

Internal conflict and vulnerability to poverty in less developed countries: A case of Nigeria

¹Akinjobi, G.A., ²Fanifosi, G. E., ³Ayantoye, K., ¹Adepoju, A. A. and ¹Amao, J. O.

¹Department of Agricultural Economics, Ladoké Akintola University of Technology, Ogbomosho, Oyo State

²Department of Agricultural Economics and Extension, Ajayi Crowther University Oyo, Oyo State

³Department of Agricultural Economics, Kwara State University, Malete, Kwara State

Correspondence details: ge.fanifosi@acu.edu.ng

Abstract: The contribution of conflict has in no measure affected the well-being of farm families whose primary means of livelihood is agriculture. This study examines the relationship and influence of internal conflict occurrences and poverty in Nigeria. Using the General Household Survey (GHS) across the years 2012/2013, 2015/2016, and 2018/2019 (wave 2, 3 & 4), a subset of 2,221 respondents out of 5000 households was used, ensuring a representative cross-section of data. The analytical techniques employed include descriptive statistics, Feasible Generalized Least Square (3-FGLS) and Correlated Random Coefficient (CRC) models. The result showed most of the respondents were in their middle age (50years) and married with an average household size of 7 persons. More than 37% of the household still access unsafe drinking water. Furthermore, the 3-FGLS result shows Gender ($p=0.0000$), housing ($p=0.0000$), education ($p=0.0000$), and dependency ratio ($p=0.0000$) to significantly influence ex-ante mean consumption. The CRC model shows that conflict was significant in year 2018 with respect to 2015, while it was significant at 10% and 1% in 2012 and 2015 with respect to vulnerability to poverty in 2018. Also, the interaction of conflict in 2012 and 2015 showed significant influence to vulnerability in 2015. Meanwhile, the interaction of the three years showed significant effect with respect to year 2015 and 2018 respectively. This affirms the influence and effect of conflict on vulnerability to poverty in Nigeria. In conclusion, the study suggests prioritization of conflict resolution and peace-building efforts to create a stable environment that fosters economic growth and poverty reduction.

Keywords: Risk, Crises, Climate change, Consumption, Welfare

INTRODUCTION

According to World Bank (2021), the COVID-19 (coronavirus) pandemic has reversed the gains in global poverty for the first time in a generation. By most estimates, this reversal of fortune is expected to push between 88 million and 115 million more people into extreme poverty in 2020. But COVID-19 is not the only reversal that threatens the poverty goals: Confronting conflict and climate change will also be critical to putting poverty eradication back on track. More than 40 percent of the global poor live in economies affected by conflict and violence, and, in some economies, most of the poor are concentrated in specific areas. About 132 million of the global poor live in areas with high flood risk. Moreover, many of the poor face exposure to multiple risks. In several countries, a large share of the poor live in areas that are both affected by conflict and face high exposure to floods. Facing the COVID-19 (coronavirus) pandemic, many of the new poor are likely to live in congested urban settings and to work in the sectors most affected by lockdowns and mobility restrictions; many are engaged in informal services and not reached by existing social safety nets. Conflict, climate change, and COVID-19 are having a clear impact on the global poor, in many cases compounding the challenges of those living in poverty.

Poverty in Nigeria remains a persistent and multifaceted challenge, affecting millions of its citizens and hindering the country's sustainable development efforts. As Africa's most populous nation and one of its largest economies, Nigeria's struggle with poverty has significant implications for regional and global poverty alleviation goals.

Nigeria's vast population of over 200 million people is deeply affected by poverty, with a substantial proportion living below the poverty line. The World Bank estimates that more than 40% of Nigerians live in extreme poverty, earning less than \$1.90 per day (World Bank, 2021). Despite its abundant natural resources, the uneven distribution of wealth, coupled with challenges in governance, weather effect, conflict and infrastructure, have contributed to a widening wealth gap and exacerbated poverty levels across the nation.

Nigeria has historically been a conflict-prone country due to its heterogeneous population along ethnic, religious, and cultural lines. From the colonial proclamation of 1900 to independence in 1960, the British controlled Nigeria through indirect rule, fuelling the ongoing uneven development between the North and the South of the country. Nigeria underwent a successful, although not peaceful, transition from military to civilian rule in 1999, and it has held four elections since then (World Bank, 2016).

