IMPACT OF RURAL UNDERDEVELOPMENT ON SECURITY CHALLENGE IN ADAMAWA NORTH SENATORIAL ZONE, IN ADAMAWA STATE-NIGERIA

AYUBA ZACHARIAH[1], Prof. Mohammed B. Babanumma[2], & Mohammed Ayuba Oche PhD[3].

[1]Institute of governance and Development Studies, Nasarawa State University, Keffi

[2]Department of Political Science, Nasarawa State University, Keffi

[3]APUDI Institute of Peace and Rehabilitation Studies, Abuja, Nigeria

Abstract

This study investigated the impact of rural underdevelopment on security challenges in Adamawa North area of Adamawa State, Sustainable Livelihood Theory was reviewed and adopted for the study; literature was reviewed in line with the study objectives. Survey research design was adopted, the study was narrowed to three Local Government Areas which are Maiha, Michika and Mubi North Local Government Area, from Adamawa North senatorial districts of the State. Sample size of 400 was drawn from a total population of 642,900. The study draws a sample size of 400 respondents. Using the Taro Yamane's statistics formula of determining sample size. Out of the instrument administered, 349 questionnaires were duly filled and returned for analysis. Questionnaire instrument was used for data collection while data collected were analysed using descriptive statistics. The hypotheses were tested using the Pearson's R correlations. The study revealed a strong connection between rural underdevelopment and security challenges in Adamawa North area of Adamawa State. Respondents consistently indicated that rural underdevelopment significantly contributes to various forms of insecurity, affecting both individual and community well-being. The study recommended that government and other critical stakeholders from within and outside the country should develop a modality to improve the standard of living in the rural areas to enable residents of Adamawa North area to develop a sense of belonging, this will help spread the dividends of democracy where viable road networks, pipe borne water, hospitals and educational infrastructure can be provided to increase the life span of the people through economic empowerment in the state.

Keywords: Impact, Rural, Underdevelopment, Security

Introduction

Rural underdevelopment remains a critical issue globally, particularly in low and middle-income countries, where it exacerbates human insecurity by limiting access to essential services and economic opportunities. The disparities between rural and urban areas in terms of infrastructure, healthcare, education, and economic resources have led to persistent poverty and restricted development. According to the United Nations Development Programme (UNDP), (2022), rural underdevelopment directly undermines human security by increasing vulnerabilities related to health, income, and access to basic services. To address these issues, comprehensive development strategies are needed, focusing on improving infrastructure, enhancing educational and healthcare services, and promoting sustainable environmental practices (Owens, 2017). Unfortunately, the situation in Adamawa North is worst with most of the indicators highlighted

by Owen in his submission especially poor access to quality healthcare, economic opportunity, poverty and pervasive security challenges like mass kidnapping, and cattle rustling among others in Adamawa North.

In Africa, rural underdevelopment is a major challenge, affecting millions of people. Many African nations, including Nigeria, experience limited access to essential services in rural areas due to inadequate infrastructure, poor education, and healthcare systems. Adewumi, 2023) notes that rural regions are often marginalized in national development plans, leading to a lack of investment in essential services and infrastructure. Efforts to combat this include the African Union's Agenda 2063, which prioritizes rural development, agricultural productivity, and infrastructure improvement (Afonughe, Akpomuvire, & Christopher, 2023).

In Nigeria, rural underdevelopment is a persistent issue, particularly in regions like Adamawa North, where disparities between rural and urban areas are significant. Consequently, the emergence and spread of the Boko-Haram insurgency has further worsened the existing poverty crises in the area. The pervasive insurgents' attacks on farmers (fishermen, crop cultivators, and pastoralists') in Adamawa North remain worrisome. Castle rustling has increased; kidnapping, arson and fear has become significant among other security threats prevalent in the study area. According to the National Bureau of Statistics (NBS, 2022), rural areas suffer from inadequate infrastructure, poor access to education and healthcare, and widespread poverty. The situation has made the youth vulnerable as victims and perpetrators of organized crimes threatening peace, order and stability in the state. It is against the background of the above that this study has examined the impact of rural underdevelopment on security challenges in Adamawa North Senatorial district in Adamawa State, Nigeria.

