International Journal of Innovative Research in Education, Technology & Social Strategies
p-ISSN: 2465-7298 | e-ISSN: 2467-8163
Volume 10, Number 1 April, 2023
IJIRETSS

Conflicts, Food Security and Out-of-School Children in Nigeria: *An Empirical Analysis*

[1]Ojiya, Emmanuel Ameh, [2]Enganya Samaila, [3]Habila Jerry Bala, [4]Mohammed, Sekuru Abdullahi, [5]Salihu Mamman Badar & [6]Shiek Jesse Mshelia

[1]Department of Food Economics, Centre for Food Technology and Research (CEFTER), Benue State University, Makurdi, Nigeria
[2]Department of Peace and Conflicts Studies, Modibbo Adama University, Yola-Nigeria
[3]Department of Educational Foundations, Taraba State University, Jalingo-Nigeria
[4,5&6]Department of Management, Nigerian Army University, Biu – Nigeria

Article DOI: 10.48028/iiprds/ijiretss.v10.i1.08

Abstract

This study evaluated the impact of conflicts and food insecurity on out-of-school children during the first two decades of democratic experimentation in Nigeria (1999 to 2022). Several econometric techniques of analysis were used, and the study found that calorie deficiency remained a potent trigger for increased rate of out-of-school children in Nigeria. It was also found that the increased school drop-out among children in Nigeria was often accentuated or heightened due to the recurring cycle of violence and conflicts which has made many households permanent residents in internally displaced persons camps, thus dependent on government-ration food that often lacks any form of nutrient as well as denying them the right to lawful engagement in ventures that could afford them food and the income needed to keep their wards / children in school. The study thus concluded that food insecurity, which connotes a lack of access to a reliable and nutritiously safe food as at when required, has remained the primary cause for increased out-of-school children in Nigeria during the referenced period. Consequently, it was recommended that, to ameliorate or reduce the incidence of calorie deficiency (food insecurity) among Nigerians, households should reorder their eating habits by consuming more nutritious food combinations that would improve their health in order to stem the rise in the rate of out-of-school children. Secondly, to enhance food security and reduce the rate of school dropouts, government should aim for more sustainable food production for improved earnings and livelihoods by improving the security of farmers and farming communities. Thus, security agencies should go beyond their present propaganda and grandstanding and provide a peaceful environment for farmers to enable them to return to more productive farming activities that would improve their livelihoods and lessen the steady rise in school dropout.

Keywords: *Conflicts, Food Security, School-drop-out, Granger Causality, Nigeria*

Corresponding Author: Ojiya, Emmanuel Ameh

Background to the Study

Security is crucial to the social contract between citizens and the state; hence, safety of lives and property as entrenched in the constitution is a fundamental right and entitlement of every citizen in Nigeria, regardless of the citizen's ethnic or religious affiliation. Insecurity, according to some scholars, is a breach of peace and the obstruction of any individual's right to harmonious relationship with both man and nature. Any act of aggression that results in, whether religious, ethnic, regional, civic, social, economic, or political turmoil, wars and wanton destruction of lives and property, which impedes genuine economic growth and food production is viewed as insecurity or conflicts (Etim, et al, 2017 and Achumba, et al, 2013). Traditionally, the threshold for a struggle to be classified as a civil war is 1,000 battle dead (Nwozor, 2019), a figure which Nigeria has continuously recorded even in excess of 1,000 as a result of different violent conflicts around the country by various terror gangs against Nigerian's innocent and vulnerable population.

Between 2010 and 2020, the Nigeria Security Tracker and the Armed Conflict Location and Event Data Project (ACLED) projected that between 55,261 and 88,530 persons died as a result of the Boko Haram terrorist group (Campbell and Harwood, 2018). With Nigeria immersed in pervasive insecurity, it is fair to conclude that the country is best defined as a nation at war; and this is despite the humongous allocation to defence each year. The carnage and related loss of lives and property caused by various forms of insecurity issues characterizes the nation as conflict-ridden and is thus capable of negatively impacting food production and accentuating poverty. All of these disputes and turbulence could impact the country's overall economic prospects, thereby leading to the growing number of out-of-school children.

Like many developing countries, Nigeria is facing serious challenges related to the phenomenon of out of school children. Recent estimates show that sub-Saharan African region accounts for 52% of the global out-of-school children rate, given that 22% of primary school age children in sub-Saharan African countries were out-of-school. Nigeria's Demographic and Health Survey (NDHS) data for 2008 showed that some 7.3 million children of primary school age were out of school. When the junior secondary school component is taken into account, the out of school children (OOSC) problem becomes even larger, with wide regional, geographical and gender disparities across the country. Even when enrolled, hundreds of children (especially girls) are not showing up for classes. Although girls' primary school attendance has generally been improving, this has not been the case for girls from the poorest households, particularly those impacted by crises. Remedial measures such as the provision for teacher development, making education more easily affordable, flexible programmes for children from nomadic communities, reduction of socio-cultural barriers and the introduction of social welfare measures would make little impact if the rate of conflicts and crises that has engulfed the nation is not stemmed (Ndanusa, et al. (2021).

Several countries of the world views development as the qualitative measure of the literacy rate and the productive capacity of skilled labour, level of technology, education and so on, that the country is endowed with. Consequently, Ngene et al. (2018) asserted that the

educational system of any state determines the level of its development. Given the imperativeness of quality education to development, the Nigerian government has through different interventions invested in a series of policy initiatives and other instruments to revitalize its system of education to achieve positive results and outcomes. The goal is to ultimately crystallise into a robust system where education becomes a right and not a privilege by some few persons.

It is to this extent that the Nigerian government has an enforceable mandate to ensure the right to free and compulsory primary education and free junior secondary education for all qualified Nigerian citizens. However, 2019 account for the 22 years of Nigerian government commitment to free and compulsory education for primary and junior secondary education concerning school children until age 15; jointly referred to as basic education (Ikiyei, 2009). In spite of the policy and institutional structures, coupled with some other actions taken by the government, it is apparent that Nigeria has the highest number of out-of-school children globally.