Violent conflict could reduce households' food availability and consumption. For example, the presence of war may effectively reduce food imports, make food production and purchasing more dangerous, raise food prices, and reduce food stocks and disposable income. Significant empirical literature documents such adverse food security outcomes of war. Martin-Shields & Stojetz (2018) provide a survey of these war-induced effects on food security. Violent conflict may impact welfare directly, through physical and psychological harm, death or illness of household members, destruction of assets and human capital, and displacement.

Conflict may also have an indirect impact through its effects on income, prices, wages, access to markets, access to safety nets, social, economic and political institutions, community relations and overall levels of insecurity (Justino, 2013).

Violent conflict has been explained as the systematic breakdown of the social contract resulting from and/or leading to changes in social norms, which involve violence instigated through collective action. This notion includes an element of mass or group behaviour and captures a variety of conflict intensities spanning from violent protests and riots to coups, revolutions, civil wars, genocide, international wars and terrorism. It excludes forms of conflict grounded on labour relations that do not result in violence, such as strikes and lockouts and other forms of labour action; violence instigated by individuals for self-gain that do not involve mass conflict, such as crime; and intra-household forms of violence that do not degenerate into group conflict, including domestic violence and bargaining processes within the household. The study considers 'conflict-affected areas' those that have experienced significant direct effects of violent conflict. Also, acknowledging the fact that many violent conflicts only occur in some parts of some countries, hence making a distinction between conflict-affected countries and conflict-affected areas necessary (Brück, *et al.*, 2010).

In Nigeria, violent conflict is viewed as a critical variable impeding the development process but empirical estimates of its impact on development and welfare-related outcomes are scant. Conflict can reduce welfare for households and impose costs on individuals and the economy through several broad channels. First, conflict can lead to economic devastation resulting in economic decline. There are several cross-country studies suggesting that violent conflict has a negative effect on investment, savings and economic growth (see Venieris and Gupta, 1986; Alesina and Perotti, 1996 and Mauro, 1995). Second, conflict can impose costs on households directly through a decline in an individual's health. In particular, it can affect individuals mentally and can also cause physical and psychological harm. Third, conflict can lead to a decline in trust and an increase in fear and uncertainty. Fear and lack of trust can lead to a decline in social capital, an increase in transaction costs, and a decline in school enrolment and education attainment. It can also lead to displacement which affects economic, social outcomes and health. Justino (2013) noted that conflict can lead to a decline in access to safety nets and a decline in social, economic and political institutions, community relations, and overall levels of security. Other effects of conflict include a disruption of economic activities, a shrinkage in the productive base of a community and a decline in human capital whether health or education. All these effects of conflict can lead to a decrease in

household income and/or wealth and consumption. A decline in income can lead to more households falling below the poverty line and others who are already poor falling more deeply into poverty.

Investigating the potential welfare effects on households in Nigeria from being exposed to violent conflict and weather variability over time is the primary focus of our current research. While much research has been conducted in Nigeria to analyse household vulnerability to poverty. Vulnerability estimates have either relied on self-reported shocks and short, unrepresentative panel surveys (Calvo and Dercon, 2013; Klasen *et al.*, 2015; Adepoju and Okunmadewa, 2010 and Musyoka, 2021), or on the cross-sectional distribution of consumption (Chaudhuri, 2003), neither of which are completely satisfactory.

METHODOLOGY

Nigeria lies about 3.0 meters above sea level, with a land mass area of 923,768km², a total coastline length of 850km and the Atlantic Ocean borders the southern coast of Nigeria (National Communication, 2003). The country is situated between 4°N and 14°N and between 3°E and 15°E. It is bordered on the north, east, and west by Niger, Cameroon, and Benin Republic, respectively (National Communication, 2003; Nwilo *et al.*, 2006; Oguntunde *et al.*, 2011). With about 200 million inhabitants, Nigeria is the most populous country in Africa and the largest economy as measured by GDP. Nigeria, which is a creation of colonial rule, is currently the most populous country in Africa (Nwaka, 2005; Federal Republic of Nigeria, 2007). The Federal Republic of Nigeria is divided into six geopolitical zones and made up of 36 states and the Federal Capital Territory (FCT). The official number of Local Government Areas (LGA) in Nigeria currently stands at 774, however, there are isolated cases where some states like Lagos, without the Federal Government support, have gone on to create Local Council Development Areas (LCDA) which are not necessarily recognized or funded by the Federal government of Nigeria.

