

WORKING PAPER SERIES

219, 2021

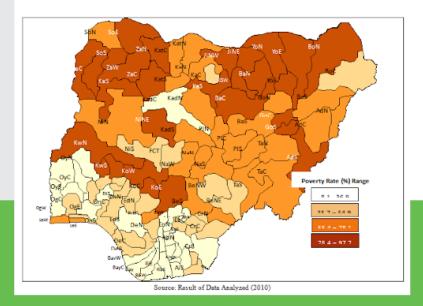
The Geography of Poverty in Nigeria

Uduak Akpan

Email: u.akpan@spidersolutionsnigeria.com uduaksakpan@gmail.com &

Salisu Isihak

Sustainability, Policy, and Innovative Development Research (SPIDER) Solutions Nigeria
15 EtimUmana Street,
Uyo, Akwa Ibom State, Nigeria.



Abstract

As the 2030 target year for achieving the Sustainable Development Goals (SDGs) draws closer, development practitioners are increasing their activities in regions where poverty is predominant. In 2018, Nigeria attained an unenviable position of being the country with the highest number of persons living in extreme poverty in terms of poverty count, overtaking India.

However, aggregate national-level data often hide the huge disparity in the poverty rates at the sub-national (state) level.

This study intends to demonstrate the geographic aspects of poverty in Nigeria alongside the underlying factors that contribute to entrenching the cycle of poverty in some states in Nigeria.

By highlighting these factors, the study hopes to draw the attention of policymakers and development practitioners to the fact that unless there are strong, coordinated, and sustained efforts to change these underlying factors, it may be difficult for Nigeria to meet the SDGs in 2030.

Keywords: Geography of poverty, multi-dimensional poverty, SDGs, Nigeria.

1 Background

As the 2030 target year for achieving the Sustainable Development Goals (SDGs) draws closer, the challenge of reducing extreme poverty in all its forms has once again been placed at the forefront of global development discourse, policies, and actions. Over the years, the concept of poverty as well as the methods by which poverty can be measured have been rationalized from different perspectives. There is no universal definition of poverty but there is a general understanding that poverty means the lack of income to meet, or access to, basic human needs which include food, clothing, shelter, basic education, healthcare, electricity, etc. (Omotola, 2008). Poverty has been classified differently by different authors depending on what they focus on and the context of the study. For example, poverty may be divided into "absolute" and "relative" poverty; "chronic" and "transient" poverty; "regional" and "individual" poverty; "urban" and "rural" poverty; etc. (Zhou & Liu, 2019). Absolute poverty tends to set a benchmark such that persons who cannot attain the benchmark are considered to be poor and vice versa, while relative poverty tends to look at the acceptable standard of living within an environment and whether a household meets this standard of living (Yakubu & Abbass, 2010). Chronic poverty refers to a situation where an individual or household is perpetually poor while transient refers to a phase where an individual becomes poor but has not always been poor and can cease being poor. In terms of measurement, the level of poverty in a country has been estimated using a direct or indirect method. A direct method of measuring poverty assesses the extent to which people can meet a set of basic needs while an income method measures whether households' incomes meet a defined threshold set as a poverty line (Alkire & Santos, 2014). The challenges of using the income approach have been debated (Alkire & Santos, 2014) and this led to the development of the multidimensional poverty index which is an attempt to measure poverty using the direct approach (Alkire & Foster, 2011; Alkire & Santos, 2014). Furthermore, Bradshaw (2007) notes that theories of poverty are rooted in narratives such as the deficiencies of individuals, the traditional and/or cultural belief systems that entrench certain practices, the distortions in the political-economic system, the disparities in geography, or the combination of all these.

The problem of poverty has been in the Nigerian society for a long time and over the years there have been lots of efforts by the Nigerian government to address the problem. For example, there was the National Poverty Eradication Programme (NAPEP) in 2001 which was designed to address different underlying causes of poverty in Nigeria. NAPEP was implemented around four central themes: youth employment scheme (which focused on the acquisition of technical skills and provision of employment opportunities for youths); rural infrastructure development scheme (which focused on the provision of rural infrastructures such as irrigation, transport, and energy to support rural economic growth); social welfare service scheme (which focused on the provision of social services and micro-credits); and natural resources development and conservation scheme (which focused on harnessing natural resources to promote economic growth) (Omotola, 2008). The National Economic Empowerment and Development Strategy (NEEDS) was a medium-term development planning strategy to ensure economic development through investments in economic and social infrastructure and services (National Planning Commission, 2004). Furthermore, Nigeria made efforts in meeting the development goals under the Millennium Development Goals Framework. In addition, multilateral development agencies have funded several projects whose objectives include, amongst others, the reduction of poverty or improvement in incomes. Despite all these efforts to increase inclusive growth and reduce poverty in Nigeria, the results seem to be weak. Studies that have evaluated the impact of NAPEP and NEEDS have scored them low (Yakubu & Abbass, 2010; Ugoani, 2017; Marcellus, 2009). The end-point report for the Millennium Development Goals shows that Nigeria was able to meet only Goal 8 (i.e., Develop a global partnership for development) United Nations Development Programme (UNDP, 2015). This shows the persistence of the different dimensions of poverty in Nigeria. In 2018, Nigeria attained an unenviable position of being the country with the highest number of persons living in extreme poverty in terms of poverty count, overtaking India¹. To put this in context, India has a population of about 1.3billion (data from World Bank) and below 2.7% of the population is said to live in extreme poverty. In contrast, Nigeria has a population of about 191 million (data from World Bank) and about 49% or 97million live in extreme poverty.

