
Cross-linkage of Climate Change, Crime, Child Labour, and Sustainable Development in Borno State, Nigeria

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Abstract

This research examines the interconnection between climate change, criminal activity, and child labour in Borno State, Nigeria, a region grappling with environmental decline and instability. A descriptive correlational design was employed to gather data from 400 participants in five local government areas using structured questionnaires and key informant interviews. The quantitative analysis demonstrated significant positive correlations among climate variability, increasing crime rates, and the rise in child labour. Multiple regression analysis indicated that climate change is a significant predictor of both crime and child labour. Qualitative findings highlighted the compounded impact of insurgency and school closures on worsening child exploitation. The results are examined through the lens of the Climate-Crime Nexus Theory and the Poverty Trap Framework, emphasising the complex nature of these societal issues. The study concludes with suggestions that focus on climate adaptation, improving access to education, enhancing security, and promoting economic empowerment to break the cycle of vulnerability and facilitate sustainable development in alignment with the relevant Sustainable Development Goals.

Keywords: Climate Change; Crime; Child Labour; Borno State; Poverty Trap; Climate-Crime Nexus; Sustainable Development Goals; Nigeria.

Introduction

Climate change, criminal activity, and child labour are urgent global challenges that carry significant socio-economic and environmental consequences, especially in vulnerable areas like northeastern Nigeria. Borno State, situated in the semi-arid Sahel region, has been particularly impacted by environmental decline, socio-political turmoil, and economic difficulties. These issues have led to the deepening of complex societal problems, such as escalating crime rates and the growing incidence of child labour (Musa, Magaji, & Jafaru, 2024). Recognising the connections among these issues is crucial for developing policies, intervention strategies, and sustainable development initiatives in the region.

The impacts of climate change in Borno State are manifested through extended droughts, desertification, and unpredictable rainfall patterns, which negatively affect agricultural output and water supply (Intergovernmental Panel on Climate Change [IPCC], 2022). These environmental pressures contribute to food scarcity, community displacement, and lost livelihoods, particularly among rural communities that rely on subsistence agriculture and pastoralism (Okpara et al., 2016). In such environments, environmental degradation acts as both a direct and indirect catalyst for socio-economic instability, producing conditions that facilitate criminal behaviour and exploitative labour practices.

Research suggests a significant correlation between environmental stress and an increase in criminal activity. In Borno State, the combination of climate change-triggered displacement, poverty, and ineffective governance has heightened the occurrence of crimes such as theft, banditry, and insurgency-related violence (Oyeniyi, 2019). The challenges surrounding the Lake Chad Basin exemplify how the diminishing of natural resources leads to local discontent, intercommunal strife, and the recruitment of young individuals into armed factions (Buhaug & von Uexkull, 2021). As communities endeavour to cope with shifting environmental circumstances, social cohesion diminishes, allowing criminal networks to exploit the ensuing instability.

In Borno State, child labour is intrinsically linked to economic difficulties and the social disruptions caused by climate change and conflict. According to the International Labour Organisation (ILO, 2023), economic upheavals often compel families to rely on child labour as a means of survival. The situation in conflict-affected areas is aggravated by the breakdown of educational systems, displacement, and the loss or incapacitation of adult family members who provide for them. Children are often forced into work in agriculture, domestic roles, or informal street trading, which robs them of educational opportunities and exposes them to mistreatment and exploitation (UNICEF, 2022).

The relationships between climate change, crime, and child labour are intricate and mutually enhancing. Resource scarcity and displacement driven by climate change can heighten vulnerability to criminal exploitation, pushing children into labour markets as families strive to survive (Koubi, 2019). In turn, elevated crime rates and the presence of armed groups further restrict access to resources, public services, and humanitarian assistance, thereby sustaining the cycle of poverty and child exploitation (Magaji, 2008). In Borno State, the intersection of the Boko Haram insurgency and environmental decline makes these dynamics particularly intense. Given the complex nature of these challenges, this study aims to investigate the correlations between climate change, crime, and child labour in Borno State. It seeks to examine how environmental, socio-economic, and political elements interact to influence these issues and to determine key variables that could guide the development of more effective policies and intervention frameworks. By employing an interdisciplinary

perspective, this research contributes to the growing body of literature on socio-environmental factors that affect insecurity and child welfare in fragile contexts.