The study employed panel data from the General Household Survey (GHS). GHS is a Living Standard Measurement Survey (LSMS) data set that has been collected in four waves between 2010 and 2019. The waves are 2010–11, 2012–13, and 2015–16, 2018–19 and they include two visits each: a post-planting visit during the autumn months and a postharvest visit during the spring. The GHS panel consists of 5,000 households of the GHS collecting additional data on agricultural activities, other household income activities, and household expenditure and consumption.

A number of analytical techniques were deployed in this study to achieve the stated objectives. The techniques include both descriptive and inferential statistics. Vulnerability to poverty

was estimated using the feasible generalized least square (FGLS) method and Correlated Random Coefficient Model estimation procedure was used to model the effect of conflict on expected future consumption and variation in future consumption. Vulnerability as expected poverty approach to measure vulnerability.

RESULTS AND DISCUSSION

The result as presented on Table 1 showed the summary statistics of the respondents. the description of the variables included in the model were displayed here together with the mean (average) and standard deviation. From these statistics, the average farm size of the respondents

stood at 4.21 hectares – implying that most of the respondents are smallholder farmers who are responsible to the feeding of their households. Also, most of the respondents are in their productive age having a mean value of 47.61 years as shown on the table. The average number of years spent on education was 12.43; in Nigeria it represents that most of the respondents had at least secondary school education. Other variables (such as sex, poor rain, flooding, pest invasion, inter-communal crisis, farmer-herder crisis, and loss of properties) on the table comes as binary response variable except utilities which showed the cost expended by the respondents on the utilities.

Table 1: Summary Statistics of some of the variables used in the study

Variables	Description	Mean	Std. Dev
Utilities	cost expended on utilities	23667	5349
Farm size	Actual hectare(s) of farm cultivated during the last production season	4.21	1.38
Dependency_ratio	Number of dependents to the household population	2.14	0.98
Education (years)	Number of years spent having formal education	12.43	4.36
Age	Age of the respondents (years)	47.61	9.33
Sex	Sex of the respondent 1 = male, 0 otherwise	0.48	0.14
Poor_rain	1, respondent experienced poor rain during the last production season, otherwise 0	0.79	0.23
Flooding	1, respondent experienced flooding during the last production season, otherwise 0	0.49	0.17
Pest_invasion	1, respondent experienced pests' invasion during the last production season, otherwise 0	0.86	0.39
Loss_of_property	1, Loss of property as a result of climate shocks, otherwise 0	0.66	0.21
Inter-communal crisis	1, if respondent experienced inter-communal clash, 0 otherwise		
Farmer-herder crisis	1, if respondent experienced farmer-herder clash, 0 otherwise		

Source: Author's computation, 2023

Correlated Random effect (CRE) reduced form and Structural estimates.

The reduced form of the structural estimate of CRE was presented on Table 2. The influence of conflict on vulnerability to poverty was observed in the three waves (2012, 2015 and 2018). Conflict was observed to be significant in the third wave (2018) with respect to wave 2 (2015), while it was seen to be significant at 10% and 1% in 2012 and 2015 with respect to vulnerability to poverty in 2018. This is evidence of the existence and trend of vulnerability to poverty in Nigeria. According to Olaoye *et al.*, (2023), poverty is now endemic, many individuals and households' transit from one form to the other (entry – deepening – alleviation – exit). Also, the interaction of conflict in 2012 and 2015 showed significant influence to vulnerability in 2015. Likewise, in this same year, the interaction of conflict in 2012 and 2018 was significant at 5 percent level of confidence. Meanwhile the interaction of the three years showed significant

effect with respect to year 2015 and 2018 respectively. The further affirm the influence and effect of conflict on vulnerability to poverty in Nigeria.

