

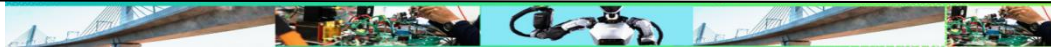
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## Impact of Boko Haram Insurgency on Construction Project Delivery in Borno State, Nigeria

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### Abstract

Construction project delivery in conflict-affected regions is often constrained by security challenges. This study examines the impact of the Boko Haram insurgency on construction projects in Borno State, Nigeria, focusing on site accessibility, workforce safety, material supply, and institutional support. A descriptive survey design was adopted, with primary data collected through structured questionnaires and semi-structured interviews of 70 purposively sampled stakeholders, including engineers, architects, project managers, contractors, consultants, and government officials drawn from a population of 233 using Yamane's formula. Data were analyzed using descriptive statistics and Likert scale analysis, presented as percentages, tables, and graphs. Findings indicate that insecurity significantly disrupts project delivery: 73.8% of respondents strongly agreed that access to sites is reduced, 76.9% that workers are reluctant to report due to security threats, 80.0% that insurgent activities slow progress, and 70.8% that military escorts are often required. Additionally, 64.6% strongly agreed that insecurity contributes to the use of inferior materials, affecting project quality. The study concludes that Boko Haram insurgency imposes substantial operational and logistical constraints on construction stakeholders in Borno State. Enhancing security coordination, improving institutional support, and adopting conflict-sensitive project management strategies are essential for improving project delivery in insurgency-affected regions.

*Keywords:* Boko Haram insurgency; Conflict environment; Construction project delivery; Construction management; Material supply disruption; Project risk; Security challenges; Site accessibility.

## 1. INTRODUCTION

Construction activities are widely recognized as critical drivers of economic growth and infrastructure development. In many developing countries, the construction sector supports national development through the provision of essential infrastructure such as roads, housing, schools, and public utilities. However, the successful delivery of construction projects depends heavily on stable socio-economic and security conditions. When insecurity becomes widespread, normal construction processes such as site access, labour deployment, supervision, and material supply can be severely disrupted. In conflict-affected regions, construction stakeholders often face operational environments that differ significantly from those assumed in conventional project management frameworks [3,12].

In Nigeria, the Boko Haram insurgency has created one of the most severe security crises in the country's recent history, particularly in the North-Eastern region. Borno State has remained the epicentre of this insurgency, experiencing prolonged violence that has affected livelihoods, economic activities, and infrastructure development. Terrorism in Northern Nigeria has transformed many operational environments into high-risk spaces where routine activities are constrained by security considerations rather than purely technical or logistical factors [1,4]. Within the construction sector, such insecurity alters how projects are planned, managed, and executed, often introducing challenges that extend beyond the typical cost, time, and quality considerations of project delivery [2,16].



One of the most immediate consequences of insurgency is restricted access to project sites. When roads and communities become unsafe, contractors, consultants, and project supervisors may find it difficult to reach construction locations or carry out regular monitoring activities. This situation weakens project control mechanisms and increases the likelihood of delays and cost overruns. In addition to physical access challenges, insecurity also affects the human dimension of construction work. Prolonged exposure to conflict environments often creates a climate of fear that disrupts normal economic and social activities [2]. For construction workers and professionals, fear of attacks, kidnappings, or ambushes may discourage participation in projects located within high-risk areas.

Labour availability in insurgency-affected zones is therefore not only a matter of technical skill shortages but also of perceived safety. Previous studies indicate that insecurity encourages the migration of skilled individuals away from conflict areas in search of safer livelihoods [4]. Even among those who remain, concerns about personal safety may result in irregular attendance, reduced productivity, and high labour turnover. These labour-related challenges further complicate project execution and place additional pressure on contractors attempting to maintain progress under uncertain conditions.