Geography, i.e., the totality of the environment where a person lives, plays an important role in understanding the dynamics of poverty (Cohen et al., 2019). People who reside in some countries are more likely to be poor than people who

_

¹ This is based on data from the World Poverty Clock: https://worldpoverty.io/ (accessed on 15th November 2019). The methodology used in generating the data is published as (Cuaresmaet al., 2018)

reside in other countries. Within a country, people who reside in a particular region may have less opportunities that those who reside in other regions. The geography of poverty (GOP) may be viewed as a "branch of human geography, which studies the geographical patterns, distribution characteristics, areal types and evolution mechanism of poverty and the relationship with geographical environment as well as antipoverty measures" (Zhou & Liu, 2019). By considering the larger geography, researchers seek to understand the spatial pattern of poverty across a region. This is useful especially in a federation like Nigeria where some of the underlying factors contributing to poverty may be managed or influenced by the states or the environment in a state, local actors, customs, and traditions.

This study intends to demonstrate the geographic aspects of poverty in Nigeria alongside the underlying factors that contribute to entrenching the cycle of poverty in some states. By highlighting these factors, the study hopes to draw the attention of policymakers and development practitioners to the fact that unless there are strong, coordinated, and sustained efforts to change these underlying factors, it may be difficult for Nigeria to meet the SDGs in 2030. It is hoped that by understanding the magnitude of the problem and possible implications, governments at the state level will be more responsive and serious in addressing the problem. This will be useful in developing state-specific programs to "leave no one behind".

2 Overview Geography of Poverty in Nigeria

As mentioned earlier, Nigeria currently has the unenviable status of being the country with the highest number of persons living in absolute poverty, and these persons constitute about 48% of the population (i.e., about 98 million people). However, looking at the poverty rates at the national level does not reveal the pattern of the problem of poverty. By unbundling the aggregate poverty rate in Nigeria to examine the spatial distribution at the state level, one can see that there is a remarkable difference in poverty levels across the different states (see Fig. 12). The multidimensional poverty index3(Fig. 2) for the states also reveals a similar pattern. We can observe from Figs 1&2 that the problem of poverty in

²Choropleth maps are used throughout this study to represent the spatial distribution of indicators. Darker shades represent higher (or more intense) values of any indicator.

³Since the introduction of multi-dimensional poverty by (Alkire & Foster, 2011), there have been different other approaches used in estimating MPI. Aguilar & Sumner(2020) compares some of these methods. Despite the method used, they all capture key social indicators relating to health, education, and standard of living.

Nigeria tends to have a distinctive geographic component, i.e., is concentrated mainly in the northern part of the country and in some specific states. The states in this region may be regarded as "poverty hotspots" (Cohen et al., 2019).

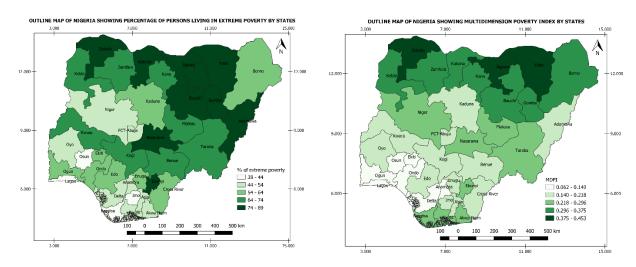


Figure 1: State-level head count per capita poverty measure (%) 2009/2010

Source of data: (NBS, 2010)

Figure 2: Multi-dimensional Poverty Index by states

Source of data: (UNDP, 2018)

We further demonstrate the geographic dimension to poverty in Nigeria by looking at the performance of the different states with respect to different indicators used in tracking progress attaining the sustainable development goals⁴. We focus on indicators that may be applicable at the state level and note that data available is a general problem in Nigeria therefore we rely on data from the recently released (i.e., in October 2019) Nigeria Demographic and Health Survey (National Population Commission, 2019).