Statement of the Problem

For several years now since Nigeria's official return to democratic, Adamawa North senatorial districts have continued to struggle with rural underdevelopment given the increase in poverty rate, unemployment, climate change, poor agricultural policies and insecurity in the area. Kidnapping for ransom, armed robbery, ethno-religious conflicts, cattle rustling, and farmer-herders clashes has continued to spread with huge human casualties. Despite the huge budgetary allocations and other interventions from the Federal government and development partners, poverty is most pronounced in the study areas, where up to 80% of the population lives below the poverty line, with insufficient access to basic services and infrastructure, thus, the death toll is almost always high whenever security protocols are bridged in the villages in Adamawa North senatorial districts (Gabriel, 2024). Conspicuously, the common wealth from agriculture and oil, neither resolve the poverty levels nor ameliorate the security threats in the area. There is a continuous depreciation of the economy and security advancement from the late 1990s, to 2025; with 70% of Nigerians surviving on less than N160 ($1) a day. Many rural poor live in resource-deficient, ecologically vulnerable areas with limited infrastructure, land, capital, and employment opportunities and security threats (Okafor, Madu, Ajaero, Ibekwe, Bebenimibo & Nzekwe, 2021).

These challenges have prompted various governmental and non-governmental interventions aimed at addressing rural underdevelopment and insecurity across Adamawa State

with only little success achieved yet. Drug and substance abuse is expanding, organized crimes are gaining traction as alternative to white collar jobs, rural prostitution is increasing, HIV/AIDS is proliferated and illegal mining of natural mineral resources by the insurgents' groups in Adamawa North area. While government has implemented programs such as the National Rural Employment Generation Programme (NREG), the National Agricultural Extension and Research Liaison Services (NAERLS), and several counter terrorism joint tasks force by the security agencies to reverse the security challenges affecting food production, access to education, rural electrification, community and individual in Adamawa North Senatorial district.

Consequently, while businesses and cottage industries are winding up, desperation and hopelessness, corruption and political manipulation of the youth into political thugs and instrumentalities of destruction has doubled compared to the situation in the near past (Gabriel, 2024). Irrespective of the media attentions given rural underdevelopment and insecurity in Adamawa North, there is still paucity of empirical studies on the subject matter, extant literatures were mostly focused on food security, cattle rustling and Boko-Haram Attacks on rural communities, the situation is still begging for attention as rural communities in the state are being raided without notable security resistance. It is against the foregoing that this study has examined the impact of rural underdevelopment on security challenges in Adamawa North senatorial district in Adamawa State, Nigeria.

Objectives

The study was guided by the following objectives:

1. To determine the impact of rural underdevelopment on security challenges in Adamawa North area of Adamawa State, Nigeria
2. To investigate strategies adopted to reverse underdevelopment in Adamawa North area of Adamawa State

Statement of Hypotheses

1. There is no significant relationship between rural underdevelopment and security challenges in Adamawa North, Adamawa State.
2. There is no significant relationship between strategies adopted to address rural underdevelopment and security in Adamawa North.

Conceptual Clarifications

Concept of Rural Area

The concept "rural" is multifaceted, as certain urban areas in Nigeria also contain impoverished sections that mirror rural conditions. Balta and Atik (2022) characterizes rural areas as regions predominantly made up of fields, forests, water bodies, and other natural landscapes, with minimal infrastructure. Zhao and Yu (2020), define rural areas as those with populations below 20,000, typically focused on specific occupations and far from urban centres, often lacking essential services like water, healthcare, and electricity. In Nigeria, almost 80 million people live in the rural area, but the security challenges faced in these areas are severe and pervasive (Anyanwu, Festus, Nwobi, Jaja & Ogutu; 2020). Anyanwu et al. (2020) emphasized the harsh conditions in rural areas, with many residents enduring poverty, hunger,

and disease. There is increasing awareness of the widening development gap between rural and urban areas, which poses a threat to the nation's political and social stability. Although the majority of the population lives in rural areas, these regions suffer from low incomes, widespread poverty, malnutrition, poor healthcare, limited educational access, inadequate housing, and social and political marginalization when compared to urban areas (Prince, Ehi, Brown-Ofoeme, Collins & Alobele, 2023). However, this study conceived rural area as communities that make up the local government area operating under the third-tier level of governance with limited infrastructural development.