Beyond labour concerns, insurgency introduces direct disruptions to construction activities through violent incidents such as kidnappings, bombings, and ambushes. Such incidents create unpredictable shocks that can halt project operations, damage equipment, or endanger the lives of workers and professionals. Terrorism has been shown to disrupt project implementation by introducing risks that conventional planning and risk management strategies cannot fully anticipate or absorb [8]. Unlike natural or economic risks that may follow identifiable patterns, insurgent violence is often irregular and strategic, making it difficult for construction stakeholders to plan operations with certainty.

Another important consequence of insecurity in conflict environments is the increasing reliance on military escorts or security personnel to access project sites. While these measures may provide temporary protection, they also introduce additional layers of coordination, delays, and operational costs. Studies have shown that militarized responses to insecurity can place strain on civilian activities when security forces are overstretched or when operational priorities shift [5]. For construction stakeholders, this dependence means that project schedules may become tied to security arrangements rather than technical readiness.

In addition to these operational challenges, insurgency environments often weaken essential project management practices such as effective site supervision and reliable material supply. Adequate supervision is fundamental to maintaining construction quality, safety, and accountability. However, when insecurity restricts movement, supervisors may reduce site visits or rely on indirect reporting mechanisms. Weak supervision has been associated with increased errors, disputes, and quality deficiencies in construction projects [7]. At the same time, insurgency disrupts supply chains by limiting transportation routes, delaying deliveries, and reducing access to quality materials. The construction industry in developing countries is already vulnerable due to logistical constraints and limited infrastructure [3], and insurgency further intensifies these vulnerabilities.

Institutional support also plays a crucial role in sustaining construction activities under difficult conditions. Infrastructure development in conflict-affected areas often requires deliberate government intervention through supportive policies, security guarantees, and financial incentives [11]. When such support is perceived as inadequate, stakeholders may feel isolated in managing the risks associated with operating in high-security environments. This situation can discourage investment, slow reconstruction efforts, and weaken confidence in long-term development initiatives. International development organizations have similarly emphasized the importance of strengthening infrastructure resilience in fragile and conflict-affected regions [13,14].

These interconnected challenges reflect what scholars describe as the security-development nexus, where insecurity undermines development outcomes and stalled development can further reinforce instability [9]. Within the construction sector, this relationship becomes particularly evident in regions affected by insurgency, where the delivery of infrastructure projects is continuously shaped by security dynamics.

Although several studies have examined the relationship between terrorism, insecurity, and economic development in Nigeria, most existing research has focused primarily on the socio-economic consequences of insurgency, humanitarian crises, or national security implications [4,6]. Limited empirical attention has been given to how insurgency specifically affects the operational realities of construction project delivery at the stakeholder level. In particular, few studies have systematically examined how insecurity influences site accessibility, labour participation, project supervision, and material supply within construction projects in insurgency-affected regions [10,12]. As a result, there remains insufficient empirical evidence on the practical challenges faced by construction professionals working in conflict environments such as Borno State.

Against this background, it becomes important to systematically examine the specific challenges encountered by construction stakeholders operating in insurgency-affected environments. Understanding these challenges is essential for developing strategies that can enhance project resilience and improve infrastructure delivery in conflict-prone regions. Therefore, this study assesses the challenges encountered by construction stakeholders in insurgency-affected zones in Borno State, Nigeria, with the aim of providing empirical insights into how Boko Haram insurgency affects construction project delivery in the region.



### 1.1 Problem Statement

The construction industry plays a vital role in infrastructure development and economic recovery, particularly in regions affected by conflict. However, in insurgency-affected areas such as Borno State, Nigeria, the delivery of construction projects has become increasingly difficult due to persistent security threats associated with Boko Haram activities. These threats restrict access to project sites, discourage labour participation, disrupt supervision activities, and interfere with the supply of construction materials [4,6]. Despite the growing importance of reconstruction and infrastructure development in the North-Eastern region of Nigeria, there is limited empirical evidence documenting how insurgency directly affects construction project delivery from the perspective of industry stakeholders [2,12]. Most existing studies focus on the broader socio-economic impacts of insurgency without examining the operational challenges encountered by construction professionals working within these high-risk environments. Consequently, there is a need for empirical investigation into how insecurity influences construction activities and project management practices in insurgency-affected zones. This study therefore investigates the challenges encountered by construction stakeholders in Borno State with the aim of providing evidence-based insights that can inform strategies for improving construction project delivery in conflict-prone environments.