As it were, the various policy initiatives and institutional frameworks enunciated by government have not drastically reduced the number of out-of-school-age children roaming the streets of Nigeria. Nigeria unduly tops the rank in the number of out-of-school children in the global scene. The country, according to the UNESCO (2022) Report currently tops the global chart with about 20 million Out-Of-School Children (OOSC), representing 20% of the country's 200 million population. This means that about one out of five OOSC in the world relate to Nigeria. The number has increased from 8.7 million in 2014 to 13.2 million and 16 million in 2015/2019, respectively. The breakdown of people in the out-of-school set includes children with disabilities; nomadic groups, comprising of pastoralists and migrants fishing groups; Almajiri students and displaced people due to violent Nigeria conflicts, in mostly Northern states categorised into North-East, North-West and North-Central states (Ndanusa, et al. (2021). It is crystal clear that the rise in the number of out-of-school children in Nigeria is traceable to the reinforced cases of insecurity that has accentuated poverty; thus, this study is structured to empirically examine the impact of conflicts and food insecurity on out-of-school children in Nigeria between 1999-2022, covering the Nigeria's democratic dispensation.

Literature Review

Conceptual Clarification

Insecurity in Nigeria

Insecurity refers to a lack of or an insufficient degree of safety against danger. It is a breach of peace capable of impairing an individual or country's lawful economic and social activities, caused by persons or groups of individuals whose predisposition is always and every time to see their nation or neighbours in pains. This unpatriotic voyage of inflicting either corporate or collateral pains on individuals or the state has the propensity to impede the implementation of government economic policies that could enhance citizens welfare, harm food production, aggravate the already wide poverty incidence, hence accentuating the rate of out-of-school children (Oladiran, 2014 and Beland, 2005).

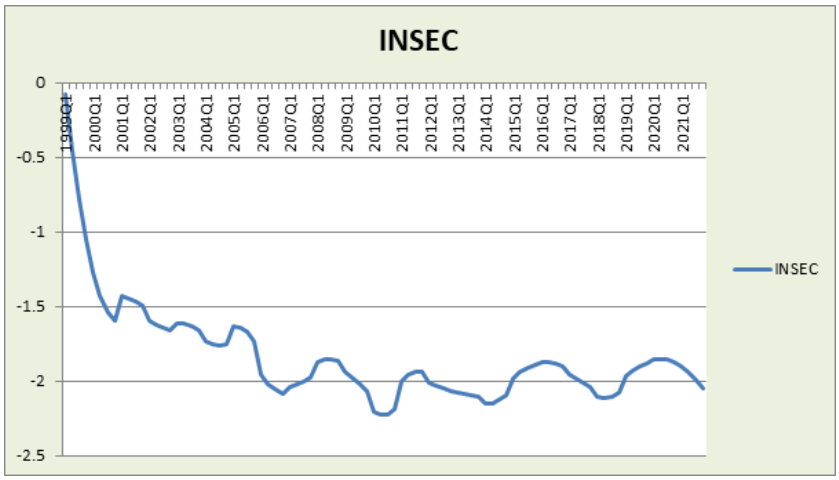
Conflicts between nomadic herders from northern Nigeria and sedentary agrarian populations from the country's central and southern zones have risen dramatically in recent years, posing a danger to the nation's sovereignty. These battles, which have literally stagnated food production across the regions, are becoming as hazardous as the Boko Haram insurgency in the North-East (International Crisis Group, 2017). In addition to the above, other violent deaths occur due to intra-community conflicts, armed banditry, clashes between security agencies and socio-cultural and religious groups like the Indigenous Peoples of Biafra (IPOB), El-Zakzaky Shiite movement, Oodua Peoples' Congress (OPC), Niger Delta Avengers (NDA) and other criminal gangs, especially kidnappings for ransom. While banditry and the Boko Haram sect's activities have grossly undermined food production, especially in the northeastern geopolitical zone of the country, food production in other regions of the country is also being threatened by marauding herdsmen and the activities of other non-state actors.

Since Nigeria's return to democracy in 1999, conflicts between cattle herders and farmers have become more frequent, persistent, and violent, with all conventional dispute resolution channels unable to contain them. The severity of the herders' violence caused the Institute for Economics and Peace to label them a "terrorist organization" and the fourth deadliest in 2014, with 1,229 deaths (IEP, 2015). This categorisation was instructive and timely, given that the group was only responsible for 63 deaths in 2013 but has more than triple these figures as they are now in tens of thousands (Burton, 2016). Additionally, cattle rustling, crop damage and water contamination are among the issues that herders moving into the savannah and rain forests of the central and southern states perpetrate. In the absence of mutually acceptable mediation channels, these disputes escalate.

The violence in southern states is already straining regional, ethnic, and religious relations. These herders who are predominantly of Northern extraction, gives the conflict an ethnic or regional dimension. Given their presence in a number of West and Central African countries, any big clash with them in Nigerian could have regional ramifications, as these herdsmen militias come from other nations in support of their kith and kin living in Nigeria. The ultimate victim in all these confrontations is food production; as farmers who happen to be the major victims of these attacks migrate or run from their farming zones, thereby abandoning their farming activity in search of refuge wherever there is a guarantee of safety. The cumulative consequence of these conflicts is an interruption of food production, which has major ramifications for Nigeria's educational advancement. While the North-west and North-central regions were hitherto immune to Boko Haram's frequent insurgent attacks, they are now the hotbeds of armed banditry, with daily bloodletting from Katsina to Sokoto to Kebbi to Kaduna, Zamfara to Niger, Nasarawa to Plateau and Benue. As a consequence, food production has taken a back seat in these states, as farmers must pay ransom to bandits to cultivate their land and also pay prior to harvesting. Anything else is akin to gambling with their lives, as they are unlikely not to return alive to their destinations. For Zamfara, Kaduna and Katsina States, which have recently become the epicenter of armed banditry, food production appeared to have taken a permanent back seat, as the nefarious and unpatriotic activities of these marauders and gangsters have kept farmers out of their farming occupation (International Institute of Tropical Agriculture) (IITA, 2019). The cumulative effect of these conflicts on education is the multiplicity of out-of-school children across the regions.

Figure 1 shows the trend analysis depicting political violence and terrorism index for Nigeria between 1999 to 2021, expressed on quarterly basis.