Literature Review

1. Conceptual Definitions

Climate Change

Climate change refers to long-term shifts in weather patterns, temperature, and precipitation, primarily driven by human-induced greenhouse gas emissions (IPCC, 2022). In northern Nigeria, especially in Borno State, this phenomenon is evident through drought, desertification, unpredictable rainfall, and the reduction of Lake Chad, all of which undermine livelihoods and lead to socio-economic challenges.

Crime

The term “crime” includes activities such as theft, armed robbery, insurgency, kidnapping, banditry, and politically driven violence. In areas of conflict, such as northeastern Nigeria, youths who have been displaced from disrupted agricultural livelihoods may engage in or be recruited for criminal or insurgent activities (Zailani, Magaji, & Jafaru, 2025).

Child Labour

Child labour refers to the employment of individuals under 18 in harmful or exploitative work, robbing them of education and proper growth (UNICEF; ILO). In Nigeria, child labour is prevalent, particularly in informal sectors such as agriculture, street vending, and domestic work, often resulting from poverty (Magaji, 2002), lack of education, and insufficient legal enforcement (Magaji, 2007).

Borno State Context

Borno State, situated in Nigeria’s semi-arid northeast, faces severe ecological challenges and ongoing insurgency. While agriculture serves as the economic backbone, the region is plagued by frequent droughts, arid conditions, and insurgent attacks that further disrupt farming communities.

2. Theoretical Framework

This framework suggests that environmental degradation (such as drought and loss of arable land) leads to insecure livelihoods, particularly among impoverished rural youth, making them more susceptible to engaging in criminal activities or being recruited by insurgents. Research conducted by Nwokeoma and Amadi (2017) suggests that the decline of agriculture in northeastern Nigeria due to climate change prompts young individuals to engage in theft, robbery, and even terrorism.

Drawing from development economics, this theory implies that climate shocks exacerbate poverty by eliminating productive assets, which traps families in cycles of deprivation. A recent study at the household level, using data from Nigeria, found that frequent environmental shocks hinder mobility and adaptive strategies, thereby reinforcing poverty cycles.

Ineffective governance, corruption, and lax enforcement of child protection and labour regulations heighten these vulnerabilities. Sadan et al. (2024) argue that corruption in the

public sector in Nigeria hinders the implementation of effective policies against child labour, while weak institutions fail to support struggling families (Obehi, Magaji, & Ahmad, 2024). In Borno, insurgent groups have destroyed educational facilities, which limit access to schooling and increase child labour as a survival strategy.

From a political economy perspective, it can be argued that when young people lack legitimate means of earning a living, they become vulnerable to exploitation by armed groups. Displaced or idle youth who are affected by both environmental crises and the failure of governance become key targets for organisations like Boko Haram.

Together, these frameworks provide a structural perspective on how climatic, socio-economic, and institutional elements interact to influence crime and child labour.

3. Empirical Evidence

3.1 Climate Change Crime/Insurgency

Nwokeoma and Amadi (2017) interviewed 200 farmers in northeastern Nigeria, identifying key climate effects such as desertification, heat, and drought, which resulted in the loss of crops and farmland, leading to widespread unemployment among youth. Many resorted to theft, robbery, kidnapping, and joining insurgent groups.

A spatial analysis by Njoku et al. (2023) in the Mid-Benue Trough revealed that 87% of conflicts were situated in high-temperature zones ($LST > 30^{\circ}\text{C}$), with additional links to regions with expanding cropland and low economic development, indicating that climate change and land-use shifts are significant contributors to conflict.

Reddit accounts reflect real-world trends, illustrating how desertification and drought are forcing herders southward, intensifying violent confrontations with farmers. The significant reduction of Lake Chad and the subsequent displacement of approximately 10.5 million individuals further escalate competition for resources.

The impact of insurgency on food systems was formally assessed by Olumide and Aduloju (2025), revealing that insurgency in Borno drastically decreases food production, illustrating a vicious cycle in which conflict worsens ecological strain.