### 1.2 Research Objectives

The main objective of this study is to examine the challenges encountered by construction stakeholders operating in insurgency-affected zones in Borno State, Nigeria.

The specific objectives are to:

1. Examine the impact of insurgency on access to construction sites.
2. Assess the effect of insecurity on labour participation in construction projects.
3. Evaluate how insurgency affects site supervision and material supply in construction projects.
4. Assess stakeholders' perceptions of government support for construction activities in insurgency-affected zones.

## 2. MATERIALS AND METHODS

### 2.1 Research Design

This study adopted a descriptive survey research design because it allowed for the collection of primary data directly from individuals who had firsthand experience with construction project delivery in an insurgency-prone environment. Both quantitative and qualitative data were utilized to provide a comprehensive understanding of the impact of Boko Haram insurgency on construction projects in Borno State.

### 2.2 Study Area

The study was conducted in Borno State, located in the North-Eastern region of Nigeria. The state lies between latitudes 10°N and 13°N and longitudes 11°E and 14°E, and shares international borders with Niger, Chad, and Cameroon. Borno State is one of the largest states in Nigeria by land area and serves as an important administrative and commercial centre within the region. The state capital, Maiduguri, functions as a major hub for economic and infrastructural activities.

Over the past decade, Borno State has been the epicentre of the Boko Haram insurgency, which began in 2009 and has resulted in widespread destruction of infrastructure, displacement of communities, and disruption of economic activities. Numerous roads, public buildings, schools, and housing structures have been damaged or abandoned due to persistent security threats. Despite these challenges, reconstruction and infrastructure development efforts continue within the state through government agencies, private contractors, and international development partners. These conditions make Borno State an appropriate case study for examining the impact of insurgency on construction project delivery.

### 2.3 Population of the Study

The target population comprised stakeholders involved in construction project delivery in Borno State. This included civil engineers, architects, and project managers working with construction firms, as well as government officials in the Ministry of Works, Housing, and Urban Development. Contractors and consultants engaged in infrastructure projects, alongside representatives of donor agencies and NGOs involved in reconstruction efforts, also formed part of the target population.

### 2.4 Sample Size and Sampling Technique

The study employed a purposive sampling technique to select respondents with relevant knowledge and experience in construction projects within conflict-affected areas. Using Yamane's (1967) formula for sample size determination at a 95% confidence level, a representative sample was drawn from the population.



For a population of 233 persons derived from a recent business database which stated that Borno State has about 65 construction companies (Smart Scrapes, 2025) and an additional 77 General Contractors (Smart Scrapes, 2025). Industrial data also identified about 28 consulting firms and professional consultants (Smart Scrapes, 2025), reconstruction, NGO Participation and Government Construction Agencies, (Borno State Government, 2024). Using the above data table 3.1 gives a detailed breakdown of the estimated number of registered construction stake holders operating in Borno State, taking note of possible overlaps.

**Table 2.1: Breakdown of Construction Stakeholders in Borno State**

S/N	Stakeholders Category	Population
1.	Civil/ Structural Engineers	42
2.	Architects	18
3.	Quantity Surveyors	15
4.	Builders/ Construction Managers	18
5.	Project Managers	15
6.	Private Construction Contractors	40
7.	Construction Consultants	20
8.	Government Officials	25
9.	NGO Technical Staffs	15
10.	Site Engineers/Site Supervisors	25
<b>Total</b>		<b>233</b>

Source: Adeyinka *et al*, 2014; Ajiero *et al* 2022; Tukur & Aina, (2016).

The sample size for the study was determined using the Yamane (1967) formula:

Where:

$$n = \frac{N}{1 + N(e^2)}$$

n = sample size

N = population size

e = margin of error (0.1)

For a population of 233 stakeholders, using a 10% margin of error, the sample size was calculated as follows:

$$n = \frac{233}{1 + 233(0.1^2)}$$

$$n = \frac{233}{1 + 233(0.01)}$$

$$n = \frac{233}{3.33}$$

$$n \approx 70$$

Therefore, the sample size for the study was 70 respondents.

