and can be perpetrated not just by soldiers but also by men from the community (Asi, 2007). There are aspects of sexual and gender-based violence and reproductive health that are affected by legal regimes – for example, laws on domestic violence may focus attention on displaced populations (Macklin, 2007). Most legal regimes have a prohibition on violence, which can be made to apply to sexual and gender-based violence. There is political motivation to make this connection explicit in order to counter resistance to recognizing sexual and gender-based violence. In addition, laws may positively or negatively affect identity, for example, with

regard to property and land distribution, which is important during both displacement and return (Macklin, 2007).

As posited by Martin (2007), protracted displacement is a predominant phenomenon in conflict; on the average displacement periods can last as long as 17 years, this means that the period of displacement can be multigenerational. Women in such situations may be victims of trafficking and can be subjected to sexual abuse by traffickers or economic abuse by employers, or both (Carballo, 2007). An estimated 400,000 – 500,000 trafficked women are projected to be in Western Europe alone, illegal migrants in Europe are reported to have requested abortion five times as high as those of nationals. Further complicating issues are unsafe abortions, STIs and HIV and other new diseases that may result (Carballo, 2007).

The legal paradigm of gender in conflict can be complex. For instance, the legal definition of Internally Displaced Persons (IDPs) is broad and covers those forced to move by violence, conflict or disaster. This definition distinguishes IDPs from refugees and not just the fact that IDPs have not yet crossed any international border. Trafficked persons are covered by the Protocol to Prevent, Suppress and Punish Trafficking in Persons, which defines trafficking as the coerced non-voluntary movement of people for purposes of exploitation (forced labour, unpaid labour, labour accompanied by violence, sexual exploitation) (Macklin, 2007). Refugees, on the other hand, benefit from the right of non-refoulement as far as they avoid getting persecuted and the refugee status itself is a surrogate for the national government (Macklin, 2007).

Perhaps the greatest marginalization against women would come during post-conflict situations where both their participation in the wars and their capabilities for networking

and mobilization of informal resolution discourses are undermined due to gender stereotypes. Women can be very active in civil society activism and peace movements – Northern Ireland, Burundi, and Liberia, all witnessed female coalitions across warring partners (Stewart, 2010).

Furthermore, women in Guinea, Liberia and Sierra Leone were important in peace-making, instrumental in bringing the heads of state to the negotiating table in 2001 through the platform of Mano River Women's Peace Network (MARWOPNET). In Nigeria, the Aguleri and Umuleri conflicts in South-eastern Nigeria within the Igbo communities and the Kaduna crisis saw women organize strong coalitions across warring factions (Stewart, 2010). It is the power dynamics and involvement/consultation of women in formal peace negotiations that reflect a clearer disparity between men and women as women are much less active in formal peace negotiations. In 2008, UNIFEM estimated that women accounted for less than 10% of members in formal peace negotiations and less than 2% of signatories to peace agreements. In Congo, Sudan and Uganda a study concluded that recognizing and supporting the role of women in preventing and mitigating conflict was, in general, a minor afterthought.

2.2.2 Youth in Agricultural Development

To meet present rising food demands of the global population, but more pertinently, future food requirements especially of the developing world, where a double of current food production levels may still fall short of the food and nutritional requirements of the projected population of the next generation, agriculture output of 1 ton/ha average as is the case in Sub-Saharan Africa, must improve dramatically. Sustainable land and water management strategies that can increase productivity through integrated soil fertility

management where rainfall is reliable need to be employed (FAO, 2011). Conservation agriculture, agroforestry and integrated crop-livestock systems, or integrated irrigation and aquaculture are pertinent. Also, Pesticide use and risks can be regulated by integrated pest management (IPM). These modern agricultural systems require expertise and technology-savvy such that the present crop of farmers has neither the intellectual nor the innovativeness nor the vigour to incorporate into their agriculture production styles. Therefore, youth involvement in agriculture is simply imperative.

According to Jibowo and Sotomi (1996), it is expected that with a higher level of education, innovation proneness, minimal risk aversion, greater physical strength and less conservativeness, Nigerian youths in agriculture would ensure adequate food production in the country. Unique character attributes such as dynamism, strength, adventure, ambition, hilarity characterize youths and make them most invaluable (Udah, 2001; Waldie, 2004; Akwiwu *et al*., 2005). Unfortunately, as noted by Adebayo *et al*. (2006), despite rich rural life, farming background and experience rural youths are yet to actively and productively participate in the development of the nation's agricultural sector. This is complicated further by the myriad of problems bedevilling Nigeria's agriculture including poor access to input and output markets (largely due to poor rural infrastructure), land degradation, and low investment in agricultural research have also been identified as significant constraints to productivity in the sector which have made the sector unattractive and non-lucrative resulting in a tremendous decline in the number of youth actively participating (Ogunlela and Ogungbile, 2006; Philip *et al*., 2009; Muhammad–Lawal *et al*., 2009). Girei *et al*. (2016) reported that inadequate credit facilities, low returns to agricultural investments, lack of access to tractors and other

farming inputs were the major impediments to youths' active participation in agricultural production.

Many youths still hold a negative attitude toward agriculture preferring instead of non-agricultural alternatives in urban centres (Ibrahim, Diop and Ogezi, 2014; Amalu, 1998; Waldie, 2001). The size of the labour force in a country or any sector of the country is determined by the number of people in the age group of 15–59 years because, generally, children below 15 years and old people above 59 years do not participate in production activity (Agwu *et al*., 2012). The Nigerian agricultural sector faces an ageing workforce that is fast diminishing (Nonyelu, 1997). This elucidates the fact that youths represent a society's most active and productive workforce, they are an engine room that drives the productive work areas of society (Adesope, 1996). In relation to this, it must be noted that preservation of the environment bears a greater imperative for the youth as the earth is more of theirs to inherit than of the older generations (Divyakiti, 2002; Okafor, 2011; Adesina, 2013).

The decline in farm labour supply is compounded by and attributed to the fact that the agricultural sector, with a few exceptions, has the worst poverty conditions (Ruben and van der Berg, 2001; Phillip *et al*., 2009). Aphunu and Atoma (2010) have reported that the farming population in Nigeria is an ageing one with farmers' ages averaging 50 years. Youths have been identified as the greatest human resource of any country interested in sustainable development as well as agricultural and rural development (Onuekwusi, 2005; Jibowo, 2005; Armstrong, 2009; African Youth Decade, 2011; Akintayo and Adiat, 2013). Youths have been part of the overall agricultural development process in Nigeria due to their exuberance and the development of agriculture has improved the

economy greatly because of the immense contribution of agriculture to the economy (Ugwoke *et al*., 2005). Evidence of active participation of youths in various agricultural activities like vegetable production, livestock husbandry, arable farming and crop processing and marketing in different parts of the country have been reported by Adesope (1996).

Nigeria is one of the nations in the world with the largest population of individuals under the age of 18 (World Atlas, 2018). The Republic of Niger has the world's highest percentage of people under the age of 18 (59.6% of its population). Although percentage-wise, Niger Republic has more under 18 individuals, Nigeria's massive population makes it's under 18 individuals more significant than Niger's (number wise). This is because 50.4% (representing the number of under 18 individuals) of Nigeria's population of about 180 million people is nearly five times greater than Niger's total population in numbers. UNICEF (2014) projects that Nigeria's population may reach 440 million people by 2030 and young people under the age of 35 are expected to account for about 60% of this population. Tragically, most of this virile youth population in Nigeria and most of Africa remain unemployed (Rufai, Bin Kamin and Balash, 2013; Salami, 2013; Emeh, 2013).

On the overall, two-thirds of unemployed youth in Nigeria is between 15 and 24 years of age (Akande, 2014; Awogbenle and Iwuamadi, 2010). A disaggregation of youth unemployment by gender indicates that the majority of unemployed youth are female. Women were observed to account for more than 50 per cent of unemployed youth between 2008 and 2012 (NISER, 2013). An estimated 55.42% of unemployed youth is female and a resounding 53.25% are located in rural areas. In terms of the level of education, between 2008 and 2012, over half of the unemployed youth were individuals

that did not have an education past primary school. This particular group has consistently accounted for over 50 per cent of all unemployed youth (Akande, 2014).

Ironically, graduates of tertiary institutions account for up to about 20 per cent of youth unemployment as they usually remain unemployed for upward of five years after graduation (NISER, 2013). This simply means that poverty is a youth phenomenon most prevalent among rural youth with low human capital development, lack of economic dynamism and facing an agricultural sector with declining output.

Scholars have posited that if the potentials of agriculture in Nigeria are fully exploited, well-managed and properly appropriated Nigeria's poverty status could improve dramatically and more so lead to sustainable development (Ogezi, Salau and Yusuf, 2017; Divyakirti, 2002; Akpan, 2010; Naamwintome and Bagson, 2013). This is especially true given the huge prevalence of poverty in rural economies and population of unemployed youth depending on the sector for livelihoods. Agriculture has been identified as a veritable tool for solving youth unemployment (Africa Development Indicators, 2009; Sumberg and Okali, 2013; Naamwintome and Bagson, 2013). As a matter of fact, the neglect of the sector has been directly implicated in youth unemployment (Ogen, 2007; Ucha, 2010; Adesina, 2013).

2.2.3 Socio-economic effects of conflict

Conflicts are economic by nature and mostly orchestrated to follow selfish interest devoid of communal interest; activities in conflicts are usually not desired, destructive and therefore constitute an impediment to growth and development of the agricultural economy (Musa, 2004; Collier, 1999). Conflicts simply and unequivocally result in economic losses. The losses could be direct losses to economic sources or facilities

thereof or loss of lives of people who have economic power and are depended upon by a number of people. In whichever way we look at it conflicts result in humanitarian situations no matter how little. War economies alter the pattern of gender in labour as more women take up jobs left behind by men who have been lost to wars (Stewart, 2010). Easterly (2000) asserted that conflicts also generally reduce the desired stock of factors of production such as labour often reduced through killings and emigration which does not only hike the price of labour but forces employers to buy inferior labour alternatives. Easterly further added that the increase in prices of inputs as encouraged by the conflict situation has a direct negative impact on income such that the affected persons were impoverished.

Aron (2002) buttressed that conflicts generally affect States' capacity and credibility to distribute and regulate finances towards growth, education and improved living standard. Reconstruction usually amounts to waste costs because infrastructure lost are only being replaced and no progress is made therefore for all the money dedicated to ameliorating the effects of conflict the best that will be achieved in the short run is a return to the status quo. Conflict has led to prohibitive economic losses as buttressed by the report of Sulaiman and Ja'afar Furo (2010), which indicated a loss of over ₦87 million in selected Fadama areas of Bauchi State between 2004 and 2007. It was a relatively huge loss in the economy of the State. However, this dispute and violent scuffle between Arable farmers and pastoralists continue despite all attempts to stop it (IPCR, 2003).

Conflict destroys the land, water, biological, and social resources for food production. In a nutshell, conflict presents a uniquely difficult economic and social challenge anywhere it occurs. In 2001, there were more than 12 million refugees, 25 million internally

displaced people (IDPs) and an unknown number of people trapped in combat zones (FAO, 2002). WFP (2004) reported that about thirty million people in more than 60 countries around the world were displaced or had their livelihoods disrupted by conflict every year in the 1990s. FAO (2002) estimated that losses through conflict in Sub-Saharan Africa between 1970 and 1997 stood at almost $52 billion of agricultural output, this figure is about equivalent to 75 per cent of all official development assistance received by the conflict-affected countries according to the report. Estimated losses for all developing countries averaged $4.3 billion per year – this amount is enough to have raised the food intake of 330 million undernourished people to minimum required levels. Another more direct effect of conflict on food security is the displacement of people.