Underdevelopment

Underdevelopment is a complex phenomenon, and it is essential to clarify the nature of this issue alongside its antonym development. Simply put, underdevelopment refers to a state or condition where country or region has not achieved significant socio-economic progress, as seen through various markers (Oyewole, AL-Faryan, Adekoya & Oliyide, 2024). Consequently, underdevelopment can be viewed as the inverse of development, where the economy stagnates or regresses in addressing these key issues, signifying more than just a lack of development but also an inability to solve socio-economic challenges. Contrary to common belief, underdevelopment is not simply the absence of development. Every society develops in one way or another (Anah, 2023). Underdevelopment reflects uneven progress within and across societies. Notably, this study conceived underdevelopment as a state of infrastructural deficit, squalor, poverty and poor representation in governance.

Security Challenge

To properly understand the concept of security challenge, we need to first discuss the concept of security. To Maier (2019), security is best conceived as the capacity to control those domestic and foreign conditions that the public opinion of a given community believes necessary to enjoy its own self-determination or autonomy, prosperity and well-being. Thus, Maier conception was relevant in his time but in recent years, Maier would have done well if he/she had specifically explanations to the conditions he/she meant as condition was not operationalised. Akbar (2012**)** observed that security is divided into non-traditional security and traditional security. Traditional security, which means protection of the state as well as its crucial interests from external attacks held sway before the Cold War. After the Cold War, the definition of security expanded to embrace the security of the state as well as that of the individuals and other important interests of the state from external and internal attacks. Ayuba (2023) opined that security is the absence of threat to acquired values. Eme and Onyishi (2020) opined that security was conceived to include collective security, individual security, economic security, political security, legal security, judicial security, food security, environmental security, health security as well as other forms of security. The authors are of the view that anything that threatens the safety of a state or the quality of life of individuals was considered a security threat. The author places the duty of providing security on the state, which is in line with traditional security. They perceived security from a broader perspective and claim that it is the sole responsibility of the state to provide security. The author toed the traditional perspective to security and disregarded

the fact that security provided by everybody. However, this study conceived security as a state of being free from fear of invasion, be it hunger, arms attacks, unemployment and otherwise that may cause discomfort. In nutshell, security challenge connotes a state of normlessness which threatens the core values of lives and properties as enshrined in the human right charter of the United Nations.

Theoretical Framework

Sustainable Livelihood Framework (SLF)

The Sustainable Livelihood Framework (SLF), developed in the 1990s by Robert Chambers and Gordon Conway in (1992), offers a comprehensive approach to understanding and enhancing the livelihoods of people living in poverty. It emphasizes the need for a holistic view of how individuals and communities utilize their assets and capabilities to achieve and sustain well-being. The framework is built around the idea that livelihoods are sustained by accessing and managing various forms of capital, which are influenced by external factors such as policies and institutional settings (Azad & Pritchard, 2022). The Sustainable Livelihoods Framework (SLF) identifies five crucial types of capital essential for sustaining livelihoods: human assets, natural assets, social assets, physical assets and financial assets. Human capital encompasses the skills, knowledge, and health of individuals, which are vital for productive work and improving life quality; education and health services are key components in enhancing this capital.

Social capital refers to the social networks, relationships, and institutions that provide support, such as family, friends, and community organizations, and it facilitates access to resources and information while strengthening collective action. Natural capital includes essential environmental assets like land, water, and forests, crucial for livelihood activities, particularly in rural areas, and require sustainable management for long-term security.