Figure 1: Trend analysis for Terrorism index and the Absence of Political Violence in Nigeria between 1999 to 2021



Source: WGI (2022)

The trend analysis as represented in figure one is a simple illustration of the insecurity scenario in Nigeria. It was clearly shown that the trajectory of attacks on farmers and farming communities by non-state actors has remained very high all through the quarters. This portends great danger to any worthwhile investment in all economic sectors, with consequential impact on the rate of school enrolment.

Food Security

According to (IFPRI, 2004), the term "food security" referred solely to a country's ability to produce enough food to feed its population. As nutrition security was added to food security in the 1990s and risk management and risk coping became more important in the 2000s, the concepts of food and nutrition security were blended with these other concepts. According to the World Food Summit Report (1996), food security is achieved when all people have continuous economic and physical access to appropriate, safe, and healthy food combinations that meet their nutritional requirements for an active and healthy lifestyle, while also maintaining their cultural traditions. Moreover, in 2001's The State of Food Insecurity, this concept was redefined to mean a situation in which all people have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and provides them with food options for leading an active and healthy lifestyle (FAO, 2002).

Four fundamental pillars underpin food security: food availability, food access, food consumption, and food stability, which imply removing the potential that any shock may cause any of the first three dimensions or pillars to be disrupted in any way. While food

availability is required, it is not a sufficient condition for food accessibility, just as food accessibility alone cannot suffice without consumption. Food security is mostly determined by two variables. These include guaranteeing enough food supply and, secondly, ensuring that households suffering from undernutrition or malnutrition have the opportunity to access food, either via self-production or by the ability to purchase it. As a result of the disagreements and divergent views expressed by various scholars regarding the definition of food security, this study adopts, as its working definition and hence views food security as a fundamental human right, and the ability and / or capacity of all people, to have unfettered access to a sufficient, safe, and nutritious food combination that satisfies, guarantees, and meets their food preferences and dietary needs for an active and productive life at all times, regardless of their financial means, as they could fall back on food aid. It should be noted that where food insecurity becomes the norm, children are mostly the victims. This is given the fact that an insufficient or inadequate intake of nutritious food increases the rate of malnutrition among families, which results to ill-health and eventual stoppage of school.

Out of School Children

Education, according to Ikiyei, Donkemezuo, Precious & Seribofa (2022), is the bedrock of development of any nation. The realization that education is the engine room to the advancement of both industrial and technological growth of nations has propelled the leadership and citizens of many nations to consider the training of their younger generations with seriousness. The school is a formal institution vested with the responsibility to ensure that children are properly trained in the methods, ways and means for the future progress of the society. In Nigeria, there are educational policies put in place in line with other international institutions to ensure that all children at least acquire the basic level of education. Presently, there are millions of children that lack access to basic education. These children are referred to as out-of-school children. The real statistical figure of these children appears obviously shady. With the rapid explosion of the number of out-of-school children, Nigeria has been described globally as the country with the largest population of such children. It is on record that one out of every child that is excluded from formal education in Africa is a Nigerian child.

The United Nations refers to out-of-school children as the children who are yet to be enrolled into any formal education or were sometimes in school but had dropped out owing to one reason or the other. This is however excluding pre-primary education. The median age range for out-of school children in many countries of the world is between 6-11 years. Out-of-school children are school-age children that are supposed to be in schools but are not in schools due to parental and governmental failures to provide accessible quality education for them. They are young children in the age group of 1 to 12 who are roaming the street without access to a functional educational system (Ojelade, Aiyedun & Aregebesola, 2019). Out-of-school children are also viewed as children whom the government and parents have failed to provide quality basic education for. Generally, the term "out-of-school children" is a description of non-attendance of school for school-age children for some factors out of their immediate control.

According to Ikiyei, et al (2022), there are many reasons that might obviously be responsible for the increasing number of out-of-school children. Among them are the growing incidence of food insecurity among households, poverty, ignorance, insecurity, corruption, the devaluation of education and knowledge in the social system, materialism and many more. No one can expect to reap where he / she did not sow, consequently the aftermath of leaving out these children without completing their education had multiple negative consequences to the child, the society and the country at large. For one, such children might become ready crop of adults later in life to serve in menial positions of responsibilities with low salary grades; experience marital instabilities due to their economic status and therefore become ready tools that could be ignorantly manipulated by the political elite in the society. They may also raise families without birth control, thereby extending a vicious cycle of people living in poverty and low self-esteem.

Beyond being easily exploited, most of them become known for anti-social vices, such as cultism, armed robbery, drug addicts, rapists, kidnapers, hoodlums, and commercial sex workers. The implications of all these to nation building is stagnation and more general insecurity to life and property. Niyi, Adanna & Ayoko (2022), also in their study examined out-of-school children in Nigeria: causes, social implications and the way forward. The study utilized secondary data and identified causes that predispose households' members to opt out-of-school in Nigeria as poor funding of education, corruption, poor implementations of the Child Rights Act, insecurity problems, lack of political will to address the problems, high rate of poverty as well as high fertility rate.

Theoretical Framework

Routine Activity Theory

Cohen and Felson (1979), popularized the Routine Activity Theory (RAT). The theory's main goal is to explain how insecurity can become a hindrance to economic growth and development in societies. It seeks to study and understand the patterns and upward trends of predatory criminal events in the context of a changing society or economy (Hsieh and Wang 2018). Cohen and Felson emphasized that crime occurs when three elements converge: (i) a motivated offender (Boko-Haram, Fulani herdsmen militia group, Armed Bandits/kidnappers, IPOB, Niger-Delta militant groups, etc) (ii) a suitable target (farmers, farm crops, vulnerable rural communities, and other citizens) and (iii) the absence of a capable guardian (government security apparatus). They contended that crime is likely to take place or occur when there is a sequential or altitudinal convergence of all these three essential elements of crime, which can be loosely referred to as pull factors that aid the commission of a crime.

