

IMPACT OF CONFLICT ON RURAL INFRASTRUCTURES: IMPLICATION ON AGRICULTURAL DEVELOPMENT IN NORTH CENTRAL NIGERIA. A REVIEW STUDY FROM 2000 – 2020

EFFIONG, M. I.

**Department of Agricultural Extension and Rural Development,
Faculty of Agriculture, Ahmadu Bello University, PMB, 1044, Zaria
effionggal@gmail.com, +2348032503629**

&

OWOLABI, J. O.

**Department of Agricultural Extension and Rural Development,
Faculty of Agriculture, Ahmadu Bello University, PMB, 1044, Zaria
owolabijo@gmail.com, +2348065618795**

Abstract

The causes of conflict in Nigeria are rooted mainly in injustice, ineffective governance and stiff competition for resources. This conflict has had enormous negative consequences on the economy particularly agricultural production. Productivity increase in agriculture is the effective driver of economic growth and poverty reduction both within and outside agricultural sectors. Such productivity depends on good rural infrastructures which is either inadequate or lacking in the study area due to conflict. The causes of conflict in North Central Nigeria are categorized into two; religious/ethnic and land/boundary. This study seeks to review the impact of conflict on rural infrastructures as it affects agricultural development in North Central Nigeria between 2000 and 2020. The materials used for this review were obtained from secondary sources. The impact of conflicts on rural infrastructures in the study area were found to include: destruction of houses, worship centers and shops; destruction of or conversion of schools and market places into Internally Displaced Person's (IDPs) camp, rendering of water sources unfit for use, disruption of telecommunication networks, erratic power supplies, inaccessibility of rural roads, inadequate financial institutions, inadequate extension facilities and pre- and post- harvest losses all of which have a drastic effect on agricultural development. It is recommended that the Federal and State governments should establish and fund grazing reserves and stock routes, strengthen conflict management mechanisms, support agricultural and livestock production and livelihood restoration for farmer and pastoralist communities devastated by violent conflicts among others.

Keywords: Conflict, Rural infrastructure, Agricultural development, North Central Nigeria.

Introduction

Conflicts have taken a new dimension in several countries and despite the global searched for peace; they appear to be a lost battle (King and Murray, 2001). According to Adenyi (2016), conflict is any condition or state of struggle, opposition, incompatibility, interference, among human beings in their process of interaction among themselves. Conflicts can affect virtually all sectors of the economy and in such important areas ranging from investment, financial

markets to agriculture, depending on their nature, type and intensity (King and Murray, 2001). Historically, the causes of conflict in Nigeria are rooted mainly in injustice, ineffective governance and stiff competition for resources (Martins, 2014). This conflict according to Eme, Onyishi, Uche, and Uche (2014), has had enormous negative consequences on the economy particularly agricultural production, livestock production, commerce, shelter and transportation; it destroys assets and infrastructure, including agriculture, attacks government storage facilities, fertilizer factories, agricultural input transport systems and farms.

Rural infrastructures maybe seen as the complex of physical structures or networks within which social and economic activities are carried out (Fishbein, 2001). The broader goals of poverty reduction and economic (agricultural) growth are achieved through these structures. Rural infrastructure contributes to these goals by providing essential services such as water and sanitation; energy for cooking, heat and light and employment generating commercial activities; transmission and communication of knowledge and information.

Agricultural development occurs if there is increase in food production accompanied by substantial increase in or improvement in rural infrastructural facilities such as good roads, clean drinking water, constant electricity power supply, health facilities; existence of farmer's cooperatives and provision of formal education within the reach of rural people (Age, 2009). Increase in agricultural productivity is an effective driver of economic growth and poverty reduction both within and outside agricultural sectors. Such productivity increase depends on good rural infrastructures, well-functioning domestic markets, appropriate institutions, and access to appropriate technology (Google book, 2021). While the state of rural infrastructure varies widely among developing countries, lower income countries including Nigeria, suffer severe rural infrastructure deficiencies in conflict affected areas (Machethe, 2004). It is against this back drop that this paper seek to review the impact of conflict on rural infrastructures in North Central Nigeria between 2000 and 2020. It is noteworthy that the materials used for this review were obtained from secondary sources.