The result showed that the coefficient of dependency ratio and harvest failure due to poor rain in 2012 significantly influence vulnerability to poverty in year 2012. Dependency ratio has positive influence on this expected poverty, and it simply indicated that increase in dependency ratio will increase the likelihood of expected poverty in 2012. So also, increasing poor rainfall will increase the chance of expected poverty in 2012. Most of these respondents depend on agriculture as a means of livelihood are practically depending on rainfall for production. It is evidence that higher fall short of rainfall in the country will impact agricultural productivity which will invariably threatening food security. Furthermore, inter-communal crisis increases the chance of plunging people into the circle of poverty. Since communal clashes comes

with loss of lives and properties most often. The consequence of increasing number of internal displaced (IDP) camps and persons. For instance, Niger Delta region has experienced a local insurgency that has mutated into criminality and maritime piracy (Nwankpa 2014; Marc, Verjee, and Mogaka 2015). The result also showed that farm size negatively influence vulnerability to poverty, this indicated that increase in farm size will likely reduce vulnerability to poverty in Nigeria. In another words, farmers with higher farmland are tends to be less vulnerable to poverty than those with smaller farmland. It is expected that increase in farm size will lead to increase food production which will invariably increase the income accrue to the farmers *ceteri paribus*.

Also in the 2015 model, the coefficient of cost on utilities, dependency ratio, pest invasion and farmer-herder conflicts significantly influence expected poverty. The rising cost of utilities was significant determinant of vulnerability to poverty at 1% level of confidence and this indicated that respondents who spend more on utilities are more likely to be vulnerable to poverty than those who spend low on utilities. This suggest that the recent hike in tariffs of electricity bills, water and premium motor spirit (PMS) will significantly dip people into poverty if measures are not taken. Furthermore, the dependency ratio was positive and significant at the 10% level. This result implied that respondents who have a higher number of dependents are more likely to be vulnerable to poverty than those with lesser dependents. The rising cost of living in the country cannot be overlooked as it contributes significantly to the well-being of the citizens. Tesliuc and Lindert (2002) claimed that the major cause of poverty could be detach from low consumption which could be as a result of possession of low assets and endowment, or it may even be transient (unforeseen shock that bring a temporary setback). Pest infestation and invasion on farmland showed significant effect on vulnerability to poverty. Pest destroys agricultural crops. The increasing invasion of agricultural land by pests cannot be explain out of the knowledge of climate change. Reports of pest and disease that are alien to an area are now becoming rampant and this

have cause serious loss to farm families more than often. The implication of the result obtained in this research is that respondents who experience pest invasion on their farmland are more likely to be vulnerable to poverty than others who doesn't have that experience. Lastly, the coefficient of farmer-herder conflict was significant at 10% level. The result implied that a unit increase in farmer-herder clash will increase the likelihood of vulnerability to poverty by 19.23%. This result posits increase vulnerability to poverty to respondents who are victims of the farmer-herder clashed in the study area than those who didn't face this. Farmer-herder clashes have been causing a serious issue in the country and most victims of this circumstances are paying the consequence thereof.

Table 2 also revealed the result of 2018 model. On this model found the coefficient of assets, cost on utilities, dependency ratio, farm size and pest invasion to significantly drive vulnerability to poverty. Assets and farm size showed negative influence on vulnerability to poverty while others drive vulnerability to poverty positively. The result indicated that increase in both asset and farm size will reduce the likelihood of being vulnerable to poverty. That is, more respondents are likely to escape the circle of poverty when they have more assets and farm size. With larger farm size, farmers will be able to invest more on the land to bring about increased productivity while tangible asset could be used as collateral to obtain productive loan and credit. Farmers serve to gain more with this and it could propel poverty exit in the long run. Also, both cost on utilities, dependency ratio and pest invasion have significant implication on vulnerability to poverty as shown. These variables were positive and significant at 5%, 1% and 5% respectively. An indication that increases in these variables will lead to a rise in the chance of the respondents being vulnerable to poverty in the study area. This result aligns with the findings of Oyekale and Oyekale, (2008); Adepoju and Yusuf (2012), the latter showed that there is always about 5% increase in vulnerability to poverty when there is a unit increase in dependency ratio.