Physical capital involves infrastructure and tools needed for productive activities, such as buildings, roads, and equipment, which significantly impact economic opportunities and productivity. Finally, financial capital represents the financial resources available, including savings, credit, and income, which enable investment in other forms of capital and support risk management and economic activities. The SLF emphasizes the interaction between these forms of capital and the impact of external factors such as policies, shocks, and trends on livelihoods. It underscores the importance of creating supportive environments and policies that enhance access to and management of these capitals to promote sustainable livelihoods

In the context of Adamawa North, the SLF can help analyze how deficiencies in human capital, such as limited access to education and healthcare, contribute to rural underdevelopment and affect human security. Social capital plays a critical role in supporting communities through networks and institutions, and its scarcity can exacerbate vulnerabilities in rural areas. Natural capital, including access to land and water resources, is essential for sustaining agriculture and other livelihoods in rural settings, and its depletion can threaten food security and economic stability. Physical capital, such as infrastructure and tools, is crucial for enhancing productivity and economic opportunities, and its inadequacy can hinder development efforts. Finally, financial capital impacts the ability of households to invest in other forms of capital and manage

risks, which is crucial for improving livelihoods and addressing economic insecurities. By applying the SLF, the study can identify gaps in these capital forms, assess their impact on human security, and propose targeted interventions to address underdevelopment and enhance the overall well-being of rural populations in Adamawa North.

Research Methods

Survey research design was adopted. The study was narrowed to three Local Government Areas which are Maiha, Michika and Mubi North Local Government Area, from Adamawa North senatorial districts of the State, the study population was 642,900 (INEC & NBS, 2025).

Table 1

Study Population

SN	Selected LGAs	Political Ward	Population
1	Maiha	Belel, Mayonguli, & Sorau	169,901
2	Michika	Margi, Madzi & Michika I	239,400
3	Mubi North	Mubi North, Mayobani, & Mijilu	642,900
			642,901

Source: Field Survey, 2025

The study draws a sample size of 400 respondents using the Taro Yamanestatistics formula of determining sample size. Out of the instrument administered, 349 questionnaires were duly filled and returned for analysis. Questionnaire instrument was used as instrument of data collection while data collected were analysed using descriptive statistics. The hypotheses were tested using the Pearson's R correlations.

Data Presentations

Table 2

Sociodemographic Data of Respondents

Demographics variable	Category	Frequency (n)	Percentage (%)
Gender	Male	198	56.7%
	Female	141	40.4%
	Prefer not to say	10	2.9%
	Total	349	100

Source: Field survey, 2025

Table 3

Age Distribution

Age Range	Category	Frequency (n)	Percentage (%)
	18–29	90	25.8%

	30–39	104	29.8%
	40–49	85	24.4%
	50 and above	70	20.1%
	Total	349	100%

Source: Field survey, 2025

Table 4

Respondents educational attainment

Highest Education Level	**Category**	**Frequency (n)**	**Percentage (%)**
	No formal education	47	13.5%
	Primary education	68	19.5%
	Secondary education	104	29.8%
	Tertiary education	103	29.5%
	Vocational training	27	7.7%
	Total	349	100

Table 5

Occupation of Respondents

Primary Occupation	**Category**	**Frequency (n)**	**Percentage (%)**
	Farming	132	37.8%
	Trading	88	25.2%
	Civil service	67	19.2%
	Unemployed	38	10.9%
	Other (specify)	24	6.9%
	Total	349	100

Source: Field survey, 2025

Table 1 shows that majority of the respondents are male (56.7%), the largest proportion (29.8%). The age distribution in table 2 shows that majority of the respondents falls within the 30–39 age range. It further shows that table 3 indicated that majority of the respondents possess

either secondary (29.8%) and or tertiary education (29.5%), awhile, table 4 shows that farming is the predominant occupation (37.8%), consistent with the rural setting of Adamawa North senatorial district.

Table 6

impact of rural underdevelopment on security challenges in Adamawa North

Response Category	Frequency (f)	Percentage (%)
Kidnapping	85	24.4%
Drug/substance abuse	72	20.6%
Illegal mining	63	18.1%
Banditry attacks	101	28.9%
Food insecurity	28	8.0%
Total	349	100%

Source: Field Survey, 2025

Table 6 shows that majority of the respondents (28.9%) indicated that the major impact of ethno-religious conflicts in Adamawa North area is banditry attacks on the rural communities and kidnapping (24.4%). This is owing the poor infrastructural development in the area.