A major difficulty that arises from internal conflict is that hunger is more often than not used to target both the armed groups and civilians (Messer, 1998). Consequently, hunger persists long after the end of the war. This is because, to gain a needed advantage in conflict, different factions target the sources and resources that ensure the survival of their opponents. These include distribution channels, production resources, manpower and other conditions necessary for food production. That conflict has severe negative economic and social consequences is not under dispute, but analysing the extent of this is problematic given the lack of reliable data at the micro-economic level (Mohammed, 1999).

The economic losses and the disruptions to food supply and access associated with conflicts can be disastrous, especially in low-income countries where effective social buffers are absent. While conflicts are at the basis of food insecurity situations in many countries, it is also true that raising agricultural productivity and reducing hunger and

malnutrition in poor countries is an obvious path to peace. Carter (1999) stressed that this aspect is often overlooked or neglected. Pur *et al*. (2005) observed that savings and revenue were sensitive to conflict situation as conflict often impacted a negative trend on them, thereby reducing the ability of individuals to save or get high revenue as the cost of operation increases. In essence, when there is a reduction in the ability to save, there will be a decrease in the ability to re-invest which will have a negative impact on the economy of the communities.

Over the 28-year period between 1970 and 1997, the estimation yields an aggregate of almost $121 billion at 1995 prices or an average of $4.3 billion per year. Dividing the estimated loss of $4.3 billion per year by $13 produces a figure of 330 million undernourished people who could have raised their food intake to minimum required levels for the year. Such a decrease in malnutrition would rival the combined impact of all food aids. In both the 1980s and the 1990s, conflict-induced losses in developing countries exceeded the total food aid of all types to those countries. For the full decade of the 1980s, the former was about $37 billion and the latter $29 billion (FAO, 1996).

The International Action Network on Small Arms (IANSA) estimated that armed conflicts in Africa cost around USD18 billion annually; with approximately USD300 billion lost by 23 countries (including Nigeria) since 1990, representing an average annual loss of 15 per cent of GDP (IANSA, 2007). The 2013 Global Peace Index reported that global expenditure on violence containment was approximately USD9.5 trillion, or roughly 13.1 per cent of global GDP. Roughly 40 per cent of these costs were associated with a broad measure of military-related expenditure. Another 13 per cent were associated with internal security, and just under 2 per cent were associated with

GDP losses from conflict. As for Nigeria, IEP estimated that the country spent approximately 6 per cent of its GDP in 2012 on violence containment.

In Nigeria's middle belt, McDougal *et al*. (2015b) reported that for every mortality attributable to farmer-pastoralist conflict, the State government stood to lose ₦162,000 in 2010 Naira (about $1,065 in 2010 USD) the following year. Conservatively, each farmer-pastoralist conflict fatality costed the state ₦48,730 in 2010 (roughly $320 in 2010 USD) but these figures only related to Internally Generated Revenue (IGR) and may not have captured the total economic loss associated with death which may include income to a household and possible income from other silent sources. The same study reported that a peace scenario was worth a gain of approximately 2.79% of Nigeria's official GDP in the absence of the form of conflict presented by farmers and pastoralists alone. Projected losses by three sectors of crop farming, animal farming and trading/others amounted to ₦1,510,648,803. Losses credited to crop farming took a major share of 60% (₦ 906,665,588). Animal rearing took less than half of crop losses owing probably to the fact that more people were engaged in cropping than animal rearing and because most herders also participated in some form of cropping.

Conflicts can have beneficial attributes, even though they are viewed more strictly from the destructions they leave in their wake. Proponents of conflict theories insist on the possibility of conflicts engineering social change (Bonacker, 1996). In the same vein, land conflicts may lead to positive social change if they lead to protests that cause a reshape in policy and lead to its eventual implementation (Wehrmann, 2008). Conflict becomes a problem when mechanisms and institutions for managing and resolving conflict in society are destroyed or breakdown and violence takes sway. Typically, cycles

of conflict and violence can easily be prevalent in societies with weak institutions, fragile political systems and divisive social relations (EU-UN, 2012).

2.2.4 Conflict Prevention and Resolution

Conflict prevention is "a medium and long-term proactive operational or structural strategy undertaken by a variety of actors, intended to identify and create the enabling conditions for a stable and more predictable international security environment" (Carment and Schnabel, 2003). Munuera (1994) defines conflict prevention as the application of non-constraining measures that are primarily diplomatic in nature. Non-constraining measures are those that are not coercive and depend on the goodwill of the parties involved (Lund, 2002).

Conflict prevention is often divided into two categories: direct prevention and structural prevention. Direct conflict prevention refers to measures that are aimed at preventing short-term, often imminent, escalation of a potential conflict. Structural prevention focuses on more long-term measures that address the underlying causes of a potential conflict along with potentially escalating and triggering factors. Economic development assistance or increased political participation are examples of structural prevention, while the dispatch of a mediator or the withdrawal of military forces is examples of direct prevention. The distinction between structural and direct prevention is important, especially in the policy field although many measures such as military disarmament can have both structural and direct effects.

Preventive diplomacy is a set of "actions taken in vulnerable places and times to avoid the threat or use of armed force and related forms of coercion by states or groups to settle

the political disputes that can arise from destabilizing effects of economic, social, political, and international change" (Lund, 1996).

Conflict resolution is a situation where the conflicting parties enter into an agreement that solves their central incompatibilities, accept each other's continued existence as parties and cease all violent action against each other (Wallensteen, 2002). Conflict resolution refers to a range of process aimed at alleviating or eliminating sources of conflict (Wani, 2011). Conflict resolution is applicable over the whole spectrum of societal relationships, usually referred to as the three levels of the personal, the local or the community, and the global. It can be located in a number of different disciplines including Psychology, Ethics, International relations, Sociology, Communications, Politics, Business and the law. Conflict Resolution is the basis for professional practice in numerous fields such as family and drug therapy, restorative justice, peace-making, peacekeeping and peace-building and alternative dispute resolution (ADR). Some strategies of conflict resolution include:

Negotiation. Negotiation is a discussion of two or more people with the goal of reaching an agreement. The first strategy that people can use during conflict is negotiation. Negotiation is an integral part of every human activity. Negotiation is very important for the process of limitation of conflict. The term negotiation could be taken to mean all the interactions, strategies and face to face efforts to argue with and modify the position of an adversary (Northedge and Donelan, 1972).

Mediation. Mediation is voluntary and discreet. It is another technique for resolving conflict and is turning into an undeniably well-known term in the exchange of compromise. Fulberg and Taylor define the term Mediation as the procedure by which

members meet up, with the help of an unbiased individual or people, deliberately seclude disputed issues so as to create choices, consider alternatives and arrive at a consensual settlement that will suit their needs (Burton and Dukes, 1990).

Arbitration. Arbitration is another technique frequently referenced procedure in dealing with conflict. Goldberg portrays arbitration as often volitional, final and authoritative. Arbitration implies settlement of the conflict by the judgement of a tribunal which offers effect to existing laws and which ties the factions (Burton, 1972).

Adjudication. Adjudication is the process with which most people are familiar; many litigants use the courts in an effort to resolve disputes and conflicts between conflicting parties (Wani, 2011).

Bargaining. Bargaining is a sort of discourse which enables each party to advance their demands. Demands can be determined by arguments over the merits and demerits of each party. Each side looks to investigate and exploit the values of the opposite side. Likewise, bargaining allows one to get the rival's perspective. It is an occasion to see the opposite side of the contention. In the event that there is reason (or legitimacy) in the rival's claim, bargaining will uncover it. It helps arrive at just and commonly agreeable ends for example collective security (Burton, 1972).

Persuasion. Perceptual scholars characterize persuasion as adjusting the individual's impression of any object of his attitude. Persuasion is the correct method for effecting change. Gandhi advanced that "no man can guarantee that he is absolutely right and the other in the wrong" (Gandhi, 1980). Everyone has unrestrained choice and right to choose his own. Be that as it may, one can propel and direct the wrongdoer to comprehend the issue in a superior manner. That is through persuasion.

Communication. Each party in a conflict ought to be keen on trading information essential for the revival of peace. Absence of communication and deluding communication offers grounds for doubt, suspicion, espionage and lastly, it prompts further clashes. A cooperative procedure is characterized by transparent and sincere communication of significant information between members. Furthermore, communication ought to be precise, clear, basic and unequivocal (Dorisoff, 1989).

Re-Conciliation. Re-conciliation is that kind of conflict situation where the value systems of the parties involved have so change that they now have common preferences in their joint fields, the two of them want the same situation or state of affairs in the joint field so conflict is gradually extricated (Boulding, 1963).

Cooperation. Cooperation is generally viewed as one of the fundamental strategies for conflict resolution. As indicated by Burton (1979) every single social clash occurs as a result of scarcity of resources. According to him, assets are of two sorts: Material assets and Non-Material assets. He terms the later one as "social goods" by social goods he implies status, respect, acknowledgment, veneration and every single human right. Individuals have differential access to material goods. Scarcity is, therefore, a reality in connection to this. While social goods are conceivably never hard to find. The fact is, given the natural dictum that human's as social creatures live together, it is possible only through willing consideration of others as equals, that the problem of sharing scarce resources can be rectified by the means of cooperation (Burton, 1979).

Encapsulation. Encapsulation is curbing the scope of expression of conflict. It is a system where conflicting factions concede to specific principles and parameters and maintain a strategic distance from the more extreme forms of conflict (Wehr, 1979).

Empowerment. Lave and Cosmic (1973) advanced that the reason for violence and conflict is the lopsided power distribution. In such a case, empowerment of the weaker party would bring a natural and strategic solution. Such empowerment can be in material, intellectual, psychological and physical forms. There are different strategies which can be utilized to forestall crises, for example, drawing the limit, it prevents conflict proliferation and helps prevent missing the track, Task direction could be utilized as a measure for community oriented exertion among contested gatherings, Fractioning conflict can likewise be utilized as a strategy to fractionate clashes into the smaller parts, and managing them each can diminish the danger of all-out conflicts, positive attitude is also one of the technique to create an atmosphere of friendship, benevolence, harmony and willingness. Ethical values of truth and trustworthiness and earnestness are valuable at all times (Lave and Cosmic, 1973).

2.3 Empirical Review of Previous Studies on Conflict in Nigeria

Ikurekong *et al*. (2012) assessed communal conflict and resource development in Ini Local Government Area of Akwa Ibom State, Nigeria using multiple correlations/regression analysis and factor analysis model and observed that resource development in the study area has been adversely retarded by communal conflicts. The weakness of this study is that it did not clearly show the value of the losses nor did it quantitatively describe retardation of development as a result of communal conflicts.

Sulaiman and Ja'afar-Furo (2010) studying the economic effects of farmer-grazier conflicts in Nigeria with Case Study of Bauchi State employed descriptive statistics, t-test and alternative cost technique concluded that arable farmers ₦80,075,172.00 losses in monetary term while the pastoralists incurred ₦7,047,013.00 in the conflicts.

Furthermore, the income of farmers in the conflict area was significantly ($p<0.05$) lower than those in non-conflict areas. The study focused strictly on Fadama conflicts between farmers and pastoralists and not on conflicts across all agricultural areas. This limited the scope of the study and the restriction to just a specific category of farmers (Fadama).