Concept of Conflict

Conflict has been a reality of human existence since pre-historic times, due to struggles between various factions of the society to satisfy their interests and needs. According to Alemika (2002), conflict is a product of antagonistic interests between two or more opposing forces or groups within the society. Ekong (2010) views conflict as a form of social interaction in which actors eliminate or weaken the other party to obtain a scarce reward. Conflict simply suggests differences and disagreement, struggle and strife. It is an ever-present process in human relations and an integral part of human life (AAN, 2008). Conflict according to Adeniyi (2016) is any condition or state of struggle, opposition, incompatibility, interference, among human beings in their process of interaction among themselves. From the foregoing, it is observed that the word "conflict" does not have any single practical definition; rather, different views exist on a continuum. For some, conflict is perceived as a negative situation which must be avoided at any cost, others see it as an occurrence which could be managed and yet another consider it as an opportunity that must be exploited to the best advantage. Whatever the position upheld on this continuum of viewpoints, a continual state of conflict is not desirable for any meaningful development at both community and national level (Alabi

and Famakinwa, 2017). This is because; conflicts constitute a threat to the peace, stability and development of any community as well as having serious implications for tribal co-existence, especially in a multi-ethnic and multi-tribal nation like Nigeria.

Lots of violent communal conflicts have been witnessed in the last few decades throughout Nigeria. Most of these conflicts have a long history and they keep resurfacing at all time, thereby creating conflicts zones all over the country. Virtually all the geo-political zones of Nigeria are entrenched structures of violent conflicts ranging from environmental conflicts in the Niger delta region, ethnic and communal violence in the south west, social fragmentation compounded by political turbulence in the south-east to incessant outbreak of ethno-religious conflicts and disputes relating to land rights and community been ravaged by the activities of Boko Haram in three northern (north east, north west and north central) geo-political zones (Reychler, 2002). According to a report by Integrated Regional Information Net-Work (IRIN) (2001), thirty-one conflicts areas were developed in Nigeria between 1990 and 2000. Some of them include: Jukun and Tiv Conflicts, in Taraba and Benue States, 1998 and 1999; Ijaw and Itsekiri Crisis in Delta State, 1998 and 1999; Ife and Modakeke Conflicts in Osun State, 1999; The Zangon-Kataf Crisis in Kaduna State, 1992; Ilaje-Ijaw conflict in Ondo State; among others. The principal causes and aggravating factors behind these evolving conflict are population growth, political and ethnic strife, crime and changes in climatic, culture and technology and economy respectively (Federal Ministry of Environment, 2008). Conflict over resource use is common, and it may not be unnatural, as conflict is not necessarily evil, but it may be a necessary part of human organization's evolution, transition, and growth (Soomiyol and Fadairo, 2020). If a dispute degenerates into violence, it contributes to violent conflicts, a decrease in productivity, and an excessively downward trend in economic development, rendering it not just unhealthy and villainous, but often counter-productive and progress damaging in every community (Moore, 2005). In nearly every part of Nigeria, conflicts between crop farmers and herders are common (Dimeluet *al.*, 2017; Rukweet *al.*, 2019). It is a formidable barrier to economic growth, a threat to food security, and a threat to agrarian communities' long-term survival (Dimeluet *al.*, 2017).

The Conflicts in North Central Nigeria

North Central Nigeria consists of the six states (Benue, Niger, Nassarawa, Plateau, Kogi and Kwara) and the Federal Capital Territory (FCT), Abuja. It is situated geographically in the middle belt region of the country, spanning from the west, around the confluence of the River Niger and the River Benue. The region itself is rich in natural land features, and boasts some of Nigeria's most exciting scenery (National Orientation Agency (NOA), (2002). These states have some unique characteristics which differentiate them from the rest of the country. A Special Report by the National Orientation Agency, (NOA: 2002) summarizes the socio-economic characteristics of the zone as follows:

- (i) More than 50% of the ethnic groups in Nigeria are found in the zone. No one ethnic group shares 100% of its culture and values with other ethnic groups.
- (ii) There is deep-seated religious and cultural diversity. This implies that Christianity, Islam and Traditional African Religion all command considerable influence on the lives of the people.
- (iii) The zone is rich in mineral resources in addition to being endowed with massive land and grazing activities.

(iv) The zone is one of the least developed in spite of her closeness to the Federal Capital Territory (FCT).

(v) The zone has a very large pool of ex-servicemen of which majority of them were disengaged from service at very young ages and have not been gainfully employed since their retirement.