Table 7

respondents' perception of the strategies adopted to reverse rural underdevelopment and security challenges in Adamawa North area

Response Category	Frequency	Percentage (%)
Community-led initiatives	121	34.7%
Advocacy for better services	94	26.9%
Collaboration with government	103	29.5%
Education and Awareness	31	8.9%
Total	349	100%

Source: Field Survey, 2025

Table 7 shows that majority of the respondents (37.7%) indicated that the strategies adopted to reverse rural underdevelopment and security challenges in Adamawa North area is community led initiatives like constituting local vigilante groups, crow funding of educational facilities and community-based road maintenance in the study area.

Hypothesis testing

Hypothesis One

1. There is no significant relationship between rural underdevelopment and security in Adamawa North, Adamawa State.

Table 8

Result of correlation coefficient

Correlations

			rural underdevelopment	human security
Spearman's rho	Rural underdevelopment	Correlation Coefficient	1.000	.678
		Sig. (2-tailed)	.	.007
		N	349	349
	Security challenges	Correlation Coefficient	.678	1.000
		Sig. (2-tailed)	.007	.
		N	349	349

Source: field work, 2025

The Spearman's correlation coefficient of 0.678 indicates a strong positive relationship between rural underdevelopment and security challenges in Adamawa North area. This means that as rural underdevelopment increases, while security deteriorates that is, the community experiences greater insecurity, poverty, vulnerability, and lack of access to essential services. The p-value (0.007) is less than 0.05, which means the result is statistically significant. This result suggests that there is a statistically significant and strong positive relationship between rural underdevelopment and human security challenges in Adamawa North. As rural areas remain underdeveloped characterized by poor infrastructure, weak institutions, limited healthcare, and lack of employment residents face greater insecurity and threats to their wellbeing.

Hypothesis Two

2. There is no significant relationship between strategies adopted to address rural underdevelopment and security in Adamawa North.

Table 9

Result of Correlation coefficients

Correlations

			strategies adopted to address rural underdevelopment	Improvement in insecurity
Spearman's rho	strategies adopted to address rural underdevelopment	Correlation Coefficient	1.000	.946**
		Sig. (2-tailed)	.	.000
		N	349	349
	improvements insecurity	Correlation Coefficient	.946**	1.000
		Sig. (2-tailed)	.000	.

N	349	349

**. Correlation is significant at the 0.01 level (2-tailed).

Source: field work, 2025

The Spearman's correlation coefficient of 0.946 indicates a very strong positive relationship between the strategies adopted to address rural underdevelopment and the level of improvement in security. The p-value of 0.000 is highly significant (less than 0.01), confirming the relationship is statistically significant at the 1% level. The result suggests that there is a very strong and statistically significant positive relationship between strategies adopted to address rural underdevelopment and improvements in security in Adamawa North. This means that the more effective and comprehensive the strategies implemented, the greater the improvement in security including better access to healthcare, education, food, safety, and livelihoods.

Discussion of findings

The study revealed a strong connection between rural underdevelopment and security challenges in Adamawa North area of Adamawa State. Respondents consistently indicated that rural underdevelopment significantly contributes to various forms of insecurity, affecting both individual and community well-being. Many participants observed that the absence of essential services and opportunities such as employment, healthcare, and education has left residents vulnerable to threats (insurgents attacks) that compromise their physical, economic, and social security. Unemployment, poor healthcare systems, and limited educational infrastructure were commonly identified as pressing human security concerns directly linked to underdevelopment. The Spearman's correlation coefficient of 0.678 indicates a strong positive relationship between rural underdevelopment and security challenges in Adamawa North area. This means that as rural underdevelopment increases, while security deteriorates that is, the community experiences greater insecurity, poverty, vulnerability, and lack of access to essential services. The p-value (0.007) is less than 0.05, which means the result is statistically significant. This aligns with prior findings of Maurice (2024) that link rural underdevelopment to weakened economic performance, food insecurity, and poor health outcomes. Furthermore, the data highlighted that local communities are willing to play active roles, especially through community-led initiatives, advocacy, and collaboration with the government. This suggests that rural residents do not see development as the sole responsibility of the government, but are prepared to be stakeholders if appropriately engaged.