## 2.5 Sources of Data

Data were obtained from both primary and secondary sources. Primary data included structured questionnaires and semi-structured interviews administered to construction professionals and government officials. Secondary data were obtained from government reports, project documentation, scholarly articles, and publications by development agencies on the effects of insurgency on infrastructure.

## 2.6 Research Instruments

The research instruments used for this study were questionnaires and interview guides. A structured questionnaire divided into sections was designed to cover demographic information, nature of projects handled, challenges encountered due to insurgency, cost and time implications, and coping strategies adopted. Semi-structured interviews were conducted with key informants such as senior officials of the Ministry of Works and executives of construction



companies. Also, Integrity tests were conducted on some randomly selected abandoned projects in some of the insurgency prone areas in Borno State, providing qualitative insights that complemented the questionnaire responses.

### 2.7 Validity and Reliability of Instruments

The research instruments were subjected to expert review by academics in construction management and conflict studies to ensure face and content validity. A pilot test was conducted with 10 respondents outside the main study area. Cronbach’s alpha was calculated, and a threshold of 0.7 was adopted to confirm the internal consistency of the questionnaire items.

### 2.8 Method of Data Collection

Data collection involved the distribution of questionnaires, both physical and electronic where feasible, and the conduct of interviews. Given the security challenges in Borno State, local contacts and professional associations were leveraged to gain access to respondents. Ethical considerations, including informed consent and confidentiality, were strictly observed throughout the data collection process.

## 3. RESULTS AND DISCUSSION

### 3.1 Results

#### 3.1.1 Likert Scale and Respondents’ Perceptions

Table 3.1 presents respondents’ perceptions on the impact of Boko Haram insurgency on construction project delivery in Borno State, Nigeria. The results reveal a strong consensus among respondents that insurgency has significantly disrupted construction activities across multiple dimensions, including access to sites, workforce availability, project progress, cost, quality, and overall project delivery.

The majority of respondents strongly agreed that Boko Haram activities have reduced access to construction sites, with 73.8% strongly agreeing and 18.5% agreeing. This suggests that insecurity has made many project locations unsafe or inaccessible, thereby limiting physical access required for construction operations. Similarly, 76.9% of respondents strongly agreed that workers are afraid to report to project locations due to insecurity, while 15.4% agreed. This high level of agreement indicates that fear of attacks has negatively affected workforce attendance and productivity on construction sites.

Further findings show that violent insurgent activities such as kidnappings, bombings, and ambushes have affected project progress, as indicated by 80.0% of respondents who strongly agreed and 13.8% who agreed. This highlights the severe disruption caused by insurgency-related violence, leading to delays and interruptions in project execution. In line with this, a large proportion of respondents (70.8% strongly agreed and 21.5% agreed) stated that military escorts or security personnel are required for site operations, underscoring the extent to which normal construction activities now depend on security arrangements.

Security threats were also found to limit effective site supervision, with 76.9% strongly agreeing, which may contribute to the increased use of inferior materials and compromised project quality. This is supported by 64.6% of respondents who strongly agreed that inferior materials are increasingly used and 72.3% who strongly agreed that project quality suffers when work is rushed.

In contrast to these findings, respondents expressed dissatisfaction with institutional support. Only 12.3% strongly agreed that government support for construction in insurgency zones is adequate, while a combined 50.8% disagreed or strongly disagreed. Similarly, most respondents disagreed that security provided to construction firms is sufficient.