(vi) The people of this zone are known to be hospitable, accommodating and peaceful.

The nature of the conflicts in the zone was also categorized by the same report into two namely:

(a) Religious/Ethnic and (b) Land/Boundary which sometimes have a tinge of political undertone (NOA, 2002). In the report of JCPRCR (2003) survey of conflicts in Nigeria, a major factor of communal conflicts in the middle belt is land or boundary disputes. This according to Dunmoye (2003) shows that land is becoming a very scare factor of production either due to population pressure, land alienation or concentration of land in a few hands. The conclusion of the survey established a link between the "conflicts," "the economy" and "poverty" as follows: "Communal conflicts in Nigeria have been worsening by the economic crisis and impoverishment of citizens in recent times. Factors responsible for these conflicts are numerous. They include: ethnics, religious differences and their manipulation, land hunger and rapid population growth, chieftaincy disputes and the native/settlers syndrome" (Dunmoye, 2003). In the 2003 report of the Institute for Peace and Conflict Resolution (IPCR), conflicts in the North-Central focus largely around ethnic plurality, access to political and traditional positions of authority, land ownership and the herder/farmer clash of interests. It further stressed that "the foundation of all these sources of conflicts and their causes are deeper systemic issues at the centre of which is the relationship between political power and access to economic resources and opportunities. Poverty, unemployment and limited alternative routes to economic gain; governance that is not open or responsive to the needs of the people; and inadequate provision of security and to basic services also contribute to this central relationship in the North Central region, this in turn has brought about large numbers of casualties and displacement" (IPCR, 2003).

Rural Infrastructures and its Roles in Agricultural Development

The area considered rural is defined in relation to the areas considered to be urban. Often what is rural is simply what is not urban. The most common description of a rural region is that of a territorial unit with a lot of open space and a few small or medium sized settlements, further characterized by low population density and a regional economic structure (Bogdanov, 2008). According to Van Dale Dictionary (2010), infrastructures are the total of roads, railways, waterways, ports, airports, electric equipment, cables etcetera. Infrastructure assets such as rural roads, tracks, bridges, irrigation schemes, water supplies, schools, health centers and markets are needed in rural areas for the local population to fulfill their basic needs and live a social and economic productive life (ILO, 2020). The availability and accessibility of infrastructure in rural areas stimulate freedom of movement and technological outreach. In agreement with Olaseni and Alade (2012) infrastructure is an umbrella term for many activities usually referred to as "social overhead capital" by development economists. According to Ikeji (2013), the central place of infrastructure in development efforts need not be overemphasized. Indeed, rural infrastructures constitute the substance of rural welfare and progress. Age (2015) define rural infrastructures as those installations that are required to

assuage and facilitate development of rural areas. He classified rural infrastructures under physical, social and institutional forms; the main components of physical infrastructure include transport (road), storage, processing, irrigation and flood control, water resources development and social conservation facilities; social infrastructure include health and education facilities and rural utilities such as electricity and water supply, while institutional infrastructure includes the cooperative societies, farmers' unions, financial institutions such as bank, microfinance facilities, agricultural research facilities, extension and trading facilities, agricultural markets among others. The role of infrastructure is complex and its effects are direct. Rural infrastructure has enormous implications on production outcomes in the agricultural sector and overall significant development of the country. According to King and Murray (2001), the presence of infrastructures affects productivity and capacity to earn income, which is of concern in rural agriculture. It has multiple effects on health and quality of life. Mitch *et al.*, (2004) opined that presence of infrastructure can work in a number of ways to enhance the returns to resources commanded by rural households. By lowering the transactions costs of market exchange, they can boost net returns to agricultural production; they can lead to greater availability (at lower cost) of necessary agricultural inputs such as fertilizers and chemicals, and thus improve welfare by increasing agricultural productivity. Perhaps more importantly, improved transportation and communications infrastructure facilitates spatial integration of product and factor markets, both in the agricultural and non-agricultural sectors. Infrastructure's ability to reduce the cost of marketing agricultural products is obvious and well known through intensification of agricultural practices or activities, increased investments in monitoring of the quality of farm inputs and decentralized public agricultural extension system, among others (Kenya Institute for Public Policy Research and Analysis Policy (KIPPRA), (2007). Investments in rural infrastructure, particularly rural roads, storage, processing and marketing facilities will therefore be required to support the anticipated growth in agricultural production (Food and Agriculture Organization (FAO), (2005).