2.1 Education

Education is regarded as one of the central components of human development and is built into the computation of the UNDP human development index as well as the multidimensional poverty index. The lack of education has been strongly associated with poverty and seems to be one of the causes and consequences of poverty which tends to further entrench the cycle of poverty (Kambon & Busby,

⁴We use the global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development, 2019

2000). Education plays a significant role in the process of socialization and becoming aware of the workings, norms, and practices in any society. Providing access to qualitative education has been identified as one the effective means to help a child escape poverty (Camilli et al., 2010; UNICEF, 2015). Data on net school attendance ratio⁵ (defined as the percentage of school-age population that attend school) for Nigeria stands at 60.5% (62.2% for male and 58.8% for female) for primary school and 49.4% (52.1% for male and 46.6% for female) for secondary school. At the state level, the net school attendance ratio ranges from 26.4% in Kebbi State to 85.1% in Anambra State for primary school; and from 14.4% in Sokoto State to 80.1% in Anambra State (National Population Commission, 2019). The magnitude of this is appreciated better by noting that about46% of Nigeria's population is below 15 years (National Population Commission, 2019). (See Figs. 3 and 4)

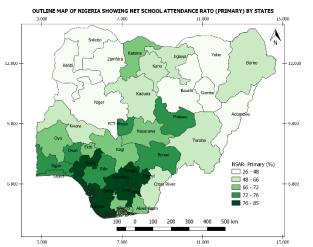


Figure 3: Outline map of Nigeria showing net school attendance ratio (Primary) by states

Source of data: (National Population

Commission, 2019)

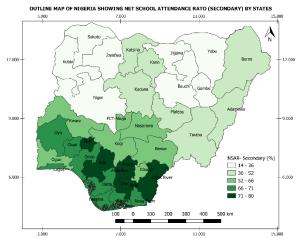


Figure 4: Outline map of Nigeria showing net school attendance ratio (Secondary) by states

Source of data: (National Population Commission, 2019)

2.2 Nutrition and Health care

The health and wellbeing of people are crucial to supporting economic activities and one of the determinants of good health care is the level of nutrition. Goal 2 of the SDGs aims to "End hunger, achieve food security and improved nutrition and promote sustainable agriculture" while Goal 3 aims to "ensure healthy lives

⁵ Data are available for other indicators such as educational attainment of the male household population and educational attainment of the female household population. We choose the Net School Attendance Ratios because we consider them to be more comprehensive.

and promote well-being for all at all ages". We examine the performance of the different states in Nigeria with respect to these goals using two indicators listed in the global indicator framework for assessing SGDs and where data are available for all the states in Nigeria. Specifically, we use the prevalence of stunting (height for age <-2 standard deviation from the median) and under-5 mortality rate. The national rate for the under-5 mortality is 132 deaths per 1,000 (National Population Commission, 2019, p. 163) and 37% of children in Nigeria below 5 years are stunted (National Population Commission, 2019, p. 257). We observe from Figs 5 and 6 that the northern part of Nigeria continues to perform very poorly. Specifically, the under-5-year mortality rate in Kebbi and Jigawa States are 252 and 213 per 1000 births respectively, whereas it is 30 per 1000 birth in Ogun. Similarly, 66% of children in Kebbi experience stunting in contrast to 14% of children in Anambra. Indeed, the data for other available indicators for nutrition and health which are linked to poverty show similar patterns.

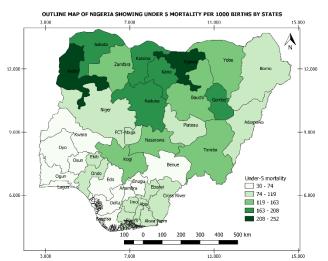


Figure 5: Outline map of Nigeria showing under 5 child mortality per 1000 births by states

Source of data: National Population Commission (2019)

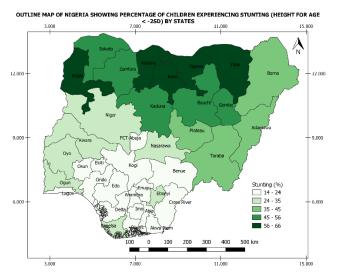


Figure 6: Outline map of Nigeria showing percentage of children experiencing stunting (height for age < -2SD) by states Source of data: National Population Commission (2019)

2.3 Electricity access

Access to modern energy services, especially electricity, plays an important role in reducing poverty and ensuring rural socio-economic transformation (Kanagawa & Nakata, 2007, 2008; Sokona et al., 2012). In line with this, it is included as one of the sustainable development goals. Specifically, goal 7 aims

to "ensure access to affordable, reliable, sustainable and modern energy for all". The electricity access rate in Nigeria has been estimated at 59% (83% in urban and 39% in rural areas). (National Population Commission, 2019). However, there is a very huge discrepancy in the electricity access rate across the different states in Nigeria. States in the southern part of Nigeria have higher electricity access rates than states in the northern part of the country (Fig. 7). The electricity access rate is below 20% in Taraba and Yobe, but above 80% in Lagos, Anambra, Abia, etc. The rationale for this is that states in the southern part of Nigeria have much higher population density and nucleated settlement patterns while the reverse is the case in the states in the northern part. Also, over 70% of electricity generation facilities in Nigeria are powered by hydrocarbons and are located in the southern part of the country where there are hydrocarbon reserves. The result of this is that the coverage of the transmission network in the southern states is higher because this reduces the unit cost of transmitting and distributing electricity (Akpan, 2015).