McDougal *et al*. (2015a) analysing the macroeconomic benefits of farmer-pastoralist peace in Nigeria's Middle Belt States using an input-output analysis approach concluded that the potential benefit of farmer-pastoralist peace in the Middle Belt States amounted to around 2.8 per cent of the official Nigerian GDP, or around 0.8 per cent of total Nigerian GDP, inclusive of the informal sector, an amount worth about ₦2,256,883,491. The extrapolation of this study relied principally on IGR of States which did not account for several external incomes and is said to be 3.5% less than actual figures. This fact has threatened underestimation of actual costs by the study. As an improvement, we will focus on possible costs in a counterfactual approach using alternative costs forgone as a result of conflicts.

Sulaiman *et al*. (2011) in their study of farmers' socio-economic factors influencing resource use conflicts in a typical Fadama area in Nigeria focusing on Bauchi State used correlation analysis and regression analysis to discover strong relationship existing between the selected socio-economic variable and conflict incidence for both arable farmers and pastoralist in the Fadama areas of Bauchi State. They also found some of the selected socio-economic characteristics of the communities to strongly influence conflict incidences suggesting that improvement in variables such as education and accessibility to grazing reserves would reduce conflict incidences.

Ani *et al*. (2015) analysing effects of communal conflicts on agricultural extension services delivery in Imo State, Nigeria used simple descriptive statistics and observed that conflicts hindered the smooth operation of extension personnel who transfers the knowledge. The agents were observed to have been hindered by conflicts of various magnitudes which made carrying out extension services extremely difficult.

Kughur *et al*. (2017) studied the effects of communal crises on selected crops production among farmers in Langtang North Local Government Area of Plateau State, Nigeria employed correlation analysis and posited that 38.8% communal crises were caused by religion, 43.9% of communal crises leads to loss of lives, 87.8% used assorted types of guns during communal crises and there was a significant reduction in quantity and value of money on crops produced before and after communal crises.

Chikaire *et al*. (2016) in the study of communal clashes/conflicts: bane of achieving food production and security among farming households in South-East, Nigeria used simple descriptive statistics presented a result indicating that land dispute, Ezeship tussle (traditional ruler), counterclaims to lands, poverty, unemployment were chief causes of communal conflicts. The effects of conflict on food production and food security included loss of lives, increased hunger, farmland abandonment, labour migration, poor yield, malnutrition, poor savings, and displacement of people, increase in transportation costs and increased prices of produce.

Sambe *et al*. (2013) in their study of communal violence and food security in Africa using secondary data analysed that communal violence has both direct and indirect consequences on food security. They found that conflict limited people's access to food through destruction of infrastructure necessary for food production, cutting off access to

food supplies and ultimately leading to famine. Communal violence was also found to lead to physical destruction and plundering of crops, and livestock, harvest and food reserves. Conflicts were observed to drive youth out of agriculture.

Uyang *et al*. (2013) using chi-square analysis in their study of communal land conflict and food security in Obudu Local Government Area of Cross River State, Nigeria observed that frequent communal land conflicts in contemporary Nigeria have exacerbated food insecurity in the society. Apart from the people killed and properties lost, they reported massive crop loss, loss of stored food and consequent increase in food prices and famine. Communal land conflicts cause food emergencies and able-bodied men that would have worked on the farm to migrate to non-conflict areas.

Adisa (2012) in his book "Land Use Conflict between Farmers and Herdsmen – Implications for Agricultural and Rural Development in Nigeria, Rural Development – Contemporary Issues and Practices" depended on Probit analysis to determine the influence of respondents' socio-economic characteristics on their coping strategies. He concluded that Conflict between arable crop farmers and cattle herdsmen over the use of agricultural land was still pervasive in Nigeria, and portends grave consequences for rural development. It demonstrated great potential to affect various aspects of rural life. The conflicts had far-reaching economic, production and socio-psychological effects on the households of most respondents. However, conflict actors and persons affected have used many strategies to cope with the effects of conflict.

McDougal *et al*. (2015b) analysing the effect of farmer-pastoralist violence on income relied on new survey evidence from Nigeria's Middle Belt States using a negative binomial instrumental variables model, they found an inverse relationship between

violence and household incomes. Incomes could be increased by between 64 to 210 per cent of current levels if violence related to the farmer-pastoralist conflict in the four study states were reduced to near-zero. Cumulatively, they found that forgone income represents 10.2 per cent of the combined official state domestic product in the study area. After incorporating an estimate of the size of the informal economy, the microeconomic cost of farmer-pastoralist conflict to the total economy is approximately 2.9 per cent.

CHAPTER THREE

METHODOLOGY

3.1 Description of study area

Nasarawa State is bordered to the North by Kaduna State, to the West by the Federal Capital Territory, Abuja to the South by Kogi and Benue States and to the East by Taraba and Plateau States. The State is bordered with Kaduna state in the north, Abuja, the Federal Capital Territory to the west, Kogi and Benue states in the south and Taraba and Plateau states in the east (Marcus and Binbol, 2007). The climate in Nasarawa is referred to as a local steppe climate. In Nasarawa, there is little rainfall throughout the year. According to the Köppen and Geiger climate classification, this climate is classified as BSh (Peel *et al*., 2007). This is explained thus; BS – Steppe (semi-arid) while h – Hot Arid (Tann ≥ +18°C). The average annual temperature is 28.4°C in Nasarawa. About 839 mm of precipitation falls annually. The State has a total land area of 27,117 km^2. Nasarawa State is located at latitude 8.5705°N and longitude 8.3088°E (Ekwe *et al*., 2011).

Agriculture as the mainstay of its economy with the production varieties of food and cash crops throughout the year (Marcus and Binbol, 2007). It also contains various minerals such as salt, baryte, and bauxite, which are mostly mined by artisanal miners. A network of roads exists within the state, linking many rural areas and major towns. Nasarawa State is home to the Farin Ruwa Falls in Wamba Local Government Area of the State. Farin Ruwa falls is reputed to be one of the highest falls in Africa. There is also the Salt Village in Keana Local Government Area of the State. It produces naturally iodized salt from the lake located near it.

Some of the ethnic groups in Nasarawa State are the Agatu, Alago, Basa, Ebira, Eggon, Gbagyi, Gwandara, Mada, Migili and Tiv. There are over 20 languages spoken in the state, including Agatu, Alago, Basa, Eggon, Gbagyi, Gade, Goemai, Gwandara, Ham, Kofyar, Migili, Mada and many others (Yari *et al*, 2002). The dominant religions in Nasarawa State are Christianity and Islam. The State is also home to a number of traditional religion practitioners (www.facts.ng/nigerian-states/nasarawa). As at the 2006 census, Nasarawa state had a population of 2,040,097 (NBS, 2006). The population in 2018 is projected to be 3,013,183 persons at 3% annual growth rate (Dotson, 2018).

Located in the North Central Geo-political zone of Nigeria, Nasarawa State is blessed with abundant mineral resources and for this reason, it is tagged the "Home of Solid Minerals". The State is endowed with abundant solid mineral resources with also the possibility of petroleum occurrence in parts of her sedimentary basin (Obaje *et al*., 2007). Prominent among the mineral deposits of the State are coal, barytes, salt, limestone, clays, glass sands, tantalite, columbite, cassiterite, marble, iron ore and gold. The three rock types that constitute the components of Nigeria geology, namely the rocks of the Basement Complex, the Younger Granites and Sedimentary rocks are all exposed in Nasarawa State (Ekwe *et al*., 2011).

Nasarawa State has thirteen (13) Local Government Areas; each of them has a chairman as its administrative head. The State is divided into three (3) divisions based on the Senatorial district. There are three agricultural zones in Nasarawa State as adopted by the State ADP. The Southern zone comprises Lafia, Doma, Obi, Keana and Awe. The Western zone consists of Karu, Keffi, Nasarawa and Toto while the Central zone includes Nasarawa-Eggon, Akwanga, Kokona and Wamba. The State is characterized by a tropical

sub-humid climate with two distinct seasons – the wet season and dry season. The wet season starts from May and ends in October while the dry season is experienced between November and April. The Sahelian region is usually characterized by climatic variations and irregular rainfall patterns which ranges between 200–600mm with a coefficient of variation ranging between 15–30% (Mitchell *et al*., 1966; Kandji *et al*., 2006). Agidi *et al*. (2018) reported rainfall cessation after studying daily rainfall record from 1998 – 2015, the averages of onset dates, cessation dates and length of rainy season dates across the State were not uniform. The study advanced evidence that rainfall decline had occurred in the period investigated.

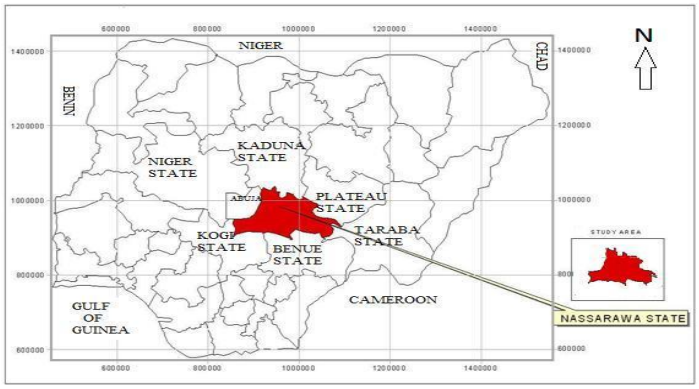

Fig. 2: Map of Nigeria showing Nasarawa State

Fig 3: Map of Nasarawa State showing study areas

3.2 Sampling Technique and Sampling size

The study population encompassed returnees affected by the conflict and people who did not move at all from the rural areas in the 7 Local Government Areas, LGAs (Keana, Obi, Nasarawa Eggon, Toto, Lafia, Doma and Awe) of Nasarawa State where significant violent conflicts have occurred in recurrent trend. Cochran's formula for calculating sample size when the population is infinite (that is if the population is greater than 50,000) was employed to determine an accurate sample population. Cochran (1977) developed a formula to calculate a representative sample for proportions given as:

$$n_0 = \frac{z^2 pq}{e^2}$$

Where:

n_o is the sample size

z is the selected critical value of desired confidence level,

p is the estimated proportion of an attribute that is present in the population,

q =1 – p, and;

e is the desired level of precision

Because the population of Nasarawa State is large and has a great degree of variability, we assume variability of 50% (p = 0.5), the confidence level of 95% (5%), precision level of 0.05.

Therefore, p = 0.5; q = 1 – 0.5; e = 0.05; z = 1.96

$$n_o = \frac{(1.96)^2(0.5)(0.5)}{(0.05)}$$

$$= \frac{384 \text{ X } 0.25}{0.0025}$$

$$= \frac{0.96}{0.0025} = 384 \text{ respondents}$$

A multi-stage sampling technique was used for the selection of respondents for the study. In the first stage, purposive sampling of 7 Local Government Areas of the State, which have been prone to conflict in recent years was done. In the second stage, a cluster sampling of these crisis-hit communities within the LGAs was done to capture interest groups involved in the conflicts. In the last stage a proportional selection was employed to select respondents according to the size of the respective population of the LGA to give a total of 384 respondents for the study (Table 1).

$$\text{Sample size by LGA} = \left(\frac{\text{Population of each Local Government Area}}{\text{Total population of the 7 Local Government Areas}}\right) \times 384$$

Table 1: Selection of sample size of the Study

LGA	Projected 2018 population	Sample size
Lafia	488,455	118
Keana	205,287	49
Obi	167,021	40
Nasarawa Eggon	120,818	29
Awe	175,836	42
Toto	219,191	53
Doma	220,036	53
Total	**1,596,645**	**384**

Source: Author's extrapolation, 2018

3.3 Data Collection

Primary data were collected from the respondents using a structured interview schedule, while 34 structured focus group discussions (FGD) sessions were conducted in the

clusters to assess the effects of conflicts on communities. The FGD were composed of the elderly and the young and cut across gender and ethnicity; about 15 – 25 people. A check list was used to guide the Focus Group Discussions while the key data were carefully recorded.