The study also revealed that the most suggested strategies to enhance security and rural development in Adamawa North senatorial district include community led initiatives like constituting local vigilante groups, crow funding of educational facilities and community-based road maintenance in the study area. The hypothesis tested using the Spearman's correlation coefficient of 0.946 indicates a very strong positive relationship between the strategies adopted to address rural underdevelopment and the level of improvement in security. The p-value of 0.000 is highly significant (less than 0.01), confirming the relationship is statistically significant at the 1% level. The result suggests that there is a very strong and statistically significant positive

relationship between strategies adopted to address rural underdevelopment and improvements in security in Adamawa North. This means that the more effective and comprehensive the strategies implemented, the greater the improvement in security including better access to healthcare, education, food, safety, and livelihoods. The above finding contradicts Idowu, (2021). Submissions in his study titled insecurity and Nigeria's socio-economic development in Nigeria, he concluded that the rural communities are weak and cannot help themselves in the north. Thus, this finding aligns with the result of Balta, and Atik (2022) titled Rural planning guidelines for urban-rural transition zones as a tool for the protection of rural landscape characters and retaining urban sprawl. They argued that vulnerable communities are now using local initiative to address rural challenges in Nigeria given the conspicuous neglects by the government in Nigeria.

Conclusion

The literature sampled thus far highlights a strong link between rural underdevelopment and security challenges in Nigeria especially in Adamawa State. The studies emphasized the need for targeted development initiatives to address issues like poverty, unemployment, and environmental degradation which serves as the drive for organized crime in the Northeast region of Nigeria. However, key gaps identified in the rural areas include a lack of region-specific analysis, inadequate poor governance, climate change, and poor technological interventions in the state. The absence of longitudinal studies and global comparisons further limits understanding of the factors that influences the security threats in the study area.

Recommendations

i. This study recommends that government and other critical stakeholders from within and outside the country should develop a modality to improve the standard of living in the rural areas to enable residents of Adamawa North area to develop a sense of belonging, this will help spread the dividends of democracy where viable road networks, pipe borne water, hospitals and educational infrastructure can be provided to increase the life span of the people through economic empowerment in the state.

ii. The study recommends that government should address the current security challenges in the study area especially address hunger, unemployment and good governance to reverse the development deficit in Adamawa North senatorial district of Adamawa State, Nigeria.

References

Abdulkarim, M. (2023). Reviewing the Interactions Dynamics of Human Development, Democracy and Political Rights in the Light of Economic Development. *Journal of Academic Analysis*, *1*(1), 1-16. https://www.jacanalysis.com/index.php/pub/article/view/4

Adamawa State Planning Commission ADSPC (2022): Adamawa State at a glance. https://adspc.ad.gov.ng/adamawa-state/

Adepeju-Fashina, D. (2023). *Religious Diversity and Conflict in Nigeria: Identity Formation and Economic Development* (Master's thesis, University of Kansas). https://search.proquest.com/openview/55453b172e2d808c1ec91942cc77daed/1?pq-origsite=gscholar&cbl=18750&diss=y

Adewumi, R. (2023): Poor Infrastructure vs. Education, Transport and Communities. *Linkedin*. https://www.linkedin.com/pulse/poor-infrastructure-vs-education-transport-rowland-adewumi/

Adofu, I. & Alhassan, A. (2018): Insecurity and Economic Development in Nigeria. *Journal of Economics and Sustainable Development*, 9 (18). https://core.ac.uk/download/234648572.pdf

Afonughe, I. O., Akpomuvire, M. & Christopher, S. G. (2023): Understanding the Elite Theory and Rural Underdevelopment in Nigeria Local Government. *Journal of Public Administration, Finance and Law.* https://doi.org/10.47743/jopafl-2023-27- 42

Akeju, Kemi & Olusanjo, Oluwaseun & Akode, Thomas. (2022). Impact of Infrastructure and Institutional Quality on Economic Growth in ECOWAS Countries. *International Journal of Social Sciences Perspectives.* 10. 9-16. 10.33094/ijssp.v10i1.530.