**Table 3.1: Likert Scale Questions**

Research Statements	Responses	Frequencies	Percentages
Boko Haram activities have reduced access to construction sites	Strongly agreed	48	73.8%
	Agreed	12	18.5%
	Neutral	3	4.6%
	Disagreed	2	3.1%
	Strongly disagreed	0	0%
Workers are afraid to report to project locations due to insecurity	Strongly agreed	50	76.9%
	Agreed	10	15.4%
	Neutral	2	3.1%
	Disagreed	3	4.6%
	Strongly disagreed	0	0%
Kidnappings, bombings, or ambushes have affected project progress	Strongly agreed	52	80.0%
	Agreed	9	13.8%
	Neutral	2	3.1%



	Disagreed	2	3.1%
	Strongly disagreed	0	0%
Military escorts or security personnel are required for site operations	Strongly agreed	46	70.8%
	Agreed	14	21.5%
	Neutral	3	4.6%
	Disagreed	2	3.1%
	Strongly disagreed	0	0%
Security threats limit adequate site supervision	Strongly agreed	50	76.9%
	Agreed	11	16.9%
	Neutral	2	3.1%
	Disagreed	2	3.1%
	Strongly disagreed	0	0%
Use of inferior materials has increased due to supply difficulties	Strongly agreed	42	64.6%
	Agreed	15	23.1%
	Neutral	5	7.7%
	Disagreed	3	4.6%
	Strongly disagreed	0	0%
Project quality suffers when work is rushed	Strongly agreed	47	72.3%
	Agreed	14	21.5%
	Neutral	2	3.1%
	Disagreed	2	3.1%
	Strongly disagreed	0	0%
Government support for construction in insurgency zones is adequate	Strongly agreed	8	12.3%
	Agreed	14	21.5%
	Neutral	10	15.4%
	Disagreed	21	32.3%
	Strongly disagreed	12	18.5%
Security provided to construction firms is sufficient	Strongly agreed	6	9.2%
	Agreed	13	20.0%
	Neutral	12	18.5%
	Disagreed	20	30.8%
	Strongly disagreed	14	21.5%

### 3.1.2. Graphical Analysis of Results

This section presents the graphical analysis of the data obtained from respondents on the impact of Boko Haram insurgency on construction project delivery in Borno State, Nigeria. The results were earlier analyzed in tables, illustrated using charts and graphs to enhance clarity, ease of interpretation, and visual comparison of respondents' opinions. The graphical representations show the distribution of responses in terms of frequencies and percentages for each research statement. These charts provide a visual summary of respondents' level of agreement or disagreement with issues relating to insecurity, access to construction sites, project delays, cost escalation, labour availability, government support, and security provisions affecting construction activities in insurgency-affected areas.

#### 3.1.2.1. Impact on Access to Construction Sites

Figure 3.1 shows the graphical representation of respondents' opinions on whether Boko Haram activities have reduced access to construction sites. A large proportion of the respondents (73.8%) strongly agreed with the statement, while 18.5% agreed. Only a small percentage of respondents were neutral (4.6%) or disagreed (3.1%), and none strongly disagreed. This indicates that insecurity caused by Boko Haram insurgency has significantly limited access to construction sites in Borno State.



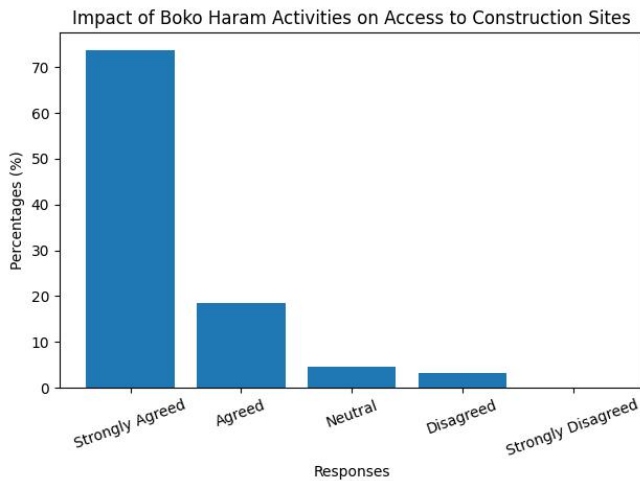


Figure 3.1: A bar graph showing the impact of Boko Haram activities on access to construction sites.