3.4 Analytical Technique

Both descriptive and inferential statistics were used in analysing the data collected. Objective I was achieved using simple descriptive statistics including frequencies, percentages, means and standard deviation. Objective II and III were achieved using Content analysis of the qualitative data derived from the FGD. Objective V was determined using resource cost estimation strategy i.e. real resources spent or production possibilities foregone because of conflict and generalized cost model by summing up all recorded losses (crop, livestock, shelter, property and lives) and the alternatives forgone as a result of the conflict including social costs; alternative resource cost estimation, ARCE. Objective IV was measured using mean score incorporated into Likert-type five-point continuum scale.

3.4.1 Model Specification

3.4.2 Alternative Resource Cost Estimation

This approach to analysis of losses incurred in conflicts is similar to that employed by Yonguan *et al*. (2001) when analysing the environmental cost of water pollution in Chongqing, China as similarly replicated by Sulaiman and Ja'afar-Furo (2010). It was specifically utilized to estimate the damage to human health and life due to industrial end products. Using the strategy of estimating the resource cost of the water pollution which actually consisted of two items, namely: (1) resource spent to mitigate the impact, e.g., the cost of treatment of ill health, (2) the loss of potential GDP – the loss through leave of

absence from work by the victim. For the dead, they employed the loss of production (the production possibility forwent) – expected production and or its 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 sacrificed alternative measures the cost of obtaining what is chosen. The model estimates what would have been gained in a no-conflict scenario given the same level of resources and personnel. It measures the microeconomic costs of conflicts.

However, in the conflict situation, circumstance determines the choice and the alternative, but in principle of opportunity cost, the alternative was used to measure the choice as in the case of cost of water pollution in Chongqing. This establishes the alternative cost principles, the alternative resource cost estimation (ARCE).

In applying the principle for the analysis of economic loss from conflicts, the elements were categorized into the following component and processes of analysis:

Loss Due to Loss of Life (LDLL):

LDLL = EPRI + ESEC + EOTH

Where:

EPRI = Expected earnings from primary occupation/annum (Peak periods + mid periods + low periods divide by 3) (₦)

ESEC = Expected earnings from secondary occupation/annum (non-farm activities, other secondary sources) (₦)

EOTH = Expected earnings from other sources/annum (remittances, one-off contracts, gifts, intermittent incomes) (₦)

If no loss of life, Loss Due to Injury (LI)

$LI = Ct + Edt_t$

Where:

Ct = Cost of treatment of injury (₦)

Edt_t = Expected earnings from primary, secondary and other sources lost during a period of treatment by the victim (₦)

Loss of Facilities

The facilities/assets/equipment included: farmhouses, farm machinery and other farm equipment such as farming implements and tools.

- *Partial loss (damaged) of the facility (Lpf)*

$Lpf = Cr + Eef_t$

Where:

Cr = Cost of repair (₦)

EEf_t = Expected total earnings from the facility during the repair period (₦)

- *Complete loss of facility/Asset (Lcf)*

Lcf = PVf

Where:

Pvf = current value of the facility/asset (₦)

Loss of shelter

- *Loss due to damaged shelter (Lds)*

$Lds = Cr + Cfd_t$

Where:

Cr = Cost of repair of shelter (₦)

Cfd_t = Cost of renting apartment + cost of transporting family to a different during repairs (₦)

- *Loss due to total loss of shelter (LTLS)*

Lls = PVs + Cfd_t + Hlp

Where:

PVs = Present value of shelter (₦)

Cfd_t = Cost of family displacement (₦)

Hlp = Value of household property loss (₦)

Cost Due to Loss of Farm/Farm Produce

- *(for both crops and livestock) = Llc*

Llc = Y × P – C

Where:

Y = Total quantity produced/expected to be produced (Kg)

P = Unit price of the produce (₦)

C = Cost of production (TC = TVC+TFC) (₦)

Therefore, the total loss (in monetary terms) due to conflicts:

TLDC = (LDLL + LI + Lpf /Lcf + Lds/LTLS + Llc) (₦)

3.4.3 Likert Scale

To achieve objective v, Likert-type five-point continuum scale was employed to measure the degree or intensity of agreement by the respondents to a statement (used to determine respondents' felt causes of conflict). Respondents were asked to indicate the extent of their perception about statements presented to them using a 5-point Likert scale of Very serious (VS), serious (S), Moderate (M), Slightly serious (SS) and Not Serious (NS).

Weight of 5, 4, 3, 2 and 1 were assigned. For each indicator a weighted mean obtained as follows:

$$WM = \frac{[(fVS * 5) + (fSE * 4) + (fM * 3) + (fSS * 2) + (fNS * 1)]}{N}$$

Where:

WM = Weighted mean; f = Frequency; Values 5, 4, 3, 2, 1 = Attached weights; VS, SE, M, SS and NS = degrees of perception of Very serious, serious, Moderate, Slightly serious and Not Serious.

N = Sample size

Following the formula of Bagheri (2010) and Bagheri *et al*. (2008) on perception analysis, the mean(s) for all indicators were measured thus;

The mean(s):

1.00 – 1.49 = Not Serious (NS),

1.50 – 2.49 = Slightly Serious (SS),

2.50 – 3.49 = Moderate (M),

3.50 – 4.49 = Serious (SE); and

4.50 – 5.00 = Very Serious (VS)

3.5 Reliability Test

The reliability refers to a measurement that supplies consistent results with equal values (Blumberg *et al*., 2005). It measures consistency, precision, repeatability, and trustworthiness of research (Chakrabartty, 2013). The instrument of data collection for this study (questionnaire) was subjected to Test-retest reliability and a reliability coefficient of 0.96 was obtained using Pearson's correlation coefficient suggesting that the instrument was free from measurement errors and that the instrument was very good.

Madan and Kensinger (2017) advanced that a high test-retest score is confirmation that the instrument is free from measurement errors and was fit for the study.

3.6 Instrument Validation

Validity is often defined as the extent to which an instrument measures what it asserts to measure (Blumberg *et al*., 2005). The validity of a research instrument assesses the extent to which the instrument measures what it is designed to measure (Robson, 2011). It is the degree to which the results are truthful. The questionnaire for this research was subjected to Content Validity and Face Validity test by the supervisory team and other experts in the Department of Agricultural Economics and Extension, Faculty of Agriculture, Lafia, Nasarawa State University, Keffi, whose independent opinions on the adequacy and relevance of the research instrument ensured that it possessed both face and content validity.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Socio-economic Characteristics of Respondents

The socio-economic attributes of respondents are presented on Table 2. Analyses of the socio-economic characteristics of farmers can help us assess the true consequences of one action on the social system and how this may lead to resultants that affect members of the social system directly or indirectly. The consequence perspective of an action (such as conflict for instance) on a social system, such as a society under an agrarian economy, constitutes the preliminary step in the initiation of an agricultural development plan.

Also, the types of socio-economic attributes of a social system can be relied upon to reflect the behaviour of the demography therein. Under typically agrarian demography, the socio-economic characteristics of the demography reflect expected losses across an agricultural economy in the event of a conflict but they also reflect the possible triggers that initiate a conflict situation in the first place.

Age of Respondents: Respondents' ages are presented in Table 2. From the result, 31.3% of the respondents were within the ages of 17 – 27 years. Respondents between the ages of 28 and 38 years made up 33.1% of the population. Respondents between the ages of 39 and 49 years made up 18.2% of the population. This means that the study population is young as the combined majority (71.7%) of the population was under 40 years. Cincotta (2018) analysing the International Crisis Group's 2018 list of '10 conflicts to watch' advanced that these conflicts were characteristically intra-state conflicts and 70% of these conflicts were within youthful countries. However, beyond youthfulness and the form of conflict (being intra-state), three key factors further

complicate the relationship between age structure and intra-state conflict: conflict type (civil or territorial); conflict history; and conflict spill-over (the cross-border spread of insurgencies among contiguous clusters of youthful countries) (Cincotta, 2018).

Nigeria is a young population with a median age of 18.5 years putting nearly 70% of the population under the age of 30 years (Olaopa, 2019). Youth unemployment in Nigeria in the last quarter of 2018 was as high as 36.5% and that was amazingly an improvement from the 38% it was in the previous quarter (Trading Economics, 2019). Typically, youth unemployment is most critical in rural areas predominantly under agrarian economies. Rural areas account for youths with least education which is also the category with the highest youth unemployment rate in Nigeria (Akande, 2014). The decline of agriculture has been identified as a root cause of youth unemployment in Nigeria (Ogen, 2007; Ucha, 2010; Adesina, 2013).

Therefore, conflicts can ensue easily as a result of the definition of resources, especially land, in the midst of a virile population undergoing economic exclusion or perceiving that actions threaten their economic well-being and access to economic resources. Several authors have attributed positive potentials to young farmers, attributes such as innovation proneness, minimal risk aversion, greater physical strength and less conservativeness towards modern technology and contemporary innovations (Jibowo and Sotomi, 1996; El-Osta and Morehart, 2002; Diederen *et al*. 2003). However, with a history of violence in Nigeria tilting more toward the rural area, young farmers are also prone to be participants in violent conflicts mostly resulting from the parallel definitions of land and the uses attributed to it.

Gender of Respondents: Gender of the respondents is presented on Table 2. The result revealed that most (77.1%) respondents were male while 22.9% were female. The dominance of male over female gender in the typical agricultural sphere has been identified by authors (Ezihe *et al*., 2016; Onugu *et al*., 2016; Mohammed and Abdulquadri, 2012). The study population, being basically inclined toward agriculture, explains to a greater extent the reason male respondents have more significant representation than the females. It also explains the perceptions and prevailing social situations of gender acting on the demography – which is basically the dominance of the male gender (patriarchy).

According to Caprioli (2005) countries characterized by gender inequality are more likely to be involved in interstate disputes and more likely to rely on violence to settle those disputes. Gender stereotypes around women as victims and in need of protection are used to fuel support for conflict (Birchall, 2019). This is typically observed in the case of farmer-herder clashes in Nigeria.

Herbert (2014a; 2014b) analysing the links between outbreaks of violent conflict with gender-based violence and women's empowerment (or lack of empowerment) observed clear correlations between levels of gender inequality and conflict, and emerging evidence to illustrate links between gender-based violence and conflict. According to Herbert (2014a), there exists substantial evidence that traditional patriarchal gender identities lead to militaristic and violent conflict approaches. The more years a country has had female suffrage, the more likely it is to resolve disputes without military violence. Better gender equality can indirectly increase a country's stability through its impact on wealth/income. Contrariwise, the larger the gender gap in a state, the more

likely it is to be involved in inter and intra-state conflict, and to use violence first in a conflict (Hudson *et al*., 2009; Caprioli and Boyer, 2001). The importance of considering gender as a causal factor inextricably linked with other factors, including weak or unaccountable governance, ethnic, communal and religious tensions, social exclusion, reduced livelihood, education and employment opportunities, lack of access to health care, security and justice, and land rights (Wright, 2014; El-Bushra, 2003).