Anah, C.I. (2023*): Development and Underdevelopment*. https://www.researchgate.net/publication/373333448_DEVELOPMENT_AND_UNDERDEVELOPMENT/link/64e6cada434d3f628c434695/download?_tp=eyJjb250ZXh0Ijp7InBhZ2UiOiJwdWJsaWNhdGlvbiIsInByZXZpb3VzUGFnZSI6bnVsbH19

Anyanwu, M. U., Festus, I. J., Nwobi, O. C., Jaja, C. J. I., & Oguttu, J. W. (2020). A perspective on Nigeria's preparedness, response and challenges to mitigating the spread of COVID-19. *Challenges*, *11*(2), 22. https://www.mdpi.com/2078-1547/11/2/22

Atukunda, P., Eide, W. B., Kardel, K. R., Iversen, P. O., & Westerberg, A. C. (2021). Unlocking the potential for achievement of the UN Sustainable Development Goal 2–'Zero Hunger'–in Africa: targets, strategies, synergies and challenges. *Food & nutrition research*, 65. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8254460/

Azad, M. J., & Pritchard, B. (2022). Financial capital as a shaper of households' adaptive capabilities to flood risk in northern Bangladesh. *Ecological Economics*, *195*, 107381. https://www.sciencedirect.com/science/article/pii/S092180092200043X

Balta, S., & Atik, M. (2022). Rural planning guidelines for urban-rural transition zones as a tool for the protection of rural landscape characters and retaining urban sprawl: Antalya case

from Mediterranean. *Land Use Policy*, *119*, 106144. https://www.sciencedirect.com/science/article/pii/S0264837722001715

Doma, S., & Laah, E. D. (2023). An Examination of the Effectiveness of Community Participation in Promoting Rural Development in Nigeria. *Nigerian Journal of Political Science*, *19*(2), 101-110. https://njops.com.ng/index.php/njps/article/view/7

Ezeudu, T & James, F. (2024). *Examining the Influence of Infrastructure Deficit on Economic Activities, Education, and Healthcare in Rural Areas of Nigeria*. https://www.researchgate.net/publication/379870321_Examining_the_Influence_of_Infrastructure_Deficit_on_Economic_Activities_Education_and_Healthcare_in_Rural_Areas_of_Nigeria

Goldin, C. (2024). Human capital. In *Handbook of cliometrics* (pp. 353-383). Cham: Springer International Publishing.

Guardaro, M., Hondula, D. M., & Redman, C. L. (2022). Social capital: improving community capacity to respond to urban heat. *Local Environment*, *27*(9), 1133-1150. https://www.tandfonline.com/doi/abs/10.1080/13549839.2022.2103654

Idowu, W. J. (2021). Insecurity and Nigeria's socio-economic development: A survey. *International Journal of Research in Education and Sustainable Development*,*1*(1). www.doi.org/10.46654/IJRESD

Ismail, A. (2019). Socio-Developmental Appraisal of Rural-Urban Migration in Rural Community of Nigeria. *International Journal of Social Science and Economic Research* Volume: 04, Issue: 06. https://ijsser.org/files_2019/ijsser_04__355.pdf

Kalu, E. O., Ajuzie, H. D. & Chukwu, C. C. (20218): Insecurity Challenges in Nigeria: Human Security Option as a Panacea. *Research on Humanities and Social Sciences* 8(5). https://core.ac.uk/download/234676262.pdf

Larionova, M. (2020). The challenges of attaining the millennium development goals (MDGs). *International Organisations Research Journal*, *15*(1), 155-176. https://iorj.hse.ru/data/2020/09/01/1577149885/%D0%92%D0%B5%D1%81%D1%82%D0%BD%D0%B8%D0%BA_2020_01_%D0%B0%D0%BD%D0%B3%D0%BB____final-116-130.pdf

Long, H. (2024). Rural Development. In *The Encyclopedia of Human Geography* (pp. 1-7). Cham: Springer International Publishing.