Rural places in Nigeria have strategic importance to the nation as settlements, custodians of cultures, sources of food and raw materials and markets for manufactured goods. They therefore need infrastructures such as water, electricity, educational and health facilities, good feeder roads and telecommunication facilities to avert mass movement of the prolific and potent labour force into urban centers. These facilities cannot be put in place in areas that are not only devoid of peaceful co-existence but have been turned into battle fields (Isa, 2001). The escalating conflicts over the years have led to the destruction of lives, property worth billions of naira and destruction of basic rural infrastructural facilities in place thereby worsening the already bad condition of the displaced inhabitants. This great loss cannot be without having significant effect on agricultural production, income levels and a rise in poverty level of the people, consequently stimulating movement of displaced persons to other areas (Abubakar, 2004).

Impact of Conflict on Rural Infrastructures and Agricultural Development

The impact of conflict on rural infrastructures and agricultural development in North Central Nigeria cannot be over emphasized as all geopolitical zones have their peculiarities. Some of the major impacts are highlighted below:

1. **Shelter:** Apart from human lives and livestock, residential accommodation has been one of the major casualties of the conflicts in North Central Nigeria (Abubakar, 2004). Houses give shelter to farmers to rest after daily farming activities and also provide comfort for proper planning on how to carry out farm activities. However, most houses are destroyed during conflicts. According to Abubakar, (2004), a large number of farmers are forcefully displaced due to the large scale destruction of houses, places of worship and shops. With the displacement, farming is not taking place as some of the farmers are in camps while many others opted to relocate outside their normal places of abode or even outside the state for their safety. It was to this fact that Obasanjo (2004) asserted that “Violence has reached unprecedented levels and hundreds have been killed with much more wounded or displaced from their homes on account of their ethnic or religious identification. Conflicts affect farmers psychologically, mentally, emotionally and physically, impacting adversely on their ability to plan and make appropriate farm and management decisions. These have negative effects on their livelihoods which are intertwined with agriculture. This is confirmed by the International Crisis Group (ICG) (2018) which reported an estimated drop in food production by 33% to 65% in Benue, Nasarawa and Taraba States as a result of attacks and population displacement.
2. **Health facilities:** Poor health and malnutrition is prevalent in rural areas of North Central Nigeria due mainly to inadequate health facilities and chronic food insecurity (Age, 2015). During conflicts, the situation goes from bad to worse as a result of inadequate food, latrines and water supply in IDPs camp which have implications on secondary challenges especially malnutrition and health. Under this condition, a sick and malnourished person cannot contribute meaningfully towards agricultural and rural development. Where the health facilities are present during conflicts, they are dilapidated, poorly staffed, bereft of drugs and equipment. This has a direct implication on farmers’ health and thus, their ability to function properly in increasing agricultural productivity.
3. **Markets facilities:** Escobal (2005) concludes that rural market is critical to reduction in transaction costs and to improvement in market integration. This will lead to a greater market efficiency, which will have an impact on the growth of rural incomes. However, market places in north central Nigeria, where farmers are supposed to sell their farm produce became flash points during conflicts. The destruction of farm markets disconnects farming from trade, amongst other things. Most of the stalls and warehouses are razed either down in the inferno or destroyed during crisis (Abubakar, 2004). The fear of losing their goods or being attacked in the market place makes most farmers to leave their produce to spoil on the farm or at home while some are compelled to sell off their farm produce at cheaper prices to available buyers for fear of total loss. This affects the income realized from the farm produce and its market prices. In some areas, available market places are converted into Internally Displaced Persons’ (IDPs) camps during and or after crisis. According to Dura (2014), the displaced have taken refuge in primary schools, markets and other open-air spaces in Makurdi, the Benue state capital making the market facilities unavailable for operation. In such cases, rural farmers are compelled to transport their produce to

distant markets for sell. This incurs high cost of transportation which has a direct effect on the market prices of the produce. Where rural market is nonfunctional, affects tax which results in a loss of revenue for the different state governments in these areas where disputes are widespread (Mercy Corps (2015).