Size of Respondents' Household: The categorizations of the number of individuals that make up respondents' households are also presented in Table 2. The average number of households was about 8 individuals. This means that the respondents typically had large household sizes. Respondents with household sizes of 7 – 12 individuals made up 43.2%. This group was closely followed by respondents with 1 – 6 individual members which were about 41.7% of the population. Households comprised of 13 – 18 individuals were 11.7% while those with 19 individuals and above made up only 3.4% of the population. The overall implication is that the households were large meaning that the fertility rate was high, therefore a possible explanation for the high youth population. Schultz (1981) opined that high infant mortality rate has provoked excess birth rates in order to replace those lost, which in effect causes large household sizes. While there has been an improvement in the statistics of infant mortality, the attitudes, dispositions and perceptions of people about child-bearing has not changed so significantly especially in rural areas. Many rural people engaged in farming deliberately raise large families so that household members can supply the family with farm labour, more so Nigeria is still conceived as a "high birth, high death" society where many people think that they need to have as many children as possible since they do not know which will survive; there is

also the belief that children are “gifts from God” in a male-dominated society (Anyanwu, 2013). This notwithstanding, a strong correlation between large household sizes and poverty has been established (Anyanwu, 1997; 1998; 2005; 2010; 2012; Gang, Sen and Yun, 2004), absence of well-organized social security systems and poor savings in developing countries have been blamed for high birth rates by parents in order to have children who will cater for them when they are old.

Larger household sizes impact directly on the population of specific areas or regions even within a country. The increased population can trigger scarcity and the struggle, therefore, for limited resources will lead to conflict. Homer-Dixon and Blitt (1998) distinguish three possible resource scarcity that can directly lead to conflict. First, *Supply-induced scarcity* which results from degradation or depletion of natural resources. This type of scarcity is observable from the depletion of land fertility in Nigeria that has led to reduced productivity of our agriculture. Secondly, *Demand-induced scarcity* is primarily caused by population growth. If a resource base is constant, the availability of resources per person will diminish with the increasing number of people that have to share it. Such scarcity can also arise from an increase in demand per capita. This type of scarcity describes most succinctly the influences of household sizes over conflict. Per capita resource requirements multiply with the increase of individual household members. As populations grow, resource requirements and use of resources take different forms. For example, land for agriculture may be converted into residential buildings or factories due to other demands of a fast-growing population. Lastly, *the structural scarcity* only applies to certain groups that, relative to other groups, are excluded from equal access to particular resources. Such unequal social distribution of a resource does not presuppose

actual scarcity if the resource was distributed evenly. The likelihood of violent conflict is greatest when these three forms of scarcity intersect at one time.

Respondents' Annual Income Distribution: The annual income distribution of respondents is presented in Table 2. The result revealed that 54.7% of the respondents had a total annual income within the ₦1,000 – ₦200,000 range. Furthermore, the category of respondents earning ₦201,000 – ₦400,000 made up 23.4% of the population. The category of highest earners (earning Above ₦600,000 per annum) accommodated 13.8% of the respondents. About 8.1% of the respondents earned ₦401,000 – ₦600,000 per annum. The mean annual income of respondents was ₦885,563.3. This mean income was considerably larger than the average incomes of respondents in agrarian economies. It must be noted that this context of annual income transcends agricultural income. The definition of annual income in this context covers expected income from the primary source, secondary source and expected income from other sources. This is congruent with the findings of other studies (Dorward *et al*., 2004; Tchale, 2009) who advanced that complementary income from other sources on and off the farm is likely to result in high on-farm productivity, as farmers use the income from other sources to invest in farm operations. However, the standard deviation was calculated at ₦7,298,054.4. This implies that there is a huge deviation between the mean income and the individual annual incomes of respondents and it spells inequality in income distribution between respondents. Income inequality has been reported by Osinubu (2003) and Penda and Asogwa (2011). Todaro and Smith (2009) opined that ultimately unequal distribution of personal income in most developing countries is caused by the unequal and highly concentrated patterns of asset ownership (wealth) in these countries. The outcome further

amplifies the argument of Todaro and Smith (2009) that posited that extreme income inequality can lead to economic inefficiency. The higher the inequality, the smaller the fraction of the population that qualifies for a loan or other credit.

In order to establish a comparative perspective, we consider Salau and Attah (2012) who reported an annual income of farmers as ₦100,000.7 while analysing urban agriculture; Gerei *et al*., (2018a) also reported mean income of farmers to be ₦82,315. Furthermore, Salau, Onuk and Ibrahim (2012) advanced that annual income level of the respondents had a mean of ₦326,461.30 per annum. Comparing gross margin of farmers before and after the crisis, Girei *et al*., (2018b) reported that gross margin before the crisis was ₦1,198,644.9 while it went as low as ₦491,791.7 after conflict indicating a marked decrease of more than 50%. Comparison between conflict and peace scenarios present counterfactual alternatives that expatiate the extents of conflict impacts on the agricultural economy. Suleiman and Ja'afar-Furo (2010) found that the average income (₦358,000.00) of farmers in the conflict area was significantly lower than those in non-conflict areas (₦437,313.00).

The inter-linkage between conflicts, food insecurity, and poverty have been identified by a growing body of literature (Bardhan, 2007; Ian, 2006; Pierre, 2006; Ahmed *et al*. (2009). Evidence gives credence to the fact that conflicts adversely affected farm productivity and sustainable development in Cameroon (Bardhan, 2007) as well as have resulted in damage of the infrastructure, social and economic systems, and livelihood in Republic of Angola (Ian, 2006). Haider *et al*., (2017) reported a significant difference between the earnings of tomato farmers before and after conflicts.

Direct impacts of conflict also reduce market efficiency. Supply of goods experiences contraction and higher transactions costs also cause prices to increase, and reductions in the size of networks (Deininger, 2003; Justino, 2011). All these effects produce drop-in households' income and consumption, and countries experience a fall in aggregate production (Abadie and Gardeazabal, 2003; Brück, 2004; Justino and Verwimp, 2006).

Respondents' Level of education: By giving the same importance to each year of schooling attained irrespective of the educational level, average schooling years as a measure of human capital clearly over-emphasizes primary education at the expense of secondary and tertiary education. Agbor (2011) finds evidence to support the claim that schooling education, as measured by the average schooling years in the population aged 15 and above, reduces the likelihood of societal conflicts. This is certainly an important contribution however the findings are less useful from a policy perspective. This is because the reliance on the average years of schooling as a proxy for school education in literature is not insightful in at least one respect: quality of education. Therefore, the use of average years of schooling as an explanatory variable in studies of conflict is problematic (Agbor, 2013). For that greater fact, the need to analyse respondents' level of education is apparent. In terms of the level of education, this study revealed that 6.8% of the respondents had acquired non-formal education only. Primary education was attained by 22.7% of the respondents and secondary education by 31.3% of the respondents. In the area of tertiary education, there were 39.2% of the respondents (19.8% of the respondents acquired NCE, 10.9% had a Diploma and 8.6% of the respondents had a Degree or Master's degree (Table 2). The result showed that 39.2% of the respondents

had more than a secondary school education implying that the population was appreciably educated.

More education is expected to lead to less agitation, more understanding and tolerance for differences and invariably lead to fewer incidences of conflict. However, in a situation where other factors are preponderant to education, the influence of education on the decision of individuals or entire social systems are diminished. In fact, what leads to recurrent conflict in most cases is the existence of an ideology that is enshrined in the minds of prospective participants of conflicts and which education does not stand a chance to erase.

Davies (2005); Bush and Saltarelli (2000); Smith and Vaux (2003) hypothesize that formal education systems can contribute more to world disorder than to world peace as it is possible that education encourages stereotyping and vilification of other groups. Furthermore, increasing marketisation of education and the accentuation, in academic parlance, of the idea that competition is 'healthy', effectively side-lines any educational effort and time spent on issues of mutual respect, collaboration and peaceful conflict resolution (Davies, 2005).

Acquiring formal education helps respondents improve their human capacity and enables them to make more informed decisions but more importantly education can help respondents alter their behaviours, attitudes, perceptions and help them see alternative ways to addressing issues in their daily lives including their productivity levels and the decision to participate in conflict or not.

The mere fact that people have acquired formal education over a particular timeframe does not explain the quality of education they have received. The likelihood of intra-state

conflict arising is not a real problem to worry about, given that every modernizing society is perpetually in conflict with itself already (Huntington, 1968; Senghaas, 1998). What actually matters the most is the intensity of intra-state conflict and its cost to society in terms of human lives lost potential and output.

There is some level of consensus that education can lead to a peaceful society by creating the requisites for a stronger middle class, civil society and rule of law; hence, one would assume, a more peaceful society (McMahon, 2003). However, Davies (2005) argued that education could only affect the internal workings of a society and really has no effects on society's stance towards other societies. Therefore, while education helps a society maintain internal peace, it does not stop it from being aggressive toward another society.

Farming Experience of Respondents: The levels of farming experience of respondents (measured by years of participation) are presented in Table 2. The result revealed that most (50.8%) of the respondents had a farming experience that ranges from 1 – 10 years. This implies that most of the respondents were relatively new in the business of farming. Respondents with experience ranging from 11 – 20 years constituted 27.3% of the respondents and those with 21 – 30 years of experience were 13.6% of the respondents. The mean years of farming experience were 15 years. Umar *et al*., (2018) reported that increased farming experience, which is interrelated with age, was observed to decrease the use of Emotionally-oriented Coping Strategies for conflict among the farmers, suggesting that they relied on more realistic coping strategies, other than emotional ones, with increasing age and farming experience. Contrariwise, with increasing age, and therefore experience, the tendency to use emotion-oriented coping strategy by herders were observed to have increased. However, Owolabi *et al*., (2016) did not observe any

correlation between farming experience/nomadic experience and conflict. Implying that farming experience had no influence on conflict.

Respondents' Farm Sizes: The size of farm holdings of respondents is presented in Table 2. From the Table, it was observed that 64% of the respondents were smallholder farmers. In Nigeria smallholder farmers are farmers with land holdings of between 0.1 and 4.99 hectares. There is no standard international measure for categorization of farmers as smallholders. Latin America and Caribbean countries and parts of North America and Europe mostly define smallholders as having landholdings of 10 hectares and less, it is different for Africa, Asia and the Pacific and countries even within the same continent define smallholders differently (GRAIN, 2014). A little over 20% of the respondents had farm size within 5.1 – 10.0ha range. And about 16% had landholdings above 10ha. Mean size of landholdings calculated at 7.76ha was far greater than mean landholdings observed in previous studies such as Ike and Uzokwe (2015) who reported less than 1 hectare. Adikwu (2013) found a high relationship between agricultural land-use intensity and family size. De Hann (2002) reported that small farms could actually lead to conflicts. This is because as farmers expand their farms, they do so in fragmented pieces, some of which will be in areas where cattle may pass through and therefore graze upon leading to conflict. So, while a farmer may have a large farm. The farm is a summation of several small farms scattered far away from one another. Re-echoing this rhetoric, Adisa and Adekunle (2010) have found a positive correlation between large farms and conflict occurrence. This implies that increasing farm size could not only increase the potential for conflict but also farmers with large farms may suffer greater consequences of conflict than those with smaller farms. Typical with the expansion is

ownership of farms in different areas owned by one farmer and the increase in the likelihood that these fragmented land pieces may be invaded by pastoralists which may lead to conflict.

Respondents' Access to Credit: Only 7 per cent of Nigeria's smallholders has access to credit according to World Bank (2018). This is reflected in the result of Table 2. More than 94% of the respondents had no access to credits and only 5.7% indicated that they had accessed credits of various types. According to Okojie (2019) bank loans to the agriculture sector increased by 16 per cent, from ₦528 billion in quarter 4, 2017 to ₦610 billion in quarter 4, 2018 assessed on a year on year basis. Also, on a quarter to quarter basis, it increased by 3 per cent from ₦592 billion in quarter 3 to ₦610 billion in quarter 4 of 2018.