Table 2: Correlated Random

Variables	lny_exp_pov2012			lny_exp_pov2015			lny_exp_pov2018		
	Coefficient	Std. Err	z	Coefficient	Std. Err	z	Coefficient	Std. Err	z
Conflict_2012	-0.0345	0.0648	-0.53	0.0337	0.0671	0.50	-0.0269	0.0703	-0.38
Conflict_2015	0.0756	0.0677	1.12	0.1107	0.0702	1.58	0.1831	0.0735	2.49***
Conflict_2018	0.0895	0.0465	1.92*	0.0628	0.0190	3.31***	0.0115	0.0722	0.16
Interaction (2012*2015)	0.1814	0.1806	1.00	0.5295	0.1872	2.83**	0.1814	0.1806	1.00
Interaction (2012*2018)	0.0251	0.2713	0.09	0.6031	0.2812	2.14**	0.6031	0.2812	2.14**
Interact_(2015*2018)	0.3911	0.2839	1.38	0.3095	0.9124	0.34	0.0460	0.2944	0.16
Interact_(2012*2015*2018)	0.1295	0.0703	1.84	0.1310	0.0729	1.80*	0.2274	0.0763	2.98***
lny_Assets	-0.0170	0.0110	-1.55	-0.0182	0.0114	-1.59	-0.0295	0.0119	-2.47**
lny_Utilities	0.0217	0.0157	1.38	0.0411	0.0162	2.53***	0.0343	0.0170	2.01**
Farm size	-0.0340	0.0149	-2.28**	-0.0108	0.0154	-0.70	-0.0374	0.0161	-2.31**
Dependency_ratio	0.1428	0.0705	2.02**	0.1344	0.0731	1.84*	0.2290	0.0765	2.99***
Education (years)	0.0061	0.0085	0.72	0.0067	0.0088	0.77	0.0104	0.0092	1.12
Age	0.00003	0.0021	0.01	0.0024	0.0022	1.08	0.0011	0.0023	0.48
Sex	1.1145	0.8984	1.24	0.1334	0.9314	0.14	0.9212	0.9750	0.94
Poor_rain	0.2428	0.0945	2.57***	-0.1486	0.0979	-1.52	0.0688	0.1025	0.67
Flooding	0.0769	0.1881	0.41	0.1155	0.1949	0.59	-0.0724	0.2040	-0.35
Pest_invasion	0.3931	0.2393	1.64	0.4151	0.2481	1.67*	0.5948	0.2597	2.29**
Loss_of_property	-0.0307	0.2436	-0.13	0.0224	0.2525	0.09	-0.2435	0.2644	-0.92
Inter-communal crisis	0.2539	0.1119	2.27**	0.0091	0.1160	0.08	0.0477	0.1214	0.39
Farmer-herder crisis	0.0628	0.1081	0.58	0.1923	0.1121	1.72*	0.0692	0.1173	0.59
_cons	2.7368	1.3818	1.98**	3.7310	1.3596	2.74***	5.7163	0.2412	23.69***

Coefficient (CRC) reduced form and Structural estimates

Source: Author's computation, 2023

CRC OMD structural estimates for conflict

Table 3 showed the structural parameter estimates $\lambda_1 = -0.3258$, $\lambda_2 = 0.0186$, $\lambda_3 = -0.0505$, $\lambda_4 = 0.2473$, $\lambda_5 = 0.1303$, $\lambda_6 = -0.0568$, and $\lambda_7 = 0.0606$. The overall conflict is $\beta = 0.3188$ and $\phi = 0.0102$ is the coefficient on the individual's experience of conflict or comparative advantage in conflict. The result revealed that the coefficient of the overall conflict was significant at 1% level of

confidence; this indicated that conflicts have significant influence on vulnerability to poverty in Nigeria. Also, it is an indication that conflict experiences in the study area is homogenous and not heterogeneous. The coefficient of ϕ was not significant and it implies that conflict does not provide any comparative advantage to individual in the study area.

Table 3: CRC OMD structural estimates

	Coefficient	Std. Err	z	P> z/
λ_1	-0.3258	0.1193	-2.73	0.011***
λ_2	0.0186	0.0405	0.46	0.646
λ_3	-0.0505	0.0345	-1.46	0.144
λ_4	0.2473	0.1319	1.87	0.061*
λ_5	0.1303	0.0633	2.06	0.040**
λ_6	-0.0568	0.3909	-0.15	0.884
λ_7	0.0606	0.1402	0.43	0.665
β	0.3188	0.1204	2.65	0.013***
ϕ	0.0102	0.0564	0.18	0.857

Source: Author's computation, 2023

CONCLUSION

Recognizing that a significant proportion of the population falls within the adult age range, policies should be designed to cater to the specific needs and challenges faced by different age groups. The significant influence of conflict on vulnerability to poverty underscores the urgency of addressing underlying socio-political issues. Policy makers should prioritize conflict resolution and peace-building efforts to create a stable environment that fosters economic growth and poverty reduction. Addressing root causes of conflicts, fostering dialogue, and promoting social cohesion are essential components of such initiatives.