According to Cohen and Felson (1979), Maxfield (1987) and Samonas (2013), motivated offenders are individuals or citizens of a country who possess the instinct and likelihood to commit a crime and are indeed capable and willing to commit such a crime. For Nigeria, these motivated offenders could be referred to as the different terrorist groups such as Boko-Haram, armed herdsmen, bandits/kidnappers, to mention a few who have held the Nigerian state hostage for more than a decade now. Suitable targets on the other hand can be person(s) or object(s) – communities or states that are considered by these would-be offenders as soft

targets, vulnerable or attractive for their nefarious activities. For the purpose of this study, we consider suitable targets to include helpless farmers and the peasants in mostly rural and semi-urban towns across Nigeria and other vulnerable (soft targets) that these terrorists unleash mayhem on, day in, day out.

Guardianship on the other hand can be the state, in most instances referred to as security agents or agencies or an object that is effective in preventing such an offense from taking place, happening or occurring. They include the various security apparatchik of government such as the Director of State Security Services (DSS), the Nigeria Police, Nigerian Civil Defence Corps (NCDC), the Army, Navy, Airforce, Immigration, that are saddled with the responsibility of preventing these crimes before they even occur. This important attribute or function of guardianship accords it one of the most important and essential elements in crime or crisis prevention in any country, community or society. This is because a mere physical presence of guardianship in space and time can deter crime committal. The Routine Activity Theory is based on some basic assumptions (Cohen and Felson, 1979; Garofalo, 1987; Maxfield, 1987; Felson and Cohen, 1980):

1. Crime is likely to occur when there is a spatial-temporal convergence of three essential elements of crime, namely a motivated offender, an attractive target, and the absence of capable guardianship to deter the commission of such crime.
2. Incidences or situations that render a particular target attractive are not permanent but situational and temporal, and in most cases crime specific.
3. There is the likelihood that crime can be perpetrated by anyone who has the opportunity in terms of capability and availability of vulnerable target at heart.
4. The victims of such targeted attacks have choices on whether or not by possibly avoiding the situations that expose or precipitate such ugly and unpalatable occurrences where a crime can be committed against them.

Figure 2: An illustration of Routine Activity Theory of crime

Source: Adapted from Samonas (2013)

In applying the Routine Activity Theory of Crime to the purpose of this study, it is to be observed that the prevailing insecurity/insurgency in Nigeria perpetrated by armed groups such as Boko Haram terrorists groups, herdsmen militias, kidnappings for ransom and armed-banditry are all crimes that has been precipitated and sustained by the prevailing socio-existential environment in the various regions characterized by a high proclivity to criminal indulgence. In about two decades, insecurity and other vices have enveloped the entire Nigerian landscape, living wanton destruction as evidence. From periodic insurgents' onslaught and farmers-herders lethal clashes to unending inter-communal clashes couple with the recent surge in indiscriminate kidnapping for ransom, human trafficking, cultism, violent robberies, is the unending Boko-Haram insurgency and activities of sheer criminal gangs (armed bandits) that have and is still ravaging every region of the country, thereby stifling any meaningful adventure in food production. In fact, the catalogue seems endless, making the government and her security agencies very helpless and confused with no solution to offer. The Global Terrorism Index (2019) ranks Nigeria third among 163 countries on the scale of key global security trends and patterns of terrorism. It was revealed that Nigeria accounted for 13% of all terrorism-related deaths globally in 2018, with a 33% rise in the number of fatalities compared to the preceding year.

In fact, Nigeria has maintained the third position since 2015, suggesting that efforts targeted at mitigating security challenges have not produced optimal results. According to the report, terror-related incidents in the country increased from 411 in 2017 to 562 in 2018, and deaths from terrorism rose to 2,040 in the same year. Currently, banditry has plagued most parts of the Northwest including the North-Central region, leaving food production in a comatose state as farmers no longer have the peace to go about their farming occupation. Aside from the terror-troubled Northeast region, other parts of the country have witnessed a phenomenal increase in security threats. Nigeria, to say the least has metamorphosed into a kind of Somalia/Sudanese tragedy where virtually every state appeared trapped in endless killings and massacre of helpless citizens.

None can confidently say that any of the thirty-six states of the federation is exempted from the killing spree. From Delta to Edo to Kaduna to Zamfara and Enugu to Imo, the story remains the same. It is highly suggestive that violence and conflict are shifting from the Northeast to other parts of the country, increasing the wave of out-of-school children, thereby undermining government efforts. Sadly enough, most of these conflicts and clashes occur among farming communities who are supposed to be the producers of virtually most of the food consumed in the country. While ensuring adequate measures to counter-terrorism in the Northeast, it is important that adequate attention is given to rising trends of insecurities in other regions of the country.

Finally, in the case of the focal areas outlined in this study, north-western, north-eastern, north-central, south-western, south-eastern and south-south Nigeria, the presence and prevalence of under-policed and unregulated hinterlands, forestlands and borderlands have provided an enormous opportunity and leverage for the perpetration and perpetuation of these crimes and attacks. Furthermore, the presence of a viable but vulnerable rural economy

based largely on food and livestock production equally provides an avalanche of handy crime objects/targets like cereals, staples, tubers, cattle, cash, treasure, etc. In this context, the virtual absence of governmental security apparatus in most rural communities gives incentive for criminal opportunism and impunity as well (The Humanitarian, 2018). And where they do exist, the high level of compromise and corruption-induced management of crisis situations across the nation has negatively impacted any hope for peaceful coexistence among the gladiators. In all, the aforementioned ecology of crime brings about, not only motivation but also temptation for criminal indulgence. Under this circumstance, criminal deterrence takes flight thus paving way for all forms of predatory crime to thrive and prevail.

This is typically the situation in Nigeria today, where herdsmen, kidnappers, Boko-Haram terrorists and bandits armed with sophisticated assault weapons and with the active connivance and support of compromised security agencies are having a sustained field day in criminal escapades across the breadth and length of Nigeria, maiming, killing as well as destroying farmlands and crops, thus rendering many households poor and vulnerable, thus accentuating the rate of out-of-school children. Painfully and regrettably in July 2021, the Boko-Haram Sect working in alliance with the Islamic State of West Africa (ISWAP) had recently constituted a parallel government at least in Borno State, their territorial headquarters, by establishing a caliphate with Field Commanders, Governors and Revenue Officers saddled with the responsibility of collecting levies from farmers and fishermen. With the formation of a parallel government, the Islamic sect has sent a clear warning and or instruction to farmers and fishermen within the region to be prepared to pay heavy levies and tolls before they are allowed to farm or fish, going forward.