4. **Water supply:** In most rural communities in North Central Nigeria, there are no boreholes or pipe borne water. Hence, the rural dwellers obtain their water supply from flowing streams, ponds, rivers or dug wells. Most of the available water sources are in poor condition during conflicts, they are usually unsafe for human use because they also serve as source of water for the cattle which defecate into the water while drinking. Also, dead bodies are thrown into wells during crisis making the water unfit and unsafe for drinking and domestic use (Adelaja, 2019). Water has a direct influence on the peoples' health. Where the water source is adversely affected, it affects the farmers' ability to perform effectively in agricultural activities such as irrigation farming which ultimately leads to poor and or reduced output, and hence, poor agricultural development. Where water becomes scare during conflict, the herders migrate with their cows to neighboring communities outside the north central zone in search for water and pasture. This also has a negative impact on agricultural development in the zone.
5. **Accessible roads:** Njenga and Davis (2003) opined that agricultural travel is associated with crop cultivation, movement of farm inputs, crop harvesting and crop marketing. Report shows that most of the roads in the study area are rendered inaccessible during or after conflicts (Abubakar, 2004). This has resulted in the loss of farm produce as buyers from outside are not able to come to the communities to buy and the community members are unable to transport their produce to the point of sell. The farmers that take the risk have to make long detours to reach nearby destinations which lead to escalation of vehicle fares and the cost of moving goods and services. The majority of those who bear the brunt are most likely the poor". In some cases, the farmers are attacked and killed on the road and their produce are either catered away with or left to spoil (Adelaja, 2019). This is in line with Abubakar (2004) who reported that "a large number of passenger vehicles and goods trailers were destroyed during the numerous conflicts in Plateau state. The condition of rural transportation during these periods has frustrated rural and agricultural development efforts and this has resulted into series of challenges such as the cutting off of many rural areas in the study area from neighboring larger settlements from which they could access higher order socio-economic services resulting in low productivity, low income, fall in the standard of living and high rate of poverty of rural residents (Aderamo and Magaji, 2010).
6. **Schools:** Lots of schools are destroyed during conflict, making it mandatory for interested students to trek long distances to attend schools in nearby communities. This makes most of the youths who are the major source of farm labour unavailable for farm activities during the week days as they come home late from school. In areas where schools are present, they are in poor condition; the school buildings are dilapidated, it lacks qualified teachers as most of the teachers run to other perceived safe communities to find employment; it also lack the essential facilities and

equipment to impact the desired knowledge on the students who should serve as agents of agricultural innovation transfer (Magdalyne, 2014). In addition, many children in the affected areas are out of school as they are taking refuge in IDP camps and other shelters with their parents. This leads to loss of valuable school time which have negative consequences on self and national development. In some other areas, school compounds (especially primary and secondary schools) are used as Internally Displaced Persons' (IDPs) camps (Dura, 2014). Hence, school activities are temporarily suspended which affects learning process. According to International Crisis Group (ICG) (2018) report, six and 35 primary schools were converted to IDP camps in Benue and Nasarawa state respectively while 24 state nomadic schools were shut down in Benue state due to conflict.

7. **Financial Institutions:** Most financial institutions such as commercial banks, microfinance banks and cooperatives are either destroyed or forced to close down during conflict in the study area due to security risk (Adelaja, 2019). Even when they are available, they are in poor condition, they hardly release loans to farmers who may not have the necessary collateral (land) because most of their land are either destroyed or taken over by their attackers. Most farmers who collect loans lost their lives and some of their farm produce during the conflict. They are therefore, not able to repay the loans. This hinders the effective operation of financial institutions in such areas. Hence, agricultural development is hindered.
8. **Extension Facilities:** Considering the effect of conflict on the people and their farm, it becomes clear that once the farmers are displaced and their land abandoned, the extension operation suffers a great deal as there are virtually nothing left for the extension agent to work on. According Ani, Chikaire, Ogueri, and Orusha, (2015), extension agents are often at cross road between their job and loyalty to the communities, villages, kindred and individuals who are in conflict where the agents operate. Extension facilities if at all present in conflict areas are either abandoned or non-functional. Most extension agents run away for safety and in most cases never to return. This has an adverse effect on agricultural development because the available farmers are denied the knowledge (awareness) of agricultural innovations and practices. Also, lack of functional social organizations such as cooperative societies and farmers' association/groups discourage extension agents from going to conflict prone areas as face-face interaction with farmer will be very tedious and some farmers may not give them the desired attention due to high level of suspicion. This agrees with the report of Ani *et al*, (2015) that conflicts affect extension services delivery in terms of difficulty in monitoring farmer's progress, program execution and evaluation, projects implementation, general effect on extension agents and farmers relationship among others. In the long run, this have an overall effect on agricultural productivity and hence, development.
9. **Telecommunication Facilities:** Better communication is a key requirement in agricultural development. They reduce transportation cost, increase competition, reduce marketing margins, and can directly improve farm incomes and private investment opportunities (Fan and Zhang, 2004). It has been observed that during