The study by Jafaru, Magaji, and Abdullahi (2024) examines the relationship between family status and youth criminality in the Gwagwalada Area Council, FCT, Nigeria. The research is linked to social control theory, which examines how social bonds and relationships within families influence deviant behaviour in individuals, including criminal activities. Using stratified sampling, 380 respondents were selected, and questionnaires were distributed to them. The result of the findings reveals that negative characteristics of parents are likely to instigate criminal behaviours among the youth. Again, it was discovered that single parenting is most likely to produce youths with criminal tendencies in society. Additionally, poverty promotes criminality. The study recommends that governments and other stakeholders develop programs to sensitise parents about their roles and responsibilities. Additionally, the youth should be economically empowered and trained to be responsible and think positively, regardless of their family status in society.

3.2 Climate/Livelihood Shocks Child Labour

On a national scale, child labour remains widespread, with around 15 million Nigerian children engaged in work in 2006; many are not enrolled in school and work in hazardous or

informal occupations (e.g., street vending, domestic servitude), driven by poverty and ineffective protective systems. The ILO highlights poverty and limited access to education as key factors across Africa.

The study of Ibrahim, Magaji, and Jafaru (2024) investigates how household income influences child labour and trafficking in the Karu local government region. An analytical model was created using the theories proposed by Basu and Van (1988) and Fan (2011). The study employs a multistage sampling method to collect data from four selected districts (Mararaba, Massaka, Ado, and New Karu) in Karu Local Government Area, Nasarawa State, Nigeria. Questionnaires were sent to 379 families in the four chosen districts of Karu Local Government Area to collect the data. Their study demonstrates that household income plays a significant role in influencing child labour and trafficking in Karu Local Government. There is a high prevalence of child labour and trafficking in the area. Additionally, an increase in household size is linked to higher rates of child labour and trafficking. In comparison, employment and skills are associated with lower rates of child labour and trafficking in Karu Local Government. Similarly, children from households with incomes below the subsistence level are often subjected to child labour and trafficking. It was recommended that both individualistic and governmental efforts be focused on curbing child labour and trafficking to limit children's involvement in these activities.

The specific effects in Borno include Boko Haram's destruction of educational institutions, severely disrupting access to education and pushing displaced children into labour or exploitation.

Corruption and policy ineffectiveness exacerbate these conditions: Sadan et al. (2024) connect corrupt governance to the ongoing prevalence of child labour, even in areas where laws to prohibit it are in place.

The study by Lamiya, Magaji, and Yakubu (2025) on child labour and trafficking within the Keffi Local Government Area of Nasarawa State, Nigeria, employed a survey research design. The researchers distributed 400 questionnaires to adult residents across selected locations within the Keffi Local Government Area (LGA). The study achieved a high response rate of 96% (383 completed questionnaires), and the collected data were analysed using descriptive statistics, including frequency counts and percentages. The findings revealed that a significant proportion of respondents reported having children involved in household economic activities, as well as the presence of child labourers from distant origins. Additionally, most respondents reported household incomes within the lower to middle range, accompanied by larger household sizes. The findings recommend a potential correlation between household economic conditions and children's labour engagement within the Keffi community. The study highlights the need for further in-depth analysis and targeted interventions to address child labour and its underlying socio-economic factors in the region.

The study of Yunusa, Magaji, Abdullahi, and Jafaru (2024) investigates the fundamental elements that influence child labour and trafficking in Suleja, Niger State. A model was created using the analytical ideas proposed by Basu and Van (1988) and Fan (2011). The study employed a multistage sampling methodology to collect data from three specifically selected rural districts within the Suleja Local Government Area in Niger State. The data was collected by distributing questionnaires to 367 families in the three chosen rural areas of Suleja Local Government Area. The study findings indicate that an increase in household size relative to household income is associated with higher rates of child labour and child trafficking. Conversely, employment and the acquisition of skills are linked to a decrease in

child labour and child trafficking. Children from households with income below the subsistence level are primarily susceptible to child labour and trafficking. It is advised that individuals and the government pay close attention to and actively participate in efforts to combat child labour and trafficking. This is necessary to limit children's involvement in these harmful practices.