Respondents' Enterprise types: The types of agricultural enterprises respondents were involved in are presented in Table 2. The result from the Table revealed that 48.7% of the respondents were solely involved in crop farming while sole animal farming was practised by 14.1% of the respondents. Furthermore, 37.2% of the respondents owned both crop and animal enterprises.

Table 2: Socio-economic characteristics of Respondents

Variable	Frequency	Percentage	Mean	Std. deviation
Age (years)				
17 – 27	120	31.3	36 years	
28 – 38	127	33.1		
39 – 49	70	18.2		
50 – 60	43	11.2		
Above 60 years	24	6.3		
Total	384	100.0		
Gender				
Male	296	77.1		
Female	88	22.9		
Total	384	100.0		
Household size (Number)				
1 – 6	160	41.7	8 persons	
7 – 12	166	43.2		
13 – 18	45	11.7		
19 and Above	13	3.4		
Total	384	100.0		
Annual Income (₦)				
1,000 – 200,000	210	54.7	₦885,563.3	₦7,298,054.4
201,000 – 400,000	90	23.4		
401,000 – 600,000	31	8.1		
Above 600,000	53	13.8		
Total	384	100.0		
Level of Education				
Non-formal Education	26	6.8		
Primary	87	22.7		
Secondary	120	31.3		
Tertiary	151	39.3		
Total	384	100.0		
Farming Experience (years)				
1 – 10	195	50.8	15 years	
11 – 20	105	27.3		
21 – 30	52	13.6		
31 – 40	20	5.2		
Above 40	12	3.1		
Total	384	100.0		
Farm Size (ha)				
0.5 – 5.0	246	64.0	7.76ha	
5.1 – 10.0	77	20.1		
Above 10.0	61	15.9		
Total	384	100.0		
Credit Access				
No access	362	94.3		
Access	22	5.7		
Total	384	100.0		
Enterprise				
Crop Farming	187	48.7		
Animal Farming	54	14.1		
Mixed Farming	143	37.2		
Total	384	100.0		

Source: Field Survey, 2018

4.2 Remote and Immediate Causes of Conflicts

The degree of perception of respondents as to the causes of conflicts is presented in Table 3. Respondents were requested to state the degree to which they perceived that each of the causes of conflict may contribute to the occurrence of conflict. Expansion of agro-pastoralism (4.6) and Extensive sedentism (4.5) were very serious factors that were perceived to lead to conflicts. Factors that were under the serious category were Cattle theft (4.2), Expansion of cultivated areas (4.2), invasion of land by cattle (4.1), competition over land resources (4.0), ethnic stereotyping (4.0) and population growth (3.8). Causes of conflicts perceived as moderate by the respondents were Discriminatory patronage system (3.2), Breakdown of traditional relationships and formal agreement (2.9), politicized ethnicity (2.9), insufficient control over state land (2.8), Unprovoked attacks (2.8) and weak state laws/government presence (2.7).

These findings are congruent with those of Ingawa, Ega, and Erhabor (1999) who advanced that individual land tenure system newly operated by arable farmers is particularly severe on the traditional trek routes, which become favourite cropping sites because of their better soil fertility resulting from the concentration of animal manure from the trekking herds in these areas. They further highlighted that the inadequacy of grazing resources due to increasing crop cultivation (and increasing commercialization of the crop-residues) and poor management of the existing grazing reserves. Concluding that decline in internal discipline and social cohesion, as the adherence to the traditional rules regarding grazing periods, and the authority of the traditional rulers are breaking down.

De Haan (2002) observed the existence of antagonistic perceptions and beliefs among farmers and herdsmen which could compound conflict situation, especially due to failing

institutions and fierce competition for resources. This, as well as the increasing rate of cattle theft, can exacerbate farmer-pastoralist conflicts. Inequitable access to land, diminishing land resources, antagonistic values among user groups, policy contradictions, and non-recognition of rights of indigenous people have been identified by Adisa (2011).

Further evidential to the realities of competition over land resources, Hoffmann *et al*. (2008) opined that the relationship between farmers and nomadic Fulanis 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 the crop was yet to be harvested. Adebayo and Olaniyi (2008) advanced that the most predominant causes of conflict between the crop farmers and pastoralist are damaging crops and blockage of water points. They also demonstrated that age, gender, marital status, religion, education and place of residence were attributes that could significantly influence causes of conflict between the crop and pastoral farmers.

Nevertheless, scholars including Folami, 2009; Ofuoku and Isife, 2009; Adisa and Adekunle, 2010; Blench, 2010; Odoh and Chigozie, 2012; Solagberu, 2012; Audu, 2014; Bello, 2013; McGregor, 2014 have identified root and immediate causes to range from climate change, southerly migration trend, the growth of agro-pastoralism, the expansion of farming on pastures, the invasion of farmlands by cattle, assault on non-Fulani women by herders, blockage of stock routes and water points, freshwater scarcity, burning of rangelands, cattle theft, inadequate animal health care and disease control, overgrazing on fallow lands, defecation on streams and roads by cattle, extensive sedentism, ineffective

coping strategies, ethnic stereotyping, to the breakdown of conflict intervention mechanisms.

Table 3: Causes of Conflicts

Cause	Not serious (1)	Slightly Serious (2)	Moderate (3)	Serious (4)	Very Serious (5)	Weighted Total (WT)	Mean Score (MS)
Ethnicity	10	422	366	40	155	993	2.9^{M}
Breakdown of traditional relationships and formal agreement	13	328	378	80	305	1104	2.9^{M}
Competition over land resources	5	112	204	184	1045	1550	4.0^{S}
Population growth	15	96	228	388	740	1467	3.8^{M}
Stereotyping based on tribe	22	56	138	480	840	1536	4.0^{S}
Expansion of agro-pastoralism	6	22	75	216	1440	1759	4.6^{VS}
Weak state laws (government presence)	20	296	459	144	135	1054	2.7^{M}
Unprovoked attacks	20	198	624	160	85	1087	2.8^{M}
Expansion of cultivated areas	16	46	144	252	1170	1628	4.2^{M}
Discriminatory patronage systems	18	114	525	372	205	1234	3.2^{M}
Insufficient control over state land	18	258	498	140	180	1094	2.8^{M}
Invasion of farmlands by cattle	16	48	222	312	960	1558	4.1^{S}
Cattle theft	17	96	105	144	1240	1602	4.2^{S}
Extensive sedentism (sedentarization)	13	30	60	200	1430	1733	4.5^{VS}

Source: Field Survey, 2018
^{VS} – Very serious
^{S} – Serious
^{M} – Moderate

4.3 Major types of conflict that occur in the area

The major types of conflicts in the area are presented in table 4. From the table, it was identified that communal conflicts, ethnic conflicts, resource conflicts, politically motivated conflicts, chieftaincy tussles and state forces versus militia groups were the major kinds of conflicts that occur in the area. In the period under review, about 28 major conflicts were identified.

Ethnic conflicts occur between different ethnicities in the area and was identified to be the most recurrent form of conflict and it takes the form of conflicts between farmers and herdsmen. However, in most cases ethnic conflicts are often intertwined with resource conflicts. About 32% of the conflicts identified were ethnic conflicts but even though they had ethnic orientation, the struggle for resource ownership was at root of the conflicts. Nevertheless, 14% of the conflicts identified were purely resource conflicts, meaning that these conflicts were not manifested as any other appearance other than as resource conflicts.

Politically motivated conflicts occur occasionally especially during elections where factions compete to gain power by the use of force and usually violence. Politically motivated conflicts accounted for 18% of all conflicts in the period under review. Communal conflicts often occur among people who have shared communal identity and go about their daily activities in shared places. About 18% of all the conflicts identified were communal conflicts. It is very easy for communal conflicts to degenerate into ethnic conflicts usually because there already exist mutual distrust and unresolved tensions between ethnicities in the State.

Chieftaincy tussles result among people of the same ethnicity but in peculiar circumstances the occur between ethnicities as each ethnic group is struggling to gain prominence and thereby gain political importance and have more access to national resources. About 11% of the conflicts were chieftaincy-related conflicts. Chieftaincy conflicts were hard to identify because they usually manifest as different forms of conflicts, usually as ethnic conflicts but they are mutually distinctive from each other.

Militia groups have begun to emerged all over Nigeria and particularly the middle belt region, clashes with government agencies have been recorded. About 7% of the conflicts were between the emerging militia groups and the forces of the State. Militia groups often emerge when ethnic groups begin to perceive that State forces have not properly attended to their problems or when a feeling of marginalization affects a certain people.

Table 4: Major types of conflicts in the area

Types of conflicts	Frequency	Percentage
Communal Conflicts	5	18
Ethnic conflicts	9	32
Resource conflicts (Land, water, passage routes)	4	14
Politically-motivated conflicts	5	18
Chieftaincy tussles	3	11
State forces versus militia groups	2	7
Total	28	100

Source: Group Discussion, 2018

4.4 Effects of each conflict type

The major types of conflicts that occur in the area and the effects of these conflicts are presented in Table 5. From the result of the analysis of qualitative data derived from the FGD, there were six (6) major categories of conflicts identified in the area. These categories are communal conflicts, ethnic conflicts, resource conflicts (most often land conflicts), politically motivated conflicts, conflicts due to traditional chieftaincy, and the conflicts resulting from the clash between state forces and militia groups. Brosché and Elfversson (2012) defined communal conflict as violent conflict between non-state groups that are organised along a shared communal identity. It was identified that communal conflicts led to sporadic killings, destruction of property, disruption of social

and commercial activities in the area, breakdown of law and order, incidences of IDPs and fatalities of neutral parties caught in the conflicts.

Ethnic conflicts were identified in the study area. According to Horowitz (1985) “an ethnic conflict is one particular form of conflict, that in which the goals of at least one party are defined in (exclusively) ethnic terms, and the primary fault line of confrontation is one of ethnic distinctions.” The results revealed that ethnic cleansing, ethnic discrimination, breakdown of inter-ethnic associations and affiliations and intense mutual suspicion were all results of ethnic conflicts and these occurred at different degrees. As a result of ethnic conflicts, either expressed violently or expressed subtly, the interactions between these conflicting groups are usually on the brink of violence due to intense suspicion, these conflicts are usually culminated by killings and other acts of violence across ethnic lines.

Resource conflicts are conflicts that have been conducted to obtain access to scarce resources such as land, water or minerals. The farmer-herder conflict is a new wave of violent confrontations over the claim for land and fresh water as well as stock routes which have been converted into farmlands as a result of soil fertility decline and rise in human population in Nigeria. Nasarawa State has specifically been affected by this form of conflict. Intense hatred among conflicting factions, violent killings, mutual distrust, molestations and intimidations, competitions over which faction claims a larger share of the resource, invasions are commonplace, persistent and recurrent attacks, destruction of livestock and crops, occupation of land by the stronger faction often characterize such conflicts. Due to intense competition the result of which often determines the survivability of each faction, the employment of small arms and light weapons is

common as recent conflicts have become even more violent and deadly. These types of conflicts are multigenerational. Even children who have no idea of the root causes of the conflicts inherit and continue it. The farmer-herder conflict is now Nigeria's deadliest form of conflict and has claimed more lives than the Boko Haram insurgency (International Crises Group, 2018).

Politically motivated conflicts are conflicts that have their roots planted in politics and the struggle to claim political power. These forms of conflicts often lead to discriminatory patronage as the winner chooses to bestow favours only the groups that have supported him/her, violent clashes between supporters of different factions ensue as violence is a tool used to gain power, use of political power against opposing factions, thuggery and killings are rife in this type of conflicts.