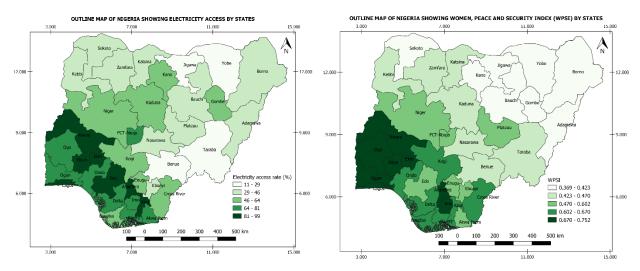


Figure 7: Outline map of Nigeria showing electricity access rates by states
Source of data: (National Population Commission, 2014)

Figure 8: Outline map of Nigeria showing Women, Peace, and Security index by states.

Source of data: (GIWPS, 2019b)6

2.4 Gender

In recent years, promoting gender equity has been identified as one of the ways of achieving sustainable socio-economic development. Goal 5 of the SDGs is dedicated to gender equity and aims to "achieve gender equality and empower

⁶This composite index takes into consideration the following indicators: percentage of females with age greater than 25 years with at least a secondary education; percentage of females who have account in a financial institution; percentage of females between 15 and 49 years who are currently employed; percentage of females with age greater than 15 years who own mobile phones; seats held by women in a house of representatives election; percentage of women between 15 and 49 years currently married who make decisions on themselves or jointly with their husbands; etc.

all women and girls". In line with this, the Georgetown Institute for Women, Peace and Security and the Peace Research Institute Oslo (PRIO) conducted a study to examine the level of wellbeing of women across countries in the world. The study develops an index called Women, Peace, and Security (WPS) Index which incorporates three dimensions of women's wellbeing: inclusion economic, social, and political; justice (formal laws and informal discrimination), and security (at family and community levels) (GIWPS, 2019a). Thus, the WPS Index provides a useful tool for assessing the level of gender equity or parity in different countries. The index is between 0 and 1 and higher values represent better performance. It ranks Nigeria at 145 out of 167 countries. Further, the 2019 report provides statelevel data for Nigeria which shows that there are significant disparities in the performance of the different states: the best and worst-performing states (i.e., Ekiti and Yobe) have scores of 0.752 and 0.369, respectively. This disparity within Nigeria is equivalent to the difference in WPS Index scores between Mauritius which scored 0.752 and ranked 60 and Afghanistan which scored 0.373 and ranked 166, but within a single country (GIWPS, 2019a, p. 23). We note that Afghanistan is the penultimate country in the ranking. The WPS Index of the states as presented in Fig. 8 shows that states in the southern and south-western parts of Nigeria perform much better than those in the northern, especially the northeastern part of the country.

3 Contributors to spatial poverty in Nigeria

The causes of absolute poverty in any country are usually multifarious, complex, and interwoven. The concentration of poverty in these places may be attributed to a combination of several factors that makes escaping from poverty very difficult. These factors include historical levels of poverty, lack of education, health services, and basic economic infrastructure. These are exacerbated by prolonged conflicts which deprive residence of even the necessities that existed (UNDP, 2018). Further, desertification in some states in northern Nigeria (Oladipo, 1993; Hassan, et al., 2019; Oloukoi et al., 2018) has reduced the area of productive land available for agriculture with attendant negative effects on agricultural productivity and food security (Obioha, 2009). We explain these factors that have contributed to the precarious poverty situation in the states in the northern part of Nigeria.

3.1 Fiscal/Economic

Before the discovery of oil, the mainstay of the Nigerian economy was agriculture, and all parts of the country produced and exported different agricultural commodities. The northern part of the country was renowned for commodities

such as groundnut and cotton. This provided employment and income for millions of households in the region. With the discovery of crude, the attention of the government gradually shifted from agriculture to crude oil. Over time, other sectors in the economy were neglected by the government due to easy economic rents from the export of crude oil thereby manifesting the "resource" curse" or "Dutch disease" syndrome (Otaha, 2012; Idemudia, 2012). Attempts by successive governments to reverse the structural imbalance have not yielded the desired results and earnings from the export of crude oil is still the primary source of revenue for the government (Central Bank of Nigeria, 2019)7. The neglect of other productive sectors, such as agriculture and manufacturing, affects the entire economy of Nigeria but affects the states in different degrees. Since oil is explored in the Niger Delta part of Nigeria, states in this region get a 13% derivation from the proceeds of oil which places them in a better fiscal position than most states in the Northern part. Moreover, the different states have different capacities to generate funds internally. The revenue per capita of the different states in 2018 as presented in Fig. 9 clearly shows that most states in the southern part of Nigeria have more revenue per capita than their northern counterparts. The result is that many states in the northern part of Nigeria are unable to make investment in key social and economic sectors nor create an environment that stimulates the establishment of micro and small enterprises to create more viable local economies and generate employment. As shown in Fig. 10, states in the southern part of Nigeria tend to have higher micro, small, and medium scale enterprises (MSMEs) per 1000 persons than those in the northern part of the country. In summary, the lack of financial resources leads to the inability of states to invest in social and economic infrastructure which leads to low performance in education and health indicators and high barriers to establishing and running MSMEs. This creates more unemployment and a further reduction in the potential for raising funds through taxes. The cycle continues and entrenches the cycle of poverty.