This new development is viewed as an emerging trend in their avowed determination to totally cripple any meaningful engagement in food and livestock production in the region; and the trend if left unchecked is capable of further stifling the economy, thus increasing the number of out-of-school children as many households becomes more vulnerable and poor. It is therefore not surprising that, Nigeria, according to the United Nations Education Scientific and Cultural Organization is saddled with the challenge of about 20 million out-of-school children. On a global scale, the organization stated that there are 244 million children, youth between the ages of 6 and 18 worldwide who are out of school, that is, outside the learning environment that could have transformed their lives into agents of development (Raliyat, Umma, & Aisha, 2022, UNESCO, 2022).

The data of out-of-school children figure for Nigeria has oscillated between 10.5 million and around 15 million for more than a decade, with the situation growing worse due to the degenerating security situation in the country. It is also the only country where this number is increasing, as out-of-school rates are falling more slowly than the rate at which the school-age population is growing. Nigeria is closely followed by Central and Southern Asia as the regions with the second and third highest out-of-school population respectively. Globally, the top three nations with the highest out-of-school children, who have been excluded from education, are India, Nigeria and Pakistan.

Methodology

Model Estimation Techniques

The study adopts various econometric techniques of analysis to answer the objectives earlier stated in section one. The Econometric Software, E-view 10.0 is used in estimating the model.

Augmented Dickey Fuller Stationarity Test

For the purpose of avoiding the situation of generating spurious results as unit root is normally associated with majority of time series data, the study started by conducting the unit root test on the annual data for the variables (gross domestic product, domestic debt, debt servicing and external reserve) The Augmented Dickey Fuller (ADF) test of stationarity is adopted to determine the underlying properties of the process that generated the time series, that is, whether the variables of interest have unit root or not.

Cointegration Test

A cointegration test is an established econometric procedure for establishing the presence or absence of such a long-term relationship. Economically speaking, two or more variables will be cointegrated if they have a long-run or an equilibrium relationship between or among them (Gujarati, 2004). The Johansen cointegration test approach is employed to test for cointegration among the series used in the model.

Framework of the Study

The framework for this study is anchored on the Routine Activity Theory (RAT). Cohen and Felson (1979) popularized the Routine Activity Theory (RAT) theory to explain how insecurity can become a hindrance to economic growth and development in societies. It studied the patterns and upward trends of predatory criminal events in the context of a changing society or economy. Cohen et al (1979), emphasized that crime occurs when three elements converge: (i) a motivated offender (Boko-Haram, Fulani herdsmen militia group, Armed Bandits/kidnappers, IPOB, Niger-Delta militant groups, etc) (ii) a suitable target (farmers, farm crops, vulnerable rural communities, educational institutions (schools) and other citizens) and (iii) the absence of a capable guardian (government security apparatus). This study hinges its modelling on their proposition as follows:

Model Specification

Consequently, the theoretical modelling for this study is as follows:

$$OSC = f(FS) \quad \ldots\ldots \quad (Eqn\ \ 1)$$

But

$$FS = f(FPI, Calories, Insec, Goveff, Pov) \quad \ldots\ldots \quad (Eqn\ \ 2)$$

Substituting eqtn 1 into eqn 2, we have

$$OSC = f(FPI, Calories, Insec, Goveff, Pov) \quad \ldots\ldots \quad (Eqn\ \ 3$$

The explicit form of eqn 3 becomes.

$$EDUC = \alpha_0 + \beta_1 FPI + \beta_2 Calories + \beta_3 Insec + \beta_4 Goveff + \beta_5 Pov + \mu_t \quad \ldots\ldots\ldots (Eqn\ 4)$$

Given that poverty is one of the greatest determinants of households' food security, it was included in this study as a control variable.

Where:

OSC = Out-of-school children, proxied by government expenditure on education. This covers the expenditure of government on the various tiers of education, including primary, secondary and tertiary education. It is included in this model as the dependent variable.

FPI = This is the aggregate food output from the various food production activities in the country. It is proxied by food production index and served as the indicator for food availability in the model.

Calorie = It is employed as a proxy for food utilization / consumption in this study. Calorie intake is a unit of measurement for the amount of food or drink consumed (i.e., the quality and quantity) or the amount required to maintain a healthy lifestyle. The amount of energy required is often determined by an individual's age, lifestyle and size.

Insec = Insecurity is commonly defined as a state of doubt, a lack of confidence or uneasiness about oneself. Additionally, it can be defined as a condition of existential threat or being open or exposed to the risk of being killed, maimed, wounded or denied safety by a person or group of persons acting with the ulterior objective of instilling terror in the minds of members of a certain community. It is proxied by Political Stability and Absence of Violence/Terrorism, which measures perceptions of the likelihood of political instability and / or politically motivated violence including terrorism.

RoL = Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence. Government effectiveness, otherwise termed institutional effectiveness is proxied by the 'rule of law'.

Pov = Poverty is a multifaceted term that presents itself in a variety of ways. A poor person is helpless, hopeless, powerless and most times voiceless. Poverty reveals itself in a person's lack of possibilities, self-confidence, which results in low self-esteem (ODI, 2009). Though these manifestations are hard to measure, thus an identification of the type of poverty or better still, its measure was adopted for this study. Consequently, the poverty measure utilized in this study is the poverty headcount ratio which pegs poverty at $1.90 a day, which is the ratio of the population whose livelihoods depends on less than $1.90 per day, expressed in 2011 international prices. Poverty rate, which is representative of a household's resilience in is the food security discourse is included in the model as a control variable.

μt = Stochastic error term / time trend, while α_0, β_1, β_2, β_3, β_4, are parameters estimates respectively. The study thus proceeded with the estimation of the model using the Vector Error Correction Model.