Synthesis from Nwokeoma & Amadi (2017): Young individuals, stripped of farming opportunities due to climate-related events, often resort to criminal activities or are recruited by insurgents. Simultaneously, children who are displaced or orphaned are frequently compelled to work in order to support their remaining family members or because educational systems have collapsed. Observations regarding Lake Chad and migration pressures indicate that a lack of resources and displacement contribute to both violence and the weakening of traditional social safety nets, such as family support and education, which typically safeguard children. Institutional weaknesses undermine child protection, widespread corruption, and the destruction of educational infrastructure exacerbate the vulnerabilities created by climate change and conflict, rendering children susceptible to exploitation for labour or enlistment in criminal organisations.

The study of Magaji, Magaji, & Jafaru (2025) investigates the intertwined socio-economic impacts of climate change and entrenched poverty in Birnin Kudu Local Government Area, Jigawa State, Nigeria. Employing a mixed-methods approach, the research examines how climate change exacerbates existing poverty vulnerabilities, leading to decreased crop yields, reduced water availability, increased health risks, and heightened economic insecurity. The research found that climate change disproportionately affects the poorest households, which have limited adaptive capacity. Farmers and livestock owners face severe challenges due to unpredictable rainfall, increased temperatures, pest infestations, and declining land productivity, all of which directly impact their income and food security. Water scarcity intensifies existing resource conflicts and further marginalises impoverished communities. The study also reveals a rise in heat-related illnesses, vector-borne diseases, and malnutrition, which compound the health burdens already faced by impoverished populations. These findings underscore the urgent need for climate change adaptation strategies that explicitly address poverty, including targeted social protection programs, improved access to resources and technology for vulnerable households, and strengthened public health systems.

Research indicates that in Borno State, climate change, through environmental degradation and disruption of livelihoods, significantly contributes to both criminal activities and child labour.

Institutional weaknesses, insurgent conflicts, compromised education systems, and governance issues intensify this connection. Theoretical frameworks such as the climate-crime nexus and poverty trap models provide insight into these dynamics, while empirical evidence from interviews, spatial analyses, and case studies supports these findings. Overall, the research underscores the need for comprehensive responses that prioritise enhancing environmental resilience, improving youth livelihoods, reforming legal frameworks, and strengthening child protection systems.

Methodology

This research employs a descriptive correlational design to investigate the relationships between climate change, crime, and child labour in Borno State, Nigeria. This design is suitable for examining the direction and strength of associations between variables while avoiding manipulation (Creswell & Creswell, 2018). It enables the researcher to investigate

how shifts in climate conditions may affect patterns of criminal behaviour and the occurrence of child labour in impacted communities.

The research was conducted in Borno State, located in northeastern Nigeria. The area is known for its semi-arid climate, recurrent droughts, desert encroachment, and widespread insecurity attributed to insurgent activities. Key local government areas (LGAs) such as Maiduguri Metropolitan Council, Jere, Konduga, Bama, and Gwoza were chosen due to their vulnerability to both environmental degradation and socio-political instability.

The target population included community members, local leaders, civil society representatives, parents/guardians, law enforcement officers, and education officials across the selected LGAs. A multi-stage sampling method was employed. Initially, five LGAs were purposefully selected based on their susceptibility to climate-related disruptions and conflict. Subsequently, within each LGA, stratified random sampling was utilised to ensure representation across various demographic categories (e.g., age, gender, occupation).

A sample size of 400 respondents was calculated using Yamane's formula (1967) for finite populations, with a 95% confidence level and a 5% margin of error. The sample consisted of:

100 parents/guardians; 100 school-age children (10–17 years); 50 community leaders; 50 law enforcement personnel; 50 educators or school administrators; 50 members of civil society.

Two main data collection instruments were employed:

Structured Questionnaire: The questionnaire included both fixed-response and Likert-scale items that evaluated:

Views on climate change (e.g., drought, rainfall variability); Incidents of crime or insecurity; Factors contributing to child labour; Socio-economic and demographic information

Experts in sociology, criminology, and environmental science validated the instrument. A pilot test conducted in Mafa LGA yielded a Cronbach's alpha of 0.81, indicating strong internal consistency.