⁻

⁷Between 1980 and 2018, oil revenue has been the primary source of revenue for the government, except 2016 where non-oil revenue surpassed oil revenue mainly because of the drop in crude oil price to less than USD45/barrel

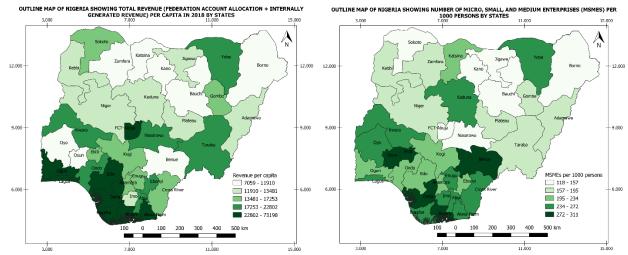


Figure 9: Outline map of Nigeria showing revenue per capita states. Source of data: NBS, Nigeria⁸

Figure 10: Outline map of Nigeria showing number of micro, small, and medium enterprises per 1000 persons by states Source of data: NBS (2018)

3.2 Cultural

Several entrenched cultural factors contribute to the persistent level of poverty. The prevailing cultural norm in most states in northern Nigeria places preference on male children to the detriment of females. Girls are sometimes viewed as means for reproduction who should be restricted to discharging domestic responsibilities. This leads to early marriage for girls: it is common for girls to marry by 15 years (UNDP, 2018, p. 90) and in some cases, by 13 years (Wolf et al., 2008, p. 18). Boys also marry early, often before 21 years (Wolf et al., 2008, p. 18). Early marriage increases the reproductive lifespan of couples. Also, polygamy is prevalent – in some states, over 20% of married men aged between 15 and 49 years have two or more wives (UNDP, 2018, pp. 80, 87). Due to the preference of male children to female, wives sometimes compete to have the highest number of children, especially male children, to guarantee a larger share of inheritance of the husband's properties (Wolf et al., 2008, p. 18). This scenario has resulted in household sizes and population growth rates being higher in the northern parts of Nigeria than in southern states. Indeed, it is not uncommon to see households with sizes up to 20!9 This is despite the unfavorable economic condition in the region. The high population growth rate coupled with the limited economic opportunities in the region results in higher levels of unemployment and deprivations which

⁸Revenue data are obtained from NBS (2019) while population data are obtained from Population Projections (2007-2016). 2016 population projections are used.

For example, on Thursday 30th January 2020 a member of the national parliament stated during plenary in the parliament that he has four wives and 27 children! (https://www.olisa.tv/trending-video-i-have-4-wives-27-children-and-still-counting-house-leader-doguwa-boasts/(Visited on 2nd February 2020)

contribute to the persistent poverty in the region. This has also contributed to the prevalence of street children popularly referred to as almajiris¹⁰ which in turn has been a recruitment ground for terrorism (Aghedo & Eke, 2013; Hansen, et al., 2016; Gomment & Esomchi, 2017).

3.3 Changes in Physical Environment

Agriculture plays a substantial role in the economies of most states in Nigeria and people depend on agriculture and other land resources for their survival. Agriculture is responsible for about 60% of jobs in the northern parts of Nigeria (World Bank, 2015). However, most states in the region fall within the Sudan and Sahel savanna agro-ecological zones where desertification has been a major cause of loss of arable land (Oladipo, 1993; Medugu et al., 2011). About 300,000 hectares of land are being lost to desertification every year in the region (International Fund for Agricultural Development, IFAD, 2016, p. 15). This has led to an increase in the occurrence of soil erosion, rendered fertile lands unproductive thereby causing food insecurity, and increased the propensity of households to end up in poverty. Another impact of the changes in the physical environment may be found in the Lake Chad region. Studies have noted that the reduction in the size of Lake Chad had resulted in the loss of livelihood and increased competition for available water resources and this has contributed to the high level of unemployment in northeast Nigeria. This in turn has made young people more susceptible to being recruited by terror groups in the region (UNDP, 2018). Furthermore, a large percentage of persons in states in northern Nigeria rely on traditional biomass to meet energy needs due to the low level of electricity access (see Fig. x.) which further impacts the environment leading to deforestation and loss of forest and land resources. This in turn further exacerbates the incidence of poverty in the region.