REFERENCES

Adepoju, A.O., and Okunmadewa, F.Y. (2010): Households' Vulnerability to Poverty in Ibadan Metropolis, Oyo State Nigeria. *Journal of Rural Economics and Development*, 20, 14 DOI: 10.22004/ag.econ.206864

Adepoju, A. O., and Yusuf, S. A. (2012). Poverty and vulnerability in rural South-West Nigeria. *ARNP Journal of Agricultural and Biological Science*, 7(6), 430–437.

Alesina, A and Perotti, R (1996) "Income Distribution, Political Instability and Investment", *European Economic Review*, June 1996, 40(6) pp1203-28

Calvo, C. and S. Dercon (2005). Measuring Individual Vulnerability. University of Oxford, Department of Economics (ISSN 1471-0498).

Chaudhuri, S. (2003). Assessing Vulnerability to Poverty: Concepts, Empirical Methods and Illustrative Examples. Working Paper.

Department of Economics, Columbia University Working Paper.

Justino, P. (2013). Research and policy implications from a micro-level perspective on the dynamics of conflict, violence, and development. HiCN Working Paper 139. Brighton, UK: Households in Conflict Network, Institute of Development Studies.

Klasen, S. and H. Waibel (2015). Vulnerability to poverty in South-East Asia: Drivers, measurement, responses, and policy issues. *World Development* 71 (99), 1–3.

Marc, A., Verjee, N. and Mogaka, S. (2015) The Challenge of Stability and Security in West Africa. World Bank Publications. <https://doi.org/10.1596/978-1-4648-0464-9>

Martin-Shields, Charles & Stojetz, Wolfgang. (2018). Food security and conflict: Empirical challenges and future opportunities for research and policy-making on food security and conflict. *World Development*. 119. 10.1016/j.worlddev.2018.07.011.

Mauro, P; (1995) "Corruption and Growth", *Quarterly Journal of Economics*, August 1995. 110(3), pp 681-712.

Musyoka P. K. (2021). Shocks and Household Welfare in Kenya. School of Economics, University of Nairobi, Kenya.

Nigeria's First National Communication (2003) [Online] Available: www.unfccc.int/nationa_reports/items/1408.pl (November 2, 2011)

Nwilo, P. C. and Badejo, O. T. (2006). Impacts and Management of Oil Spill Pollution along

- the Nigeria Coastal Areas FIG Publications No. 36, 119-133
- Nwaka, G. (2005): The urban informal sector in Nigeria: Towards economic development, environmental health, and social harmony. *Global Urban Development* 1(1), 2 – 11
- Nwankpa, M. (2014): The Politics of Amnesty in Nigeria: A Comparative Analysis of the Boko Haram and Niger Delta Insurgencies. *Journal of Terrorism Research*, 5(1), 67 – 77
- Olaoye, T.A., Ogunniyi, L.T and Fanifosi, G.E (2023): Estimating the welfare effect of food price increase on households in Nigeria: Direct and substitution effect approach. *International Journal of Sustainable Agricultural Research*, 10, (1), pp. 1-20.
- Oguntunde, P.G. Abiodun, B. J. and Lischeid, G. (2011). Rainfall Trends in Nigeria, 1901-2000. *Journal of Hydrology*, 411, 207-218.
- Oyekale, A., and Oyekale, T. (2008): An Assessment of Income Shocks and Expected Poverty Dynamics in Rural Nigeria. International Conference on Applied Economics – ICOAE.
- Venieris, Y and Gupta, D. K (1986) “Income Distribution and Sociopolitical Instability as Determinants of Savings: A cross-sectional model”, *Journal of Political Economy*, March 1986 94(4) pp 873-83.
- Tesliuc, E., and Lindert, K. (2002). Vulnerability: A quantitative and qualitative assessment [Guatemala Poverty Assessment Program]. World Bank.
- World Bank. (2016). “Poverty Reduction in Nigeria in the Last Decade.” World Bank, Washington, DC.