Makanga, C. M. (2019). *The Impact Of Environmental Factors On Human Security In Africa* (Doctoral dissertation, University of Nairobi). http://erepository.uonbi.ac.ke/handle/11295/108061

National Bureau of Statistics (2023). *Population of Adamawa State, Nigeria*. https://www.citypopulation.de/en/nigeria/admin/NGA002__adamawa/

Okafor, C., Madu, C., Ajaero, C., Ibekwe, J., Bebenimibo, H., & Nzekwe, C. (2021). Moving beyond fossil fuel in an oil-exporting and emerging economy: Paradigm shift. *AIMS Energy*, *9*(2). https://www.aimspress.com/aimspress-data/aimse/2021/2/PDF/energy-09-02-020.pdf

Orhero, A. E. (2019): Poverty, Unemployment and National Insecurity in Nigeria's Fourth Republic. *IJOLS*; 6 (2): 89-98. DOI: 10.5604/01.3001.0013.7410

Osah, G., & Iyanda, R. (2016). Human security, peace and development in Nigeria: An analysis of the Niger-Delta region. *Contemporary Humanities*, 9. https://d1wqtxts1xzle7.cloudfront.net/51092513/10_OSAH-IYANDA_2016_-_Human_Security-libre.pdf?1482938834=&response-content

Oyewole, O. J., Al-Faryan, M. A. S., Adekoya, O. B., & Oliyide, J. A. (2024). Energy efficiency, financial inclusion, and socio-economic outcomes: Evidence across advanced, emerging, and developing countries. *Energy*, *289*, 130062.https://www.sciencedirect.com/science/article/pii/S0360544223034564

Prince, A. I., Ehi, O. E., Brown-Ofoeme, M. N., Collins, O., & Alobele, I. A. (2023). Social Policies and Poverty Reduction in Africa: A Nigeria-centered Perspective. *IIARD J. Human. Soc. Policy*, *9*(1), 49-77. https://iiardjournals.org/get/JHSP/VOL. 9 NO. 1 2023/Social Policies and Poverty.pdf

Orji, M. G., Olaniyi, K., & Adeyemo, T. (2022). Assessing micro, small and medium enterprises as an instrument for human capital development and poverty reduction in Abuja area councils of Nigeria. *Britain International of Humanities and Social Sciences (BIoHS) Journal*, *4*(2), 194-205. http://www.biarjournal.com/index.php/biohs/article/view/649

Seers, D., (1972). 'What are we trying to measure?'. The Journal of Development Studies, 8 (3), pp.21-36.

Siloko, B. E. (2024). Human security, sustainable livelihoods and development: the case of the Niger Delta region in Nigeria. *Global Discourse*, 14(2-3), 411-432. Retrieved Sep 12, 2024, from https://doi.org/10.1332/20437897Y2024D000000037

Synowiec, A. (2021). Infrastructural and social aspects of ICT dissemination in rural areas in Ukraine in juxtaposition with other post-transition countries—state of play and prospects for rural development. *Journal of Risk and Financial Management*, 14(1), 16. https://www.mdpi.com/1911-8074/14/1/16

United Nations Development Programme (UNDP) (1994). *Human Development Report 1994*. Oxford University Press.

Urhibo, B. O., & Orhero, A. E. (2023). Rural women empowerment and development in Nigeria. *Journal of Public Administration, Finance and Law*, *27*, 499-513.https://ibn.idsi.md/sites/default/files/j_nr_file/issue %281%29.pdf - page=499

Zhang, C., & Fang, Y. (2020). Application of capital-based approach in the measurement of livelihood sustainability: A case study from the Koshi River basin community in Nepal. *Ecological Indicators*, *116*, 106474. https://www.sciencedirect.com/science/article/pii/S1470160X20304118

Zhao, P., & Yu, Z. (2020). Investigating mobility in rural areas of China: Features, equity, and factors. *Transport policy*, *94*, 66-77. https://www.sciencedirect.com/science/article/pii/S0967070X19309886