Vector Error Correction Model (VECM)

The Vector Error Correction Model (VECM), a test for short run and long run relationships or dynamics between variables is also conducted. The Vector error correction model is specified as in equation the below:

$$\Delta OSC_t = \mu_t + \alpha_1 \Delta OSC_{t-1} + \sum_{j=1}^{m-1} \pi_1 \Delta FPI_{t-j} + \sum_{j=1}^{m-1} \emptyset_1 \Delta Calorie_{t-1} + \sum_{j=1}^{m-1} \partial_1 \Delta Insec_{t-1} + \sum_{j=1}^{m-1} \Omega_1 \Delta Goveff_{t-1} + \sum_{j=1}^{m-1} \delta_1 \Delta POV_{t-1} + \varphi_{t-1} + \mu_t \quad \ldots . Eqtn\,(1)$$

Where Δ is the first difference operator, α_1, and π_1, $\emptyset_1$, ∂_1, Ω_1 and δ_t are the coefficients estimated from equation (1). φ = Speed or rate of adjustment, The Vector error correction mechanism will indicate how much of deviation from the long run is being corrected. In order to confirm the robustness and validity of regression model, some post-estimation tests were conducted. The next section of this study shows the findings of the evaluation, as presented and discussed after preliminary analysis of the data.

Empirical Findings and Discussions

Unit Root Test

The Augmented Dickey Fuller unit root test technique carried out revealed the following outcomes as shown in the table below:

Table 1: Augmented Dickey-Fuller Unit Root Test at 1st Difference

Variable	Level	1st Difference	5% Critical Value	Order of Integration
Log(OSC)	Non-Stationary	-2.969992	-2.893589	I(1)
Log(FPI)	Non-Stationary	-2.271925	-1.944445	I(1)
Log(Calo_Def)	Non-Stationary	-6.518733	-2.893956	I(1)
Insec	Non-Stationary	-5.726346	-2.893956	I(1)
RoL	Non-Stationary	-9.625716	-2.892536	I(1)
Pov	Non-Stationary	-3.714316	-3.714316	I(1)

Source: Author's Computation using E-views

The Augmented Dickey-Fuller (ADF) unit root test in the above table showed that all the variables were non-stationary at levels but became stationary after first difference, thus they were all integrated of order one I(1). Preceding to the estimation of the cointegration test, was the selection of a suitable lag length criterion. Consequently, the Akaike Information criterion which was employed revealed the selection of lag length number of eight for this study.

Cointegration Test

The longrun relationship test was conducted through the Johansen cointegration technique. This was done to ascertain the number of co-integrating vectors under the assumption that the series have linear deterministic trend was employed. The result revealed the following:

Table 2: Longrun Cointegration Output

No. of cointegrating equations	Trace statistic	Critical Values		Max-Eigen statistic	Critical Values	
		Trace	P-value (%)		Trace	P-value (%)
None *	104.6900	69.81889	0.0000	39.81070	33.87687	0.0087
At most 1*	64.87929	47.85613	0.0006	29.62143	27.58434	0.0270
At most 2*	35.25787	29.79707	0.0106	23.14334	21.13162	0.0257
Result:	***Trace test indicates 3 cointegrating eqn(s) at the 0.05 level***			***Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level***		

Source: Author's Computation using E-views

The preceding table indicated that, Trace test statistic and the Max-Eigenvalue tests revealed three cointegrating equations each at 5% level of significance respectively. Thus, it is concluded that there exists a unique longrun relationship between the dependent variable, that is the number of out-of-school children vis-à-vis the independent variables (food production index, calorie intake, insecurity, the rule of law and poverty) during the study period. The revelation that a longrun relationship exist, shows that the series possess the characteristics that would cause them to converge in the long-run. Consequently, the study proceeded with the Error correction model (ECM) to determine the speed of convergence of series in the model.

Extracted ECM Output

Table 3: ECM output

Description	Coefficient Value	P-Value
Error Correction Term:	-0.024604	0.02941 (significant)

Source: Author's Computation using E-views

When the conflicts, food security and the rate of out-of-school children's equations are disturbed, the slope coefficient of the error correction term (-0.024604) indicated the extent to which the equations readjusted towards long-run equilibrium. Consequently, given the requisite system innovation, the error correction term revealed a 2.46 percent convergence to equilibrium path. However, the achievement of these goals is conditional upon the effectiveness and efficiency of government policies in identifying appropriate solution to the rising case of out-of-school children in Nigeria. This is given the fact that a deliberate and well-taught-out policy initiatives and interventions is required to reduce the rate of out-of-school children, hence government should devise all measures to reduce this tide.

Granger Causality / Block Exogeneity Test

The study in order to examine the causal relationship between conflicts, food insecurity and the rate of out-of-school children in Nigeria further adopts blockexogeneityGranger/causality and found as follows:

Table 3: Granger Causality / Block Exogeneity Test for Selected Series

Variable	Nature of causation	P-value	Decision
OSC does not granger cause CALO_DEF	Unidirectional	0.0621	Reject**
OSC does not granger cause INSEC	Unidirectional	0.0791	Reject**
FPI does not granger cause CALO_DEF	Unidirectional	0.0493	Reject**

Source: Author's Computation using E-views

Evidence indicated that a unidirectional causation existed among the variables captured in the model. The revelation that the rate of out-of-school children in Nigeria was heightened due to the prevalence of low-calorie intake is instructive. To buttress the above argument, Table 3 exposed a statistically substantial positive link between calorie deficiency and the rate of out-of-school children. This implied that for every additional consumption of low-quality food by Nigerian households during the quarters reviewed, they were predisposed towards becoming more calorie deficient and thus food insecure, with implications for increased school drop-out.

To be clear, calorie intake is a unit of measurement for the amount of food or drink consumed (i.e., the quality and quantity) or the amount required to maintain a healthy lifestyle. Calorie deficiency, on the other hand, refers to an insufficient or reduced intake or consumption of the required food combination in the appropriate quality and at the appropriate time to ensure optimal nutrition and productivity. The sum of this discourse is that food insecurity, which in other words, refers to a deficiency, lack or shortage in the number of calories available to and consumed by a household in comparison to the number of calories required to maintain current body weight, loosely referred to in local parlance as the absence of a 'balanced diet', was responsible for the increase in the rate of out-of-school children in Nigeria during the referenced period.