3.4 Political

The importance of political leadership cannot be over-emphasized in efforts to reduce the incidence of absolute poverty. The failure in leadership is a common

¹⁰Almajiri is said to be derived from the Arabic word "al-Muhajirun" which means a migrant but was used contextually to refer to persons, particularly children, who were sent by their parents/guardians to receive Islamic knowledge under the guidance of an Islamic Teacher. It has been a popular practice in Northern Nigeria since the 19th century and up till independence (Magashi, 2015). Due to the deteriorating economic situation in northern Nigeria, the system became unable to cater to the needs of the children and they ended up on the street begging for food. Over time, they may become involved in substance abuse (Abdulmalik et al., 2009) and metamorphose into street urchins (Salaam, 2011) with attendant social vices.

factor that runs across all parts of Nigeria but seems to be direr in the northern part of the country. This is manifested in the inability of the leadership of the state to address the gargantuan socio-economic problems facing the states. For example, even though desertification has an impact on the productivity of arable land, improvements in agricultural science, engineering, and agronomy may be used to compensate for the loss of land thereby improving the yield of crops in addition to the use of irrigation farming. There seem to be limited efforts (or results) in this area. Furthermore, the general environment to support micro and small enterprises seem to be lacking as shown in the result of the survey on micro, small, and medium enterprise in Nigeria (see Fig. 10). The nature of the local politics, especially in Borno state has been identified as one of the contributors to the rise of the terrorist group Boko Haram (lyekekpolo, 2016, 2018).

3.5 Terrorism

The aforementioned problems have contributed to the initiation, entrenchment, and escalation of terrorism and criminality in the northern parts of Nigeria (Akinola, 2015; Adenrele, 2012) (UNDP, 2018). Several studies have noted that street children (popularly known as almajiri) have been useful tools to carry out terrorism (Aghedo & Eke, 2013; Hansenet al., 2016; Gomment & Esomchi, 2017). This is in addition to several other local and external factors such as the rise in local Islamic fundamentalism in the region (lyekekpolo, 2016, 2018); the fall of the regime of Col. Muammar Gaddafi in Libya which increased the proliferation of light weapons throughout the entire Sahel Savanna region; and the rise in Islamic State in the Middle East which acts as an inspiration to the domestic terrorist organization Boko Haram¹¹. Terrorism in the north-eastern part of Nigeria has multifarious and long-lasting impacts on the economy of the states that suffer most from these attacks. For example, the United Nations refugee agency (UNHCR) estimates that over 2.4 million people have been displaced in the Lake Chad region due to Boko Haram terrorism of which over 2 million are in Nigeria as of October 2019¹². The destruction of the health and education facilities further reduces the accessibility and prospects of improving health and educational outcomes while the destruction of economic infrastructures like roads and bridges cuts off communities, reduces mobility, increases the cost of basic items, and increases the barriers to setting up micro-enterprises. The general atmosphere of insecurity implies that government priority and expenditure are now focused on improving the security of lives and properties and there is reduced focus on social

1.1

¹¹Boko Haram is a Jihadist terrorist organization that operates in the Lake Chad region of Nigeria and also active in territories of Chad, Niger, and Cameroun bordering the Lake Chad.

¹²https://www.unhcr.org/uk/nigeria-emergency.html (Visited on 3rd February 2020)

and economic sectors, etc. The financial burden of managing refugees is also significant. The long-term impact of all these will be increased poverty in the region.

The summary of how these factors contribute to the persistence of poverty in the states in northern Nigeria is presented in Fig. 11.

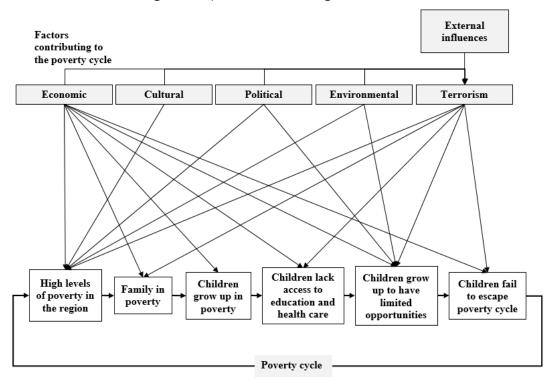


Figure 11: Schematic diagram showing the factors that contribute to poverty cycle in states in Northern Nigeria.

Source: Author

4 Conclusion

The geography of poverty (GOP) studies the geographical patterns of poverty and the relationship between geographic environment and prevalence of poverty. This study shows that that national-level data on the poverty rates in Nigeria hides the disparity of poverty at the state level and that there is a pattern of poverty across the different states in Nigeria. States in the northern part of Nigeria tend to have higher poverty rates and perform less in virtually all indicators that may be used to track progress towards attaining the SDGs. We have also highlighted some of the factors that contribute to this situation. The endemic nature of poverty in the northern part of Nigeria implies that leaders and policymakers have a huge work to do see improvement in these regions. Unless these problems are addressed at the state level, Nigeria may not meet the SDGs. This is because Nigeria can only achieve the SDGs by ensuring that SDG targets

have been met at the state level. The efforts at the state level need to be strong, coordinated, and sustained to be able to change these underlying factors. These factors must be addressed simultaneously and there is a need to involve other non-state actors who wield significant influence in the region. For example, traditional rulers and religious leaders must be involved in reforming the cultural practices of early marriages and having large household sizes. Given the overarching role of political leadership in transforming societies, the process of selecting political leaders must also be improved to enable persons with the capability of driving transformation occupy leadership positions. The government at the federal level must be more proactive in curbing the expansion and reversing the trend of terrorism because meaningful and sustainable development can only be achieved in an environment of peace and security.