conflicts, communication networks are usually unavailable due to the fact that telecommunications facilities such as network mask are often damaged, this disrupt network connectivity, resulting in decline in the use of cell phone and other modern communication devices. In addition, as a part of government's counterterrorism activities, communications systems can be temporarily suspended. This affects communication which serves as a link between the farmers in the affected rural areas and the buyers or input suppliers outside the areas. As such, a lot of farm produce are lost due to inability to evacuate them at the appropriate time. Farmers are therefore compelled to sell their produce at very low prices to the available buyers who in most cases are middlemen whose aim is to exploit the farmers in order to make great gain on the other hand, they purchase farm inputs at exuberant prices from local vendors which invariably have adverse effects on market prices of produce. All these affect the level of income generated and agricultural development (Adelaja, 2019).

10. **Rural electrification:** Most rural areas lack electricity and where it is present, the supply is erratic. However, during conflict, most electric transformers that supply the areas with electric light are destroyed. This affects agro-processing and storage of perishable farm produce (vegetables, fruits etc.). Electricity is necessary for processing of farm produce and where it is lacking or inadequate in supply, lots of farm produce are sold unprocessed at low prices due to lack of value addition whereas some are left to perish.
11. **Storage facilities:** Storage facilities enable farm produce to be preserved all year round and made available at affordable prices. It allows for surplus farm produce to be stored during on-season and released during off-season to avoid pre- and post-harvest loses and price inflation. Most storage facilities (e.g. rhombus, barns etc.) are however destroyed during conflict and some farmers even lose their already stored produce (such as yams, grains and groundnut). This affects the availability of such produce during off-season leading to inflation in market prices of the produce and sometimes scarcity. Where such storage facilities are available, they are in poor condition and may not store farm produce adequately. Pre- and post- harvest loses as a result of poor storage facility pose a threat to food security and this has a negative influence on agricultural development in the study area.

Conclusion

Escalating conflicts between ethnic groups and between herders and farmers are among Nigeria's most pressing security challenges. This could potentially generate bloodshed on an even wider scale unless federal government makes ending this violence a national priority. The reoccurrences of conflicts in North Central areas of Nigeria for decades have increased the poverty level of the people and hence falling standard of living. The inability of stakeholders to resolve the conflict has made people to live in fear and mutual suspicion. In this state of insecurity and lack of trust no meaningful rural agricultural and development programme can succeed. State governments need to formulate and implement steps to address the needs and grievances of all sides transparently and equitably. In the longer term, the greater challenge will be curbing the arms influx and, crucially, addressing the environmental trends that are forcing herders and crop farmers. Failure would spell greater

danger for a country already battling other severe security challenges and, potentially, for the wider West and Central African region.

Recommendations

As Nigeria's security challenges loom in other regions, the ongoing conflicts in the Middle Belt must be addressed through smart policies and a commitment to long-term solutions. In order to realize the economic benefits of peace, the Nigerian government should take action in the following areas:

1. Establish and fund grazing reserves and stock routes: The Commission of agriculture should work with states to review existing reserves, assess priorities for establishing new reserves, and provide infrastructure and services for all reserves. Also, state governments should raise public awareness about existing grazing reserves and stock routes, as well as land use regulations.
2. Strengthen conflict management mechanisms: State governments should establish or strengthen representative conflict management committees that include traditional, religious, youth, and women leaders; civil society and human rights representatives; security officials; and government leaders. State and national governments should also support the establishment of community sanctioned, formalized alternative dispute resolution mechanisms.
3. Improve security and justice systems: States should strengthen existing joint task forces, including military, police, government, and judicial actors, responsible for passing recommendations to the national level, communicating key initiatives to the public, and liaising with community leaders. The police command should deploy more resources, including personnel, communications equipment, and logistics support, to hotspots for ethnic and farmer-pastoralist conflict and should train personnel on conflict sensitivity and human rights.
4. Support agricultural and livestock production: State Ministries of Agriculture should increase funding for livestock and veterinarian extension workers who can support the health of herds, and for farming extension workers who can provide on-site training in modern farming techniques. The federal and state Ministries of Agriculture should enact a comprehensive plan to track livestock at state and local levels and support livelihood restoration for farmer and pastoralist communities devastated by violent conflicts.
5. Address environmental factors that are driving herders' migration to the south: this will require stepping up implementation of programs under the Great Green Wall Initiative for the Sahara and the Sahel, a trans-African project designed to restore drought-and-desert degraded environments and livelihoods including in Nigeria's far northern belt; and developing strategies for mitigating climate change impact in the far northern states.
6. Coordinate with neighbours to stem cross-border movement of non-Nigerian armed herders: Nigeria should work with Cameroon, Chad and Niger (the Lake Chad basin countries) to regulate movements across borders, particularly of cattle rustlers, armed herders and others that have been identified as aggravating internal tension and insecurity in Nigeria.

References

- Abubakar, S. M. (2004). The impact of conflict on the economy: the case of Plateau State of Nigeria. Pp. 7-8.
- ActionAid Nigeria (AAN), (2008). Middle-Belt, not killing belt: the history, dynamics and political dimensions of ethno-religious conflicts in the Middle-Belt.
- Adelaja, A and George, J. (2019). Effects of conflict on agriculture: evidence from the Boko Haram insurgency. Department of agricultural, food and resource economics, Michigan State University, 204 Morrill Hall of Agriculture, 446 West Circle Drive, East Lansing, MI 48824, United States
- Adenyi, T. O. (2016). Element of peace study: a conflict resolution. Enugu Oktek Publisher.
- Aderamo, A. J. and Magaji, S. A. (2010). Rural transportation and the distribution of public facilities in Nigeria: case study of Edu Local Government Area of Kwara State. *Journal of Human Ecology*, 29 (3): 171-179.
- Age, A. I. (2009). Education for rural development and food security: a local response initiative to global economic crisis. 2009 community lecture paper presented at Miaa Vandenberg Hall, W. M. Briston Secondary School, Gboko, Thursday, 11th June. Pp. 26
- Age, A. I. (2015). Agricultural extension policy: contemporary cum topical issues. Kency printing press. Pp. 118-123
- Ahmed, R., and Rustagi, N. (1987). Marketing and price incentives in African and Asian countries: a comparison in D. Elz (ed.), agricultural marketing strategy and pricing policy. pp. 104–118.
- Alaba, A. O. (2001). The contribution of infrastructure to agricultural development: a review of experience and policy implication. World Bank Discussion paper No. 213
- Alemika, E. O. (2002). Sociological analysis of ethnic and religious conflicts in the middle belt of Nigeria in ethno-religious conflicts and democracy in Nigeria; challenges, human rights monitor, Kaduna.
- Ani, A. O., Chikaire, J. U., Ogueri, E. I. and Orusha, J. O. (2015). Effects of communal conflicts on agricultural extension services delivery in Imo State, Nigeria. *Global Journal of Biology, Agriculture and Health Science*, Vol.4 (2):1-6
- Bogdanov, N. (2008). Small rural households in Serbia and rural non-farm economy. Belgrade: UNDP Serbia.
- Dimelu, M. U, Salifu, E. D, Chah, J. M, Enwelu, I. A. and Igbokwe, E. M. (2017). Livelihood issues in herdsman-farmers conflict among farming communities in Kogi State, Nigeria. *African Journal of Agricultural Research*. 12: 2105-2115.
- Dunmoye, R. A. (2003). "General survey of conflicts in the middle belt zone," in Africa peace review, special edition, *Journal of Centre for Peace Research and Conflict*, National War College, Abuja, Nigeria.
- Ekong, E. E. (2010). An introduction to rural sociology (3rd ed.) dove educational publishers, Uyo Nigeria, Pp.146.
- Escobal, J. (2005). The role of public infrastructure in market development in rural Peru. Wageningen: Ph.D. Thesis, Wageningen University.
- Fan, S. and X. Zhang. (2004). "Infrastructure and regional economic development in rural China." *China Economic Review* 15:203–214.
- Federal Ministry of Environment (2008). *National policy on desertification and drought report*.