Key Informant Interviews (KIIs): Semi-structured interviews were carried out with 20 key informants, which included:

Traditional leaders, NGO personnel focused on child rights, Local government officials, Representatives from the education sector

The KIIs investigated themes surrounding the relationship between climate stressors, criminal activities, and child welfare within local settings.

Data collection took place over six weeks (June–July 2025), utilising trained field assistants who were proficient in Kanuri, Hausa, and English. The University Research Ethics Committee granted ethical approval. Informed consent was obtained from all adult respondents and guardians of minors. Anonymity and confidentiality were assured.

The questionnaire was administered in person, taking into account the low literacy rates in specific rural locations. For minors, questions were modified to be child-friendly, incorporating pictorial cues, and data collection was overseen by a child protection officer.

Questionnaire data were analysed using Statistical Package for the Social Sciences (SPSS) version 27. The following statistical methods were utilised:

Descriptive statistics (frequency, mean, standard deviation) to summarise demographic data and responses

Pearson's correlation to identify relationships among climate change indicators, crime rates, and child labour occurrence

Multiple regression analysis to evaluate the predictive influence of climate change factors on crime and child labour.

The study upheld ethical standards, which included voluntary participation, confidentiality, non-maleficence, and adherence to child protection protocols. For child participants, both assent from minors and consent from guardians were obtained. Interviews addressing sensitive subjects, such as crime or exploitation, were conducted privately, and referrals to relevant agencies were made as needed.

Findings

Table 1: Socioeconomic and Demographic Characteristics of Respondents (N = 400)

Serial Number	Characteristics	Frequency	Percentage
1	Gender		
	Male	216	54
	Female	184	46
	Total	400	100
2	Age		
	10-17 (children)	100	25
	18-24	120	30
	25-44	180	45
	Total	400	100
3	Educational Level		
	Non-formal education	50	12.5
	Primary	120	30
	Secondary	150	37.5
	Tertiary	80	20
	Total	400	100
4	Occupation		
	Farming	160	40
	Informal Sector	72	18
	Formal Employment	68	17
	Students/Children	100	25
	Total	400	100

Source: Survey, 2025

A slightly higher percentage of male respondents (54%) participated compared to female respondents (46%). The most represented age group among participants was those aged 25 to 44 years (45%), followed by individuals aged 18 to 24 years (30%). A considerable majority of respondents had attained primary or secondary education (67%), and a significant share (58%) was employed in farming or informal sector positions.

Table 2: Respondents' Perceptions on Climate Change, Crime, and Child Labour (N = 400)

Serial Number	Opinions	Frequency	Percentage
1	Climate variability has reduced agricultural productivity	82	20.5
2	Crime rates have increased due to economic hardship	76	19
3	Child labour prevalence has risen due to poverty	68	17.5
4	School closures have forced children into labour	65	16.25
5	Insurgent activities worsen food insecurity and poverty	79	19.75
6	Others	30	7.5
	Total	400	100

Source: Survey, 2025

Table 2 presents a summary of the responses regarding the perceived effects of climate change on livelihoods, crime rates, and the prevalence of child labour. A significant portion (20%) expressed that climate variability, including drought and erratic rainfall, has considerably decreased agricultural output in their communities. Likewise, 19% noted a rise in crime, such as theft, kidnapping, and armed robbery, in recent years, linking this increase to economic pressures on their livelihoods. Approximately 17.5% reported a growing prevalence of child labour, attributing this issue to family poverty and school closures driven by insecurity. School closures have compelled children to engage in work, as indicated by 16.25%. Insurgent activities exacerbate food insecurity and poverty, which was highlighted by 19.75% of respondents. Other factors accounted for 7.5%.

4. Correlation Analysis

Pearson's correlation coefficients (Table 3) indicate notable positive correlations between climate change indicators (drought frequency, rainfall variability) and both crime rates ($r = .62$, $p < .01$) and the incidence of child labour ($r = .54$, $p < .01$). Additionally, there was a positive correlation between crime rates and child labour ($r = .49$, $p < .01$), highlighting the interconnection of these variables. This tool can also assist with other tasks.