Chieftaincy tussles are another form of violent conflicts. Due to advantages gained from political alignment in Nigeria, chieftaincy takes an important position in resource and power allocation in the country for this reason alignment and acquisition of chieftaincy position are keenly contested with violent conflicts resulting sometimes. The effects of these chieftaincy tussles include long-term and recurrent crises, the more traditionally powerful faction attempts to repress the lesser one, IDP situations and emigrations.

State versus militia groups is a form of conflict that was identified in the study area. In 2013, more than 100 security personnel were killed by the Ombatse militia group in Nasarawa State. According to Olukotun (2003) ethnic militias are paramilitary forces that perform police functions within their locality while the government considers militia group as insurgent groups that engage in subversive activities against the state. Militias are often comprised of young men who come from rural, impoverished areas. Ethnic

militias are not new in the middle belt of Nigeria, most ethnicities have one but hide under the pretext of taking up arms to defend themselves (International Crises Group, 2018). Confrontations of such illegal groups with government forces is a known fact in Nigeria. The effects of such confrontations include stereotyping of the ethnic group involved, severe breakdown of law and order, feeling of insecurity among inhabitants of the area, mutual suspicion and living in suspended terror, loss of confidence in the state security operatives.

Table 5: Effects of major conflicts identified

Types	Effects
Communal Conflicts	Sporadic killings, destruction of property, disruption of social and commercial activities in the area, breakdown of law and order, even neutral parties can be killed in the ensuing violent, IDP crises.
Ethnic conflicts	Ethnic cleansing, ethnic discrimination, breakdown of inter-ethnic associations and affiliations, consistent and intense suspicion, Interactions between the factions are usually on the brink of violence, killings across tribal lines
Resource conflicts (Land, water, passage routes)	Intense hatred among conflicting factions, violent killings, mutual distrust, molestations and intimidations, competitions over which faction claims a larger share of the resource, invasions are commonplace, persistent and recurrent attacks, destruction of livestock and crops, occupation of land by the stronger faction, multigenerational conflicts.
Politically-motivated conflicts	Discriminatory patronage, violent clashes between supporters of different factions, use of political power against opposing factions, thuggery and killings.
Chieftaincy tussles	Long-term and recurrent crises, the more traditionally powerful faction attempts to repress the lesser one, IDP situations and emigrations.
State forces versus militia groups	Stereotyping of the ethnic group involved, severe breakdown of law and order, feeling of insecurity among inhabitants of the area, mutual suspicion and living in suspended terror, loss of confidence in the state security operatives.

Source: Focus Group Discussions, 2018

4.5 Economic Impacts of Conflicts on Rural Communities

Loss of lives: The economic impacts of conflicts in Nasarawa State measured as a proxy of the cost per annum due to conflict are presented in Table 6. The results on the Table revealed that the cost of lost lives (708) at an average income of ₦885,563 per annum was ₦626,978,604. This figure was extrapolated to be worth 8.3% of the total internally generated income of Nasarawa State in 2018. This is to mean that, hypothetically, the State loses 8.3% of its annual IGR with the loss of 708 lives due to conflict events. The 2018 IGR of Nasarawa State was seven billion five hundred and twenty-two million, nine hundred and twenty thousand six hundred and fifty-six thousand naira and ninety-one kobo – ₦7,566,920,656.91 (NBS, 2019).

Losses due to injury: Conflicts also resulted in 1,193 injuries of varying degrees in 2018 alone. The injury costs were averaged at ₦122,117.6. The total cost of the injury was extrapolated to be almost one hundred and forty-six million naira (₦145,686,296.8). This cost was worth 1.93% of the State's 2018 IGR. The breakdown showed that the cost of treatment on average was ₦33,450.6 per individual, while the cost of lost income during the period that the injury lasted was an average of ₦88,667.0.

Loss due to loss of shelter: Analysing costs of lost shelter as a result of the conflicts, the study arrived at ₦188,250,951 and this was about 2.5% of the total IGR generated from the State in 2018. Complete losses amounted to about 1,500 houses while partial losses were 509 houses. The total cost of complete loss of houses was ₦150,000,000 at an average of ₦100,000 per shelter. The cost of alternative accommodation was about ₦22,980,951. This brought the total cost of lost shelter to ₦188,250,951.

Loss of Farm/Farm produce: Furthermore, the extrapolation of crop and livestock losses attributable to conflicts in the year under review revealed that ₦51,001,999 worth of farm produce (crop) were lost as a result of conflicts in 2018 while ₦61,404,000 worth of livestock and livestock resources were lost as a result of conflicts in the same period in the 34 clusters sampled for the study. The total losses as a result of crop and livestock losses was ₦112,405,999.2. This figure is worth about 1.5% of the State's 2018 IGR.

Loss of Farm assets: Conflicts also resulted in the losses of farm assets/property across the 34 clusters used for the focus group discussions (FGD). From the results, it was observed that ₦14,280,000 was lost as a result of loss of irrigation facilities in the area. More so, ₦17,828,988 was lost as a result of destruction of tractor-mounted implements and accessories. Loss of hand-held tools constituted ₦8,500,000 while loss of farm structures including barns was worth ₦10,200,000. The total loss as a result of loss of farm assets/property was ₦50,808,988 worth about 0.64% of the State's total IGR in 2018.

Loss due to transportation: As a result of conflicts people are compelled to leave their location to other places, often before the next wave of conflicts reaches their location. In moving, the fleeing persons incur costs of moving themselves and their property to safety. From the result, it can be seen that ₦9,975,600 was spent in moving people from the face of conflicts to safety while ₦10,823,369.6 was lost in moving goods and property to safety. The total cost incurred for transporting people and property/goods to safety was ₦20,798,901.6 and this was worth 0.27% of the State's 2018 IGR.

The grand total of the economic losses attributable to conflicts over the period under review was ₦2,289,859,549 and it was 30.28% of the State's 2018 IGR. This means that

in a no-conflict scenario it is possible to save ₦2,289,859,549 as well as to avoid the loss of a development phase as a result of conflicts. This finding draws parallels with the finding of the State's Judicial Commission of Inquiry (2014) that placed the losses from the 2013 violent conflicts in Nasarawa State at ₦2.3 billion and lives lost at 667 people. The advantage that this research finding has over the previous one is the fact that the scientific research method was relied upon to arrive at the total cost and a step-by-step approach was relied upon to clearly analyse the losses accruable to conflicts in the area from all possible sub-sectors.

Table 6: Economic Impacts of conflicts on rural communities

Item	Number/ Quantity	Forms of losses	Mean Losses (₦)	Total Losses (₦)	Total Losses as % of 2018 IGR
Human Lives	708	Primary Income	450,000	318,600,000	4.2
	708	Secondary Income	225,000	159,300,000	2.1
	708	Other Income sources	210,563	149,078,604	2.0
Sub-total		**Human lives**	**885,563**	**626,978,604**	**8.3**
Injured persons	1,193	Cost of treatment	33,450.6	39,906,565.8	0.53
	1,193	Lost income due to injury	88,667.0	105,779,731	1.4
Sub-total		**Loss due to Injury**	**122,117.6**	**145,686,296.80**	**1.93**
Shelter (House)	1,500	Complete Loss	100,000	150,000,000	2.0
	509	Partial Loss	30,000	15,270,000	0.2
	2,009	Cost of alternative accommodation	11,439	22,980,951	0.3
Sub-total		**Shelter costs**	**141,439**	**188,250,951**	**2.5**
Farm/Farm Produce	34	Farm produce	1,500,058.8	51,001,999	0.7
	34	Livestock	1,806,000	61,404,000	0.8
Sub-total		**Crop/Livestock**	**3,306,058.8**	**112,405,999.2**	**1.5**
Farm assets	34	Irrigation Facilities	420,000	14,280,000	0.2
	34	Tractor implements	524,382.0	17,828,988	0.2
	34	Hand-held tools	250,000	8,500,000	0.11
	34	Barns/structures	300,000	10,200,000	0.13
Sub-total		**Farm assets**	**1,494,382**	**50,808,988**	**0.64**
Transportation	34	Cost for people	293,400	9,975,600	0.13
	34	Cost for property	318,334.4	10,823,369.6	0.14
Sub-total		**Transport**	**611,732.4**	**20,798,901.6**	**0.27**
Grand Total				**2,289,859,549**	**30.28**

Source: Field Survey and FGD, 2018

***Note**: Other income sources are specified to include remittances, gifts, opportunistic incomes, intermittent contracts, among others.*

4.6 Social impacts of conflicts in the area

The direct effects of conflict on communities that experience sustained frequency of conflict events are presented in Table 7. From the result on the Table, hike is food prices ranked 1st as 98.7% of the respondents identified that the most important social impact of conflicts was its effect on hiking prices of food. Closely following in 2nd place and selected by 95.6% of the respondents is scarcity of food. Violent conflicts are most often

accompanied by indiscriminate destruction of agricultural resources such as crops and livestock. At the end of conflicts, most recovering communities face scarcity of food. Scarcity of food also occurs as a result of the fact that conflicting parties each use food scarcity as a means to win the conflict and end up destroying the channels and sources of food coming into the area, therefore, food scarcity persists even after conflicts have ended (Messer, 1998).

Migration of labour is ranked 3rd on the social impacts of conflicts with 89.8% of the respondents identifying it. The migration of labour occurs as able-bodied men and women are forced to leave the conflict communities to peaceful ones in order to earn a living from agricultural activities. This causes a shortage of labour in the conflict communities. Majority (88.3%) of the respondents aligned with loss of farmlands as a social impact of conflicts and this ranked 4th. As a result of conflicts, farmlands are lost to either factions, the mere fear of what may result if people visit their own farmlands can keep them from cultivating certain farmlands within the radius of the conflict.

Furthermore, 87.5% of the respondents perceived increased insecurity as a social impact of conflicts and it was ranked 5th. Insecurity is a direct result of conflicts, even after conflicts have ended, the availability and use of small arms and light weapons (SAWL) can lead to opportunistic crimes such as banditry, kidnapping, homicides, cultism and terrorism. In the event of farmer-herder conflicts, an instant spike in prices of cattle was observed by 75.3% of the respondents. This was ranked 6th. The cattle rearing factions are often forced out of the community and in the event that they stay, the relationship between them and the host communities are often constrained resulting to an artificial scarcity and then a hike in the price of cattle.

Table 7: Social impacts of conflicts

Phenomenon	Frequency	Percentage	Rank
Hike in prices of goods	379	98.7	1st
Scarcity of food items	367	95.6	2nd
Migration of labour	345	89.8	3rd
Loss of farmlands	339	88.3	4th
Increased insecurity	336	87.5	5th
Hike in price of purchasing cattle	289	75.3	6th

Source: Field Survey, 2018

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study analysed the impacts of violent conflicts on the economies of rural communities in Nasarawa State, Nigeria. A multistage sampling technique was employed to select 384 respondents for the study. Primary data were collected through a structured interview procedure. Simple and inferential statistics were employed to analyse the data collected. Data analysis tools included simple statistics, Alternative Resource Cost Estimation (ARCE), content analysis while the Likert scale was used to measure the perception of respondents towards the probable causes of conflicts.

Primary data were collected on socio-economic attributes of respondents, types and effects of conflicts in the study area, the remote and immediate causes of violent conflicts and impacts of conflicts on rural communities.