This is given the fact that, food insecurity as a result of consuming less calories, through reduced food intake, such as dieting constitutes a great risk to school enrolment in most developing countries. The term which addresses three broad groups of conditions: insufficient food availability, lack of consistent and obstructed access to available food, given households purchasing power, and proper food use (consumption) could predispose such families to undernutrition, such as wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age); micronutrient-related malnutrition, which includes micronutrient deficiencies and overweight, obesity and all manner of diet-related non-communicable diseases with consequential effect on school enrolment, and serious ramifications on the rate of school drop-out for Nigeria.

Robustness Checks

This study performed some diagnostic tests to guarantee that the models yielded robust estimates. It is upon the strength of these diagnostic tests that we conclude that the modelling and results, including the VECM were robust, leading to the inferences made. They are as presented.

Residual Stability Test

The inverse roots of Auto-Regressive characteristic Polynomial in appendix I suggests that the residuals of the models are stable. This is because the residual values do not fall outside the acceptance region. Based on the aforementioned, we conclude that the residuals are stable for the study period.

Autocorrelation Test

Similarly, the VEC Residual Heteroskedasticity Tests was used to test for autocorrelation of the residuals. The result as contained in appendix II accepts the null hypothesis of no residual autocorrelation. This is given its insignificant probability values.

Concluding Remarks

The main goal of this study was to evaluate the impact of conflicts and food insecurity on out-of-school children during the first two decades of democratic experimentation in Nigeria (1999 to 2022). Several econometric techniques of analysis were used, and the study found that calorie deficiency remained a potent trigger for increased in the rate of out-of-school children in Nigeria. The study also found that the rise in the rate of out-of-school children in Nigeria was often accentuated or heightened because of the recurring cycle of violence and conflicts which made many households permanent residents in internally displaced persons camps, thus dependent on government-ration food that often lacks any form of nutrient as well as denying them the right to lawful engagement in ventures that could afford them food and the income needed to keep their wards / children in school. The study thus concluded that, food insecurity which connotes a lack of access to a reliable and nutritiously safe food as at when required has remained the primary cause(s) of rising rate of out-of-school children in most developing countries including Nigeria. To this connection, the rate of out-of-school children has kept an upward trajectory in these climes. This much lends credence to the assertion by Woolf (2016) that, "one cannot think clearly, reason well, love well, or sleep well until one has dined properly."

Giving the foregoing conclusion, this study recommended that, to ameliorate or reduce the incidence of calorie deficiency (food insecurity) among Nigerians, households should reorder their eating habits by consuming more nutritious food combinations that would improve their health in order to stem the rise in the rate of out-of-school children. Secondly, to enhance food security and reduce the rate of school drop-outs, government should aim for more sustainable food production for improved earnings and livelihoods by improving the security of farmers and farming communities. Thus, security agencies should go beyond their present propaganda and grandstanding and provide a peaceful environment for farmers to enable them return to more productive farming activities that would improve their livelihoods and lessen the steady rise in school dropout. Furthermore, government and the private sector should collaborate towards evolving global best practices in livestock management, such as grazing reserves and or ranching to reduce the conflicts associated with roaming or wandering of animals into people's farms. Finally, the Nigerian government should involve the mass media, community leaders and religious bodies in sensitization/campaigns to farmers and pastoralists on best practices so as to reduce the recurrent conflicts between pastoralists and farmers as well as

ameliorate the tide of global warming, which is already affecting food production in Nigeria with consequential effect on school enrolment.

References

Achumba, I. C., Ighomereho, O. S. & Akpo-Robaro, M. O. M. (2013). Security challenges in Nigeria and the implication for business activities and sustainable development, *Journal of Economics and Sustainable Development.* 4(2), 34-52

Burton, G. (2016). *Background report: The Fulani herdsmen*, Retrieved from https://medium.com/gfburton/background-report-the-fulani-herdsmen-part-i-key-findings-introduction-and-history-383c10f8137c

Campbell, J. & Harwood, A. (2018). *Boko Haram's deadly impact*: *Council on Foreign Affairs*, Retrieved from https://www.cfr.org/article/boko-harams-deadly-impact.

Etim, E. E., Duke, O. O. & Ogbinyi, O. J. (2017). The implications of food insecurity, povertyand hunger on Nigeria's national security, *Asian Research Journal of Arts and Social Sciences* 4(2), 1-10

Felson, M. & Cohen, L. E. (1980). Human ecology and crime: A routine activity approach, *Human Ecology* 8 (4), 389–406. doi: 10.1007/BF01561001.

Federal Ministry of Environment. (FME) (2004). *Abuja*. Available at www.nigeria.com.ngcichng.org/ccinfo.php. Accessed on 12th October, 2020

Global Terrorism Index (2019). Synopsis: *The challenge of hunger and climate change,* Accessed at www.globalhungerindex.org. Publication Date: October 2019

Gujarati, D. N. (2009). *Basic Econometrics international edition*, New York: McGraw-Hill/Irwin. 4th Edition

Hsieh, M. & Wang, S. K. (2018). Routine activities in a virtual space: A Taiwanese case of an ATM hacking spree, *International Journal of Cyber Criminology, 12*(1)

Ikiyei, P. K., Donkemezuo, I., Precious, M. & Seribofa, T. I. (2022). Out-of-school children in Nigeria: A creation by society and its implication for nation building, *British Journal of Contemporary Education,* 2(1), 17-32

Ikiyei, P. K. (2014). *The influence of students' satisfaction with educational services on their academic marginality and antisocial behaviours in Bayelsa state, Nigeria,* A doctorate degree thesis submitted to the Graduate School, University of Calabar, Calabar –Nigeria.

Ikiyei, P. K. (2019). Girl child insecurity in the Nigerian school environment, *Niger Delta Research Review (NDRR), 2 (1), 88 – 98*.