Table 3 Pearson Correlation Matrix of Key Variables (N = 400)			
Climate Change	Crime Rates	Child Labour	
Climate Change	1.00		
Crime Rates	.62	1.00	
Child Labour	.54	.49	1.00

Note. $p < .01$

5. Multiple Regression Analysis

A multiple regression analysis was conducted to assess the extent to which climate change factors contributed to predicting crime rates and the prevalence of child labour. Climate change was measured using a composite index that included drought frequency, rainfall variability, and temperature increases.

Regarding crime rates as the dependent variable, climate change was found to be a significant predictor, $F(1,398) = 108.52$, $p < .001$, accounting for 21.4% of the variance ($R^2 = .214$).

Regarding child labour as a dependent variable, climate change also acted as a significant predictor of child labour prevalence, $F(1, 398) = 67.85$, $p < .001$, explaining 14.5% of the variance ($R^2 = .145$).

| Table 4
| Multiple Regression Results Predicting Crime Rates and Child Labour from Climate Change (N = 400)

-----		Crime Rates (DV)			Child Labour (DV)		
Predictor		β (Beta)			β (Beta)		
Climate Change		Composite			.463		
Model Fit		(R^2)			.214		
F-value	108.52	67.85					

Note. $p < .001$

6. Thematic Insights from Key Informant Interviews (KIIs)

Qualitative data reinforced quantitative findings. Community leaders and NGO representatives consistently indicated that prolonged drought and desertification have reduced arable land, leading to increased unemployment and criminal activities among young people. Numerous informants connected school closures driven by insurgency to an increase in child labour, as children took on jobs to help support their families.

One local education officer remarked:

“When schools shut down because of insecurity, children become idle. Many parents lack the means to keep them at home, leading them to seek work or sometimes become recruits for insurgents.”

Traditional leaders pointed out governance issues, such as insufficient law enforcement and corruption, which hindered efforts to safeguard vulnerable children and reduce crime.

Discussion

The findings demonstrate a strong and significant correlation between climate change and the rise in crime and child labour in Borno State. The statistical data backs the climate-crime nexus theory and poverty trap framework, illustrating how environmental degradation triggers socio-economic vulnerabilities that encourage criminal activities and child exploitation.

The positive relationships observed between climate factors and both crime and child labour suggest that ecological shocks disrupt traditional livelihoods, particularly agriculture, forcing affected groups, especially youth and children, into perilous and unlawful activities.

Regression analysis confirms that climate change serves as a robust predictor of these social challenges, although other factors (governance, conflict) likely influence these outcomes.

Qualitative accounts offer context, highlighting the damaging impact of insurgency on school closures and the weakening of institutions, which intensify the child labour crisis and enable criminal recruitment.

These findings are consistent with earlier studies (Nwokeoma & Amadi, 2017; Olumide & Aduloju, 2025) and underscore the pressing need for coordinated policy solutions that address environmental resilience, poverty alleviation, educational access, and security improvements.

Discussion: Linking Results to Theoretical Framework and SDGs

The present study's findings affirm the explanatory power of the Climate-Crime Nexus Theory and the Poverty Trap Framework, which were introduced in the theoretical framework. According to the Climate-Crime Nexus Theory, environmental stressors such as drought, desertification, and erratic rainfall patterns heighten resource scarcity, which in turn fuels competition, social instability, and crime (Hsiang, Burke, & Miguel, 2013). The strong

Positive correlations observed between climate change indicators and crime rates in Borno State corroborate this proposition. The regression analysis further established that climate variability is a significant predictor of rising crime, suggesting that deteriorating ecological conditions directly and indirectly push vulnerable populations towards unlawful activities as alternative means of survival.

The Poverty Trap Framework also offers a compelling lens for interpreting the interplay between climate change, crime, and child labour. Poverty induced by environmental degradation limits household capacity to meet basic needs, convincing families to resort to coping mechanisms such as sending children into labour or even engaging in criminal acts (Barrett & Swallow, 2006). This is echoed by the moderate to strong correlations between climate variables and child labour prevalence. Qualitative insights from key informants revealed that school closures due to insurgency, a phenomenon intertwined with insecurity and poverty, force children into exploitative labour, which perpetuates the cycle of deprivation and limits human capital development.