Competing interests

The authors declare that they have no competing interests.

References

- Abdulmalik, J., Omigbodun, O., Beida, O., & Adedokun, B. (2009). Psychoactive substance use among children in informal religious schools (Almajiris) in northern Nigeria. Mental Health, Religion & Culture, 12(6), 527–542.
- Adenrele, A. R. (2012). Boko Haram insurgency in Nigeria as a symptom of poverty and political alienation. IOSR Journal Of Humanities And Social Science (JHSS), 3(5), 21-26.
- Aghedo, I., & Eke, S. J. (2013). From Alms to Arms: The Almajiri Phenomenon and Internal Security in Northern Nigeria. The Korean Journal of Policy Studies, 28(3), 97-123.
- Aguilar, G. R., & Sumner, A. (2020). Who are the world's poor? A new profile of global multidimensional poverty. World Development, 126. doi:https://doi.org/10.1016/j.worlddev.2019.104716
- Akinola, O. (2015). Boko Haram Insurgency in Nigeria: Between Islamic Fundamentalism, Politics, and Poverty. African Security, 8(1), 1-29.
- Akpan, U. (2015). Technology Options for Increasing Electricity Access in Areas with Low Electricity Access Rate in Nigeria. Socio-economic Planning Sciences, 51, 1 12.
- Alkire, S., & Foster, J. E. (2011). Counting and Multidimensional Poverty Measurement. Journal of Public Economics, 95(7), 476–487.
- Alkire, S., & Santos, M. E. (2014). Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index. World Development, 59, 251–274.
- Bradshaw, T. K. (2007). Theories of Poverty and Anti-Poverty Programs in Community Development. Community Development, 38(1), 7-25.
- Camilli, G., Vargas, S., Ryan, S., & Barnett, W. S. (2010). Meta-Analysis of the Effects of Early Education Interventions on Cognitive and Social Development. Teachers College Record, 112(3), 579–620.
- Central Bank of Nigeria. (2019). 2018 Statistical Bulletin Public Finance Statistics. Abuja.
- Cohen, J. L., Desai, R. M., & Kharas, H. (2019). Spatial Targeting of Poverty Hotspots. In H. Kharas, J. W. McArthur, & I. Ohno (Eds.), Leave No One Behind Time for

- Specifics on the Sustainable Development Goals. Brookings Institution Press. Retrieved from https://www.brookings.edu/wp-content/uploads/2019/09/LNOB_Chapter10.pdf
- Cuaresma, J. C., Fengler, W., Kharas, H., Bekhtiar, K., Brottrager, M., & Hofer, M. (2018). Will the Sustainable Development Goals be fulfilled? Assessing present and future global. Palgrave Communications, 4(29), 1-8.
- GIWPS. (2019a). Women, Peace and Security Index 2019/20: Tracking sustainable peace through inclusion, justice, and security for women. Washington, DC. Retrieved January 26, 2020, from https://giwps.georgetown.edu/wp-content/uploads/2019/12/WPS-Index-2019-20-Report.pdf
- GIWPS. (2019b). Women, Peace and Security Index 2019/20: Tracking sustainable peace through inclusion, justice, and security for women Data for Nigeria. Retrieved from https://giwps.georgetown.edu/wp-content/uploads/2019/11/Nigeria.pdf
- Gomment, T. I., & Esomchi, O. S. (2017). Nigeria: Breeding Future Terrorists. A Study of Almajiri of Northern Nigeria and Islamist Militia. Conflict Studies Quarterly, 18, 80-92.
- Hansen, W. W., Jima, K., Abbas, N., & Abia, B. (2016). Poverty and "Economic Deprivation Theory": Street Children, Qur'anic Schools/almajirai and the Dispossessed as a Source of Recruitment for Boko Haram and other Religious, Political and Criminal Groups in Northern Nigeria. Perspectives on Terrorism, 10(5), 83-95.
- Hassan, A. G., Fullen, M. A., & Oloke, D. (2019). Problems of drought and its management in Yobe State, Nigeria. Weather and Climate Extremes, 23. doi:https://doi.org/10.1016/j.wace.2019.100192
- Idemudia, U. (2012). The resource curse and the decentralization of oil revenue: the case of Nigeria. Journal of Cleaner Production, 35, 183-193.
- IFAD. (2016). Federal Republic of Nigeria: Country strategic opportunities programme. Rome. Retrieved from https://webapps.ifad.org/members/eb/119/docs/EB-2016-119-R-17.pdf
- lyekekpolo, W. O. (2016). Boko Haram: understanding the context. Third World Quarterly, 37(12), 2211-2228. doi:https://doi.org/10.1080/01436597.2016.1177453