International Crisis Group (2017). *Herders against farmers: Nigeria's Expanding deadly conflict,* https://www.crisisgroup.org/ Africa/west- africa/nigeria/252-herders-against-farmers-nigerias-expanding-deadly-conflict

International Institute of Tropical Agriculture (IITA, 2019). *Pressing challenges to food security in Nigeria and ways forward*. Accessed on 15th October, 2020 from: blogs.iita.org/index.php/pressing-challenges-to-food-security-in-nigeria-and-ways-forward/

International Food Policy Research Institute (IFPRI) (2004). *Assuring food and nutrition security in Africa by 2020: Priotizing actions, strengthening actors, and facilitating partnerships*, Proceedings of an All-Africa Conference. Kampala, Uganda, IFPRI, Washington, D.C.

Maxfield, M. G. (1987). Lifestyle and routine activity theories of crime: Empirical studies of victimization, delinquency, and offender decision-making, *Journal of Quantitative Criminology*. 3 (4) 275–282. doi:10.1007/BF01066831.

Ndanusa, M. M., Abayomi, Q. K., & Harada, Y. (2021). Examining the fragments and causes of increasing out-of-school children in Nigeria, *Journal of African Studies and Development. 13(*4), 66-73

Niyi, J. O., Adanna, C. M. & Ayoko, V. O. (2022). Out-of-school children in Nigeria: Causes, school implications and way forward, *International Journal on Integrated Education,* 5(12)

Ngene, B, Quadri, A, Bamigboye, G, & Tenebe, T. (2018). *Nigerian educational system: in the pursuit of right physical environment for learning*, Proceedings of EDULEARN18 Conference, 2nd-4th July, 2018, Palma, Mallorca, Spain.

Nuffic, T. (2009). *Education system Nigeria described and compared with the Dutch system. 1st edition version 6*, May 2017. Available on https://www.nuffic.nl/en/home/copyright/.

Nwozor, A., Olarewaju, J. S. & Ake, M. B. (2019). National insecurity and the challenges of food security in Nigeria, *Academic Journal of Interdisciplinary Studies.* 8(4).

Oladiran, A. (2014). Security challenge and development in Nigeria: Leadership to the rescue? *International Journal of Academic Research in Public Policy and Governance*. DOI:10.6007/ijarppg/v1-i1/759

Ojelade, I. A., Aiyedun, T. G. & Aregebesola, B. G. (2019). Environmental education as an instrument for awareness creation on the health effects of water contamination in Saburi community of federal capital territory (FCT), Abuja, Nigeria. the researcher*, A Journal of Contemporary Educational Research*, 2, (1), 1- 16.

Raliyat, H., Umma, A. & Aisha, A. (2022). As out-of-school children scourge worsens: Nigeria risks losing out on literate, skilled workforce, *Leadership https://leadership.ng/as*

Samonas, S. (2013). *Insider fraud and routine activity theory*, Presented at the 12th Annual Security Conference, 11th Apri, Las Vegas, Nevada. Accessed online from http://eprints.lse.ac.uk/50344 on 23rd September, 2020

The Humanitarian (2018). *Zamfara: Nigeria's wild northwest*, <http://www.thenewhumanitarian.org/news-feature/2018/09/13/zamfara-nigeria-s-wild- northwest> (accessed September, 2020)

UNESCO Institute of Statistics (2013). *Global initiative on out-of-school children – Nigeria Community study*, *http://www.UIS.unesco.org/datacentre/pages/default.aspx*

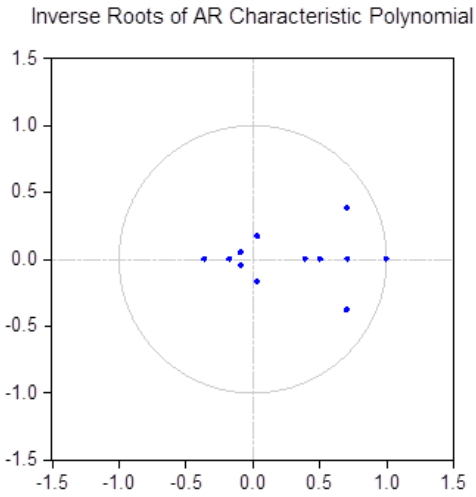
World Food Summit (1996). *World food summit plan of action*, paragraph 1. In: Rome Declaration on World Food Security and World Food Summit Plan of Acton, WFS, 13-17, November, 1996, Rome, Italy.

World Governance Indicators (2022). *World governance indicators*, (Aggregate Governance Indicators) at www.govindicators.org

Woolf, V. (2016). *Woolf at the table: Good dinner*, Good Talk @ https://pshares.org/woolf-at-the-table-good-dinner-good-talk accessed on 29th July, 2021

World Food Security Report (WFSR, 1996.) Declaration on world food security and world food summit plan of action, *World Food Summit*, 13-17 November, Rome, Italy

Appendix I



Appendix II

VEC Residual Heteroskedasticity Tests: No Cross Terms (only levels and squares)
Date: 08/10/23 Time: 16:13
Sample: 1999Q1 2022Q4
Included observations: 93

Joint test:

Chi-sq	df	Prob.
136.2525	330	1.0000

Individual components:

Dependent	R-squared	F(22,70)	Prob.	Chi-sq(22)	Prob.
res1*res1	0.070363	0.240828	0.9998	6.543769	0.9994
res2*res2	0.214849	0.870675	0.6304	19.98098	0.5842
res3*res3	0.184927	0.721903	0.8022	17.19821	0.7523
res4*res4	0.208478	0.838055	0.6699	19.38845	0.6212
res5*res5	0.100853	0.356888	0.9957	9.379307	0.9911
res2*res1	0.210847	0.850125	0.6553	19.60881	0.6075
res3*res1	0.056814	0.191661	1.0000	5.283712	0.9999
res3*res2	0.207620	0.833705	0.6751	19.30871	0.6262
res4*res1	0.082556	0.286316	0.9991	7.677739	0.9979
res4*res2	0.209192	0.841687	0.6655	19.45489	0.6171
res4*res3	0.209343	0.842451	0.6646	19.46886	0.6162
res5*res1	0.064973	0.221099	0.9999	6.042532	0.9997
res5*res2	0.209915	0.845366	0.6611	19.52209	0.6129
res5*res3	0.142739	0.529792	0.9517	13.27473	0.9252
res5*res4	0.120672	0.436648	0.9840	11.22251	0.9714