- Fishbein, R. (2001). Rural infrastructure in Africa: emerging strategies.
- Food and Agriculture Organization (FAO, 2005). Roles of rural infrastructure in reducing poverty reduction, economy growth and empowerment in Africa. Agriculture production year book, Rome, Italy.
- Ikeji, C. C. (2013). Rural infrastructural development in Nigeria: policies and implementation strategies. *developing country studies* www.iiste.org.3(6).
- ILO, (2020). Developing rural infrastructure. https://www.ilo.org/asia/WCMS_099466/lang-en/index.htm
- Institute for Peace and Conflict Resolution (IPCR), (2003), Strategic conflict assessment: consolidated Zonal reports Nigeria, federal government of Nigeria, The Presidency, Abuja.
- International Crisis Group (ICG), (2018). Stopping Nigeria's spiraling farmer-herder violence. 2018 Report
- Isa, M. K. (2001). The state and institutional responses to ethnic conflicts in Nigeria: The case of Jukun/Chamba and Kuteb communal conflicts of Takum Local Government Areas.
- Kenya Institute for Public Policy Research and Analysis Policy (KIPPRA, 2007) report. Brief Issue No. 5 Pp. 1-8.
- Machethe, C. L. (2004). Agriculture and poverty in South Africa: can agriculture reduce poverty? paper presented at the DBSA/ HSRC/UNDP conference on overcoming underdevelopment in South Africa's second economy, Pretoria 28-29 October.
- Magdalyne, M. D. (2014). Building consensus towards combating communal crises in Nigeria: the Fulani herders/tiv farmer's conflicts in perspectives.
- Martins, I. (2014). Economic growth and conflict: evidence from Nigeria. *Journal of sustainable development studies*, 5(2), 116 – 144.
- Mercy Corps (2015). The economic costs of conflict and the benefits of peace: effects of farmer-pastoralist conflict in Nigeria's Middle Belt on households. Retrieved from <https://www.mercycorps.org/sites/default/files/Mercy%20Corps%20Nigeria%20Household%20Costs%20of%20Conflict%20Policy%20Brief%20July%202015.pdf> on 9/03/2021.
- Mitch, R., Daniel, G. H. and Daniel, D. K. (2004). Rural infrastructure, transactions costs and market participation in Kenya. *Journal of Development Economics*, 73, 349– 367.
- Moore, S. F. (2005). Law and anthropology: a reader. New York, NY: Oxford University Press. P. 231.
- National Orientation Agency (NOA). (2002), "Special report on internal conflicts in the north central zone," federal ministry of information and national orientation, Abuja, Nigeria.
- Njenga, P. and Davis, A. (2003). "Drawing the road map to rural poverty reduction", transport reviews: *A Transnational Trans disciplinary Journal*, 23(2), 217-241.
- Obasanjo, O, (2004), "Text of broadcast to the nation on the declaration of a state of emergency in Plateau State," on Tuesday May 18, 2004. In daily trust newspaper, Abuja, Wednesday, May 19, 2004.
- Olaseni, M. and Alade, W. (2012). "Vision 20:2020 and the challenges of infrastructural development in Nigeria", *Journal of Sustainable Development*, 5 (2), Pp. 63 - 66.
- Reychler, L. (2002). Initial conflict impact assessment. EU micro project programme, Bayelsa, Delta and Rivers States unpublished result for EU.
- Rukwe, D .T, Abdullahi, Y. M, Faruk, A. U. and Nwaeze, U. (2019). The effects of farmers-herders conflict on farming households in Southern Taraba State, Nigeria. *South Asian Research Journal of Agriculture and Fisheries*, 1:106-111.

Soomiyol, M. V. and Fadairo, O. (2020). Climate-induced conflicts and livelihoods of farming households in Nigeria: lessons from farmers-herdsmen conflict-ridden communities in Benue State. *AgriculturaTropicaEtSubtropica*, 53:93-103.

Van Dale Dictionary (2010). Van Dale Woordenboek
.http://www.vandale.nl/vandale/zoekService.do?selectedDictionarynn&selectedDictionaryName=NederlandsandsearchQuery=infrastructuur. Retrieved June 2010.