- Iyekekpolo, W. O. (2018). Political Elites and the Rise of the Boko Haram Insurgency in Nigeria. Terrorism and Political Violence. doi:https://doi.org/10.1080/09546553.2017.1400431
- Kambon, A., & Busby, L. (2000). Education and its implication on poverty: Equity or Exclusion. UNESCO.
- Kanagawa, M., & Nakata, T. (2007). Analysis of the energy access improvement and its socioeconomic impacts in rural areas of developing countries. Ecological Economics, 62(2), 319–29.
- Kanagawa, M., & Nakata, T. (2008). Assessment of access to electricity and the socio-economic impacts in rural areas of developing countries. Energy Policy, 36, 2016–2029.
- Magashi, S. B. (2015). Education and the Right to Development of the Child in Northern Nigeria: A Proposal for Reforming the Almajiri Institution. Africa Today, 61(3), 65-83.
- Marcellus, I. O. (2009). Development Planning in Nigeria: Reflections on the National Economic Empowerment and Development Strategy (NEEDS) 2003-2007. Journal of Social Science, 20(3), 197-210.
- Medugu, N. I., Rafee Majid, M., & Johar, F. (2011). Drought and desertification management in arid and semi-arid zones of Northern Nigeria. Management of Environmental Quality, 22(5), 595-611.
- National Planning Commission. (2004). National Economic Empowerment and Development Strategy. Abuja.
- National Population Commission. (2014). Nigeria demographic and health survey. Abuja: National Population Commission. Retrieved January 12, 2019, from https://dhsprogram.com/pubs/pdf/fr293/fr293.pdf
- National Population Commission. (2019). Nigeria Demographic and Health Survey 2018. Abuja: NPC. Retrieved November 22, 2019, from https://dhsprogram.com/pubs/pdf/FR359/FR359.pdf.
- NBS. (2010). National poverty rates for Nigeria: 2003-2004 revised and 2009-2010. Abuja: National Bureau of Statistics.
- NBS. (2018). National Survey of Micro, Small, and Medium Enterprises 2017. Abuja.
- NBS. (2019). 2018 Total Revenue (IGR + FAAC) by States. Abuja.

- Obioha, E. E. (2009). Climate Variability, Environment Change and Food Security Nexus in Nigeria. Journal of Human Ecology, 26(2), 107-121.
- Oladipo, E. (1993). A comprehensive approach to drought and desertification in Northern Nigeria. Natural Hazards, 8, 235-261. doi:https://doi.org/10.1007/BF00690910.
- Oloukoi, J., Adagbasa, E. G., & Dasat, G. L. (2018). Desertification risk analysis and assessment in Northern Nigeria. Remote Sensing Applications: Society and Environment, 11, 70-82.
- Omotola, J. S. (2008). Combating Poverty for Sustainable Human Development in Nigeria: The Continuing Struggle. Journal of Poverty, 12(4), 496-517.
- Otaha, J. I. (2012). Dutch Disease and Nigeria Oil Economy. An International Multidisciplinary Journal, 6(1), 82-90.
- Salaam, A. O. (2011). Yandaba on the streets of Kano: Social conditions and criminality. Vulnerable Children and Youth Studies, 6(1), 68–77.
- Sokona, Y., Mulugetta, Y., & Gujba, H. (2012). Widening energy access in Africa: towards energy transition. Energy Policy, 47(1), 3–10.
- Ugoani, J. N. (2017). Examination of the Impact of National Economic Empowerment and Development Strategy on Poverty Reduction in Nigeria. International Journal of Economics and Financial Research, 3(5), 65-75.
- UNDP. (2015). Millennium Development Goals: End-point Report 2015, Nigeria . Abuja.
- UNDP. (2018). National Human Development Report 2018, Nigeria. Abuja: UNDP. Retrieved from http://hdr.undp.org/sites/default/files/hdr_2018_nigeria_finalfinalx3.pdf
- UNICEF. (2015). The Investment Case for Education and Equity. Retrieved from https://www.unicef.org/publications/files/Investment_Case_for_Education _and_Equity_FINAL.pdf
- Wolf, M., Abubakar, A., Tsui, S., & Williamson, N. E. (2008). Child Spacing Attitudes in Northern Nigeria. USAID. Retrieved February 2, 2020, from https://pdf.usaid.gov/pdf_docs/PNADL911.pdf
- World Bank. (2015). More, and More Productive, Jobs for Nigeria: A Profile of Work and Workers. Washington. Retrieved February 2, 2020, from

- http://documents.worldbank.org/curated/en/650371467987906739/pdf/103937-WP-P146872-PUBLIC-Nigeria-Jobs-Report.pdf
- Yakubu, R., & Abbass, I. M. (2010). National Poverty Eradication Programme (NAPEP) and Poverty Alleviation in Rural Nigeria: A Case Study of Giwa Local Government Area of Kaduna State. European Scientific Journal, 8(18), 90-103.
- Zhou, Y., & Liu, Y. (2019). The geography of poverty: Review and research prospects. Journal of Rural Studies. doi:https://doi.org/10.1016/j.jrurstud.2019.01.008