The results revealed that the population was appreciably young with a mean age of 36 years. In terms of gender representation, the male gender was markedly dominant. The household size with a mean of about 8 persons implied a youthful population with high fertility rate. Mean annual income of respondents was ₦885,563.3 while the standard deviation was ₦7,298,054.4 implying huge income equality. Average years of farming experience was 15 years and the mean farm holding was 7.76 hectares. Only 5.7% of the respondents had access to credits and most respondents were into crop farming, nevertheless, crop and animal enterprise owners were also significant.

There were six (6) major categories of conflicts identified in the area. These categories were communal conflicts, ethnic conflicts, resource conflicts (most often land conflicts), politically motivated conflicts, conflicts due to traditional chieftaincy, and the conflicts

resulting from the clash between state forces and militia groups. Ethnic conflict was observed to be the most recurrent form of conflict in the area. Expansion of agro-pastoralism (4.6) and Extensive sedentism (4.5) were very serious factors that were perceived to have led to conflicts. Serious factors included invasion of farmlands by cattle, cattle theft, ethnic stereotyping and competition over land resources. A total of ₦2,289,859,549 worth 30.28% of the State's 2018 IGR were lost in these conflicts. The first, second and third most important social impacts of conflicts were hike in prices of foods, scarcity of food and migration of labour respectively.

5.2 Conclusion

Based on the findings from the study, it is concluded that the immediate causes of conflicts in the area were extensive sedentism, expansion of agro-pastoralism and cattle theft. The major types of conflicts in the area were communal, ethnic, resource, political, chieftaincy and state versus militia conflicts. The conflicts resulted in the loss of lives and property worth ₦2,289,859,549 in 2018. This amount was worth 30.28% the State's 2018 IGR. The result indicates that violent conflicts have huge economic and social impacts on the economies of rural communities in the state.

5.3 Recommendations

1. From the causes of conflicts identified in the study, it is clear that the most salient reasons conflicts occur are the conflicting and often parallel definitions of land use that different actors apply. There is not a more propitious time than now for the revolutionizing of land laws in Nigeria to factor in the elemental realities of population growth, land requirement for construction, expansion of cultivated areas and the new realities of expansion of agro-pastoralism as well as the deliberate southerly movement of nomads.

2. Laws regarding people with diverse backgrounds and socio-economic needs and population growth in relation to limited resources, resource-based conflicts and resource management must be regarded as extremely important and delicate laws that should be developed with great care and attention paid to all the parties involved in the process.
3. Economic losses accounted for in the study are evidence of the need to view that conflicts as not merely struggle for resources but as economically significant events that affect the core structure of society as well as its economic well-being, therefore future design of agricultural development plans must take into account the disaster conflicts leave in their wake and understand that peace on its own is an economic variable.
4. Findings from the study have brought us to re-echoing the recommendations of the International Crisis Group in 2017. Long term approaches to mitigating farmer-herder conflicts in the rurality should see the Nigerian government intensify the implementation of the *Great Green Wall Initiative for the Sahara and the Sahel*. The project initially called for planting a 15km wide belt of trees, running 7,775km across nine African countries from Senegal to Djibouti. It was later broadened to include building water-retention ponds and other basic infrastructure, establishing agricultural production systems, and promoting other income-generating activities. It was later broadened to include building water-retention ponds and other basic infrastructure, establishing agricultural production systems, and promoting other income-generating activities.

5.4 Limitation of the study

Data was the principal limitation of this study. The dearth of time series and panel data over the years to enable the analysis of accurate economics of conflicts as it affects rural economies in the study area made it impossible for the use of analytical techniques like

counterfactual analysis and IV-regression that rely fully on time series data. Also, the finances to prosecute the field survey using a larger sampling size.

5.5 Contribution to Literature

This study contributes to literature by revealing the profound economic consequence of conflicts on rural economies of the study area. The study sets a very fundamental foundation for the analysis and study of more complicated and detailed research in the future. The study series for conflict research has immense opportunities to help society unravel the mysteries of conflict in Nigeria. This study empirically furnishes literature with a specific cost attached to conflict-related losses and before-after scenarios of conflict losses as well as the causes of these conflicts in the rural areas.

5.6 Suggestion for further study

The researcher suggests a research of similar definition in Nasarawa State as well as across areas and states in Nigeria that have the issue of perennial conflicts. Broader research can be conducted similar to this one relying on the findings that have been established in this research. Particularly, research on marginalized gender sub-groups in conflicts as well as the stealth triggers of conflicts in Nigeria.

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APPENDICES

Appendix 1

NASARAWA STATE UNIVERSITY, KEFFI
FACULTY OF AGRICULTURE

Dear Respondent,

I am a post-graduate student of the Department of Agricultural Economics and Extension in the institution named above. I am currently on a research survey to collect data relevant to my research thesis.

Kindly provide accurate and reliable information to the extent of your knowledge about the questions that will be presented to you.

Very importantly, this questionnaire is strictly for the purpose of socio-economic research and is not a legal material that will expose you to clandestine motives of legal action of any sort.

Also, by accepting to offer answers to this questionnaire you have simultaneously given your assent of participation in the survey as a human subject.

Thank you,
Ogezi, Ernest.

QUESTIONNAIRE

Serial number …… **Phone Number……**
Name of Respondent……. __ Village……...
Local Government……

Socio-economic data of respondents

i. Age ___ (Years)

ii. Gender: Male___ Female ___

iii. Farming Experience ____ (years)

iv. Types of farming enterprises respondent is involved in

Crop: ___, Livestock: ___, Both ___.

v. Total Annual Income _____ (Naira)

What is your primary occupation_____?

What is your secondary occupation_____?

What is your other occupation(s) _____?

vi. Years of formal education: _____

Primary___, Secondary ___, NCE ___, Diploma ___, Degree ___

vii. Farm Size ___ (ha)

viii. Marital status: Single ___ Married ___ Widowed ___

ix. Household Size ___ (Number)

Number of adult males _____ Number of adult females _____ Number of male children _____ Number of female children.

x. Accessed loan: Yes ___ No ___

xi. If yes, loan amount: _____

Microeconomic Losses

i. Loss Due to Loss of Life (LDLL)/Annum:

Expected earnings from primary occupation/annum

Earnings during Peak periods (₦) _____

Mid periods earnings (₦) _____

Low periods (₦) _____

Mean earnings/annum = peak + mid + low divide by 3 (₦) _____

Expected earnings from secondary occupation/annum

Non-farm activities (₦) _____

Other secondary sources (₦) _____

Expected earnings from other sources/annum

Remittances (₦) _____

One-off contracts (₦) _____

Gifts (₦) _____

Intermittent incomes (₦) _____

ii. If no loss of life, Loss Due to Injury (LI)

Cost of treatment of injury (₦) _____

Total expected earnings from primary (₦) _____

Total expected Secondary earnings (₦) _____

Earnings lost from other sources lost during a period of treatment by the victim (₦) _____

iii. Loss of Facilities

Facilities/assets/equipment included:

Cost of Farmhouses (₦) _____

Farm machinery (₦) _____

Other farm equipment such as farming implements and tools (₦) _____

iv. Partial loss (damaged) of the facility (Lpf)

Cost of repair (₦) _____

Total expected earnings from the facility during the repair period (₦) _____

v. Complete loss of facility/Asset (Lcf)

Current value of the facility/asset (₦) _____

vi. Loss of shelter per annum

- *Loss due to damaged shelter (Lds)*

Cost of repair of shelter (₦) _____

Cost of renting apartment + cost of transporting family during repairs (₦) _____

- *Loss due to total loss of shelter (LTLS)*

Present value of shelter (₦) _____

Cost of family displacement (₦) _____

Value of household damaged assets

Beds (₦) _____

Cars (₦) _____

Motorcycles (₦) _____

Mattress (₦) _____

Mats (₦) _____

Television (₦) _____

Fridges (₦) _____

Tables (₦) _____

Furniture (₦) _____

Personal effects

Jewellery (₦) _____

Clothing (₦) _____

Others please specify _____

Cost Due to Loss of Farm/Farm Produce per annum

Total quantity produced/expected to be produced (Kg) _____

Unit price of the produce (₦) _____

Cost of production (TC = TVC+TFC) (₦) _____

Variable costs

Cost of fertilizers (₦) _____

Cost of agrochemicals (₦) _____

Cost of labour (₦) _____

Cost of seed (₦) _____

AND/OR

Number of Livestock lost _____ (₦)

Unit price of livestock _____ (₦)

Total Cost of Livestock losses _____ (₦)

Deaths and Losses (number or quantity)

i. How many deaths have been recorded in this household _____?

ii. Number of shelters lost _____

iii. Number of injured persons in the household _____

iv. Cost of transportation during conflict _____

v. Quantity of implements/tools/farm assets lost

Hoes _____ Cost ____ ₦

Cutlasses _____ Cost _____ ₦

Ploughs _____ Cost _____ ₦

Sickles _____ Cost _____ ₦

Irrigation pumps _____ Cost _____ ₦

Generators _____ Cost _____ ₦

Remote and immediate causes of conflicts

S/N	Perceived causes of conflicts	SA	A	N	D	SD
1.	Politicized ethnicity					
2.	Breakdown of traditional relationships and formal agreement between farmers and herders					
3.	Competition over land resources					
4.	Population growth					
5.	Ethnic stereotyping					
6.	Expansion of agro-pastoralism					
7.	Weak State laws (government presence)					
8.	Unprovoked attacks					
9.	Expansion of cultivated areas					
10.	Discriminatory patronage systems					
11.	Insufficient control over state land					
12.	Invasion of farmlands by cattle					
13.	Cattle theft					
14.	Extensive sedentism					

Others please Specify: _____

Types and effects of conflicts in the area

Conflict	Typology	Effects

What are the social effects of conflicts that you have observed?

Social effects of conflicts	Tick appropriate
Hike in prices of goods	
Scarcity of food items	
Migration of labour	
Loss of farmlands	
Increased insecurity	
Hike in price of purchasing cattle	

Appendix 2

Reliability Test (Test-Retest reliability using Pearson's correlation coefficient)

$$\Gamma = \frac{N\Sigma XY - (\Sigma x)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Where:

Γ = Pearson's correlation coefficient
X = Number of test scores answered correctly (47)
Y = Number of retest questionnaires answered correctly (45)
$\sum$ = Summation
N = Total number of questionnaires for each test (50).

Therefore:

$$\Gamma = \frac{50 \times (47 \times 45) - (47)(45)}{\sqrt{[50 \times 47^2 - (47)][50 \times 45^2 - (45)^2]}}$$

$$= \frac{50 \times 2{,}115 - (2{,}115)}{\sqrt{[50 \times 2{,}209 - (2{,}209)][50 \times 2{,}025 - 2{,}025]}}$$

$$= \frac{101{,}250 - 2115}{\sqrt{[110{,}450 - 2{,}209][101{,}250 - 2{,}025]}}$$

$$= \frac{99{,}135}{\sqrt{108{,}241 \times 99{,}225}}$$

$$= \frac{99{,}135}{\sqrt{10{,}740{,}213{,}225}}$$

$$= \frac{99{,}135}{103{,}635}$$

$$\Gamma = 0 \cdot 96$$

Population projection (Nasarawa State)

Using the population projection formula according to (Dotson, 2018):

$Nt=Pe^{rt}$

Where;

Nt = the projected population

P = current population (2,040,097)

e = natural log base (2.71828)

r = population growth rate divide by 100 (3/100 = 0.03)

t = time period (13 years: 2006 – 2018)

Projected population, Nt = $(2{,}040{,}097 \times (2.71828)^{(0.03 \times 13)}$

$= 2{,}040{,}097 \times 2.71828^{0.39}$

$= 2{,}040{,}097 \times 1.47698$

= 3,013,183 persons.