These findings resonate with prior empirical work that links environmental shocks to socio-economic and security challenges in fragile settings (Nwokeoma & Amadi, 2017; Olumide & Aduloju, 2025). The mutually reinforcing nature of climate stress, crime, and child exploitation highlights a multidimensional crisis requiring integrated responses.

Relevance to Sustainable Development Goals (SDGs)

The results directly intersect with several SDGs, emphasising the urgency of aligned policy actions:

- **SDG 1: No Poverty**

The study highlights how climate-induced poverty drives crime and child labour. Efforts to eradicate poverty must therefore incorporate climate adaptation strategies that protect livelihoods, particularly in agriculture-dependent communities such as Borno State.

- **SDG 4: Quality Education**
The disruption of schooling due to insecurity and economic hardship, pushing children into labour, undermines access to quality education. Addressing child labour requires safe and consistent access to education alongside economic support to vulnerable families.
- **SDG 8: Decent Work and Economic Growth**
The rise in informal and exploitative child labour reflects a failure to provide decent work opportunities. Strengthening local economies and creating alternative livelihoods are crucial for diverting youth and children from harmful activities.
- **SDG 13: Climate Action**
The findings underscore the consequences of climate change on social stability. Adaptation and mitigation efforts in vulnerable regions must be prioritised to reduce environmental shocks that exacerbate poverty and insecurity.
- **SDG 16: Peace, Justice, and Strong Institutions**
The nexus of climate stress, insurgency, crime, and child labour illustrates the critical need for robust governance and security frameworks. Strengthening institutions to uphold law and protect vulnerable groups, including children, is essential for sustainable development.

Conclusion of Discussion

In conclusion, the study's results reinforce theoretical expectations that climate change is not only an environmental issue but also a catalyst for socio-economic and security challenges such as crime and child labour. This multidimensional nexus calls for holistic interventions aligned with the SDGs, particularly those addressing poverty, education, climate resilience, decent work, and peacebuilding. Policy frameworks must integrate climate adaptation with social protection, law enforcement, and education policies to break the vicious cycle afflicting communities in Borno State.

Conclusion

This study reveals a significant and complex interplay between climate change, crime, and child labour in Borno State, Nigeria. The findings demonstrate that environmental stressors such as drought and rainfall variability have a direct impact on agricultural livelihoods, which in turn increases poverty and vulnerability. These conditions foster higher crime rates and push children into labour as coping mechanisms for affected families. Theoretical perspectives, including the Climate-Crime Nexus Theory and Poverty Trap Framework, are supported by empirical evidence showing that climate change is a strong predictor of crime and child exploitation in the region. Furthermore, insecurity and insurgency exacerbate these challenges by disrupting education and social stability. Addressing these intertwined issues requires integrated, multidimensional strategies that aim to enhance environmental resilience, promote economic opportunities, expand access to education, and improve security.

Recommendations

Based on the study's findings, the following recommendations are proposed:

1. **Climate Adaptation and Livelihood Support**
Implement community-based climate adaptation programs that promote sustainable agriculture, water conservation, and alternative income sources to reduce vulnerability to environmental shocks.

2. **Strengthen Child Protection and Education Systems**
Ensure continuous access to quality education, especially in conflict-affected areas, through school security measures, psychosocial support, and conditional cash transfers to families, thereby discouraging child labour.
3. **Enhance Law Enforcement and Security Measures**
Bolster local law enforcement agencies and community policing to curb crime while addressing the root causes related to economic hardship and social instability.
4. **Promote Economic Empowerment**
Develop vocational training and employment programs targeting youth and vulnerable populations to reduce reliance on illegal activities and exploitative labour.
5. **Integrated Policy Frameworks**
Encourage collaboration among government agencies, NGOs, and international partners to design policies that holistically address the impacts of climate change, poverty alleviation, crime prevention, and child welfare.

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