**3.1.2.2. Workers’ Fear of Reporting to Project Locations**

Figure 3.2 illustrates the respondents’ opinions on whether insecurity has made workers afraid to report to construction project locations. The majority of respondents (76.9%) strongly agreed with the statement, while 15.4% agreed. A small proportion of respondents were neutral (3.1%) or disagreed (4.6%), and none strongly disagreed. This result clearly indicates that fear arising from Boko Haram insurgency has significantly affected workers’ willingness to report to construction sites, thereby negatively impacting construction project delivery in Borno State.

**3.1.2.3. Respondents’ Perceptions of the Effect of Kidnappings, Bombings, or Ambushes on Construction Project Progress**

Figure 3.3 shows the three-dimensional clustered column chart illustrating respondents’ perceptions of the effect of kidnappings, bombings, or ambushes on construction project progress. A very high proportion of respondents (80.0%) strongly agreed that such insurgent activities have affected project progress. Only a small percentage of respondents were undecided (3.1%), while none strongly disagreed with the statement. This clearly indicates that violent insurgent actions have had a severe and direct negative impact on the progress of construction projects in Borno State.

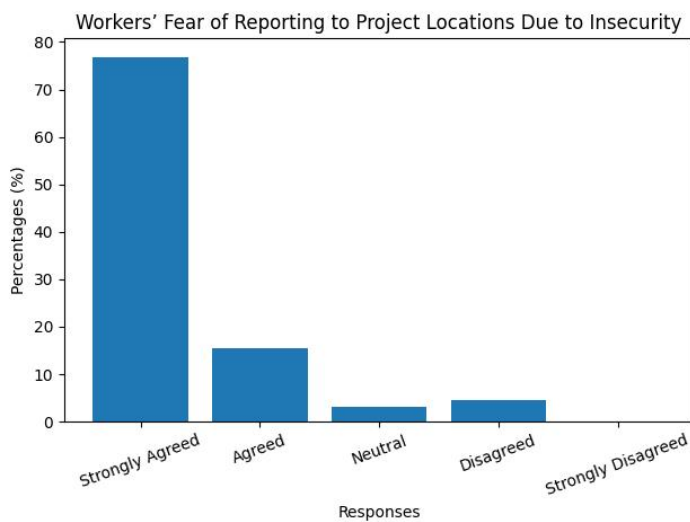


Figure 3.2: A bar graph showing the degree of workers’ fear of reporting to project locations due to insecurity

Effect of Kidnappings, Bombings, or Ambushes on Project Progress

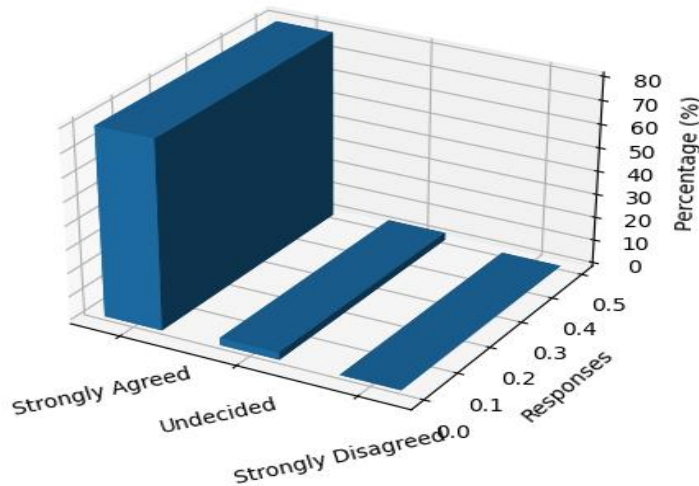


Figure 3.3: A three-dimensional clustered column chart illustrating respondents’ perceptions of the effect of kidnappings, bombings, or ambushes on construction project progress.

3.1.2.4. Adequacy of Government Support in Insurgency Zones

Figure 3.4 indicates mixed but largely negative perceptions regarding the adequacy of government support for construction activities in insurgency-affected zones. While 21.5% of respondents agreed and 12.3% strongly agreed that government support is adequate, a larger proportion disagreed (32.3%) and strongly disagreed (18.5%), showing overall dissatisfaction. Additionally, 15.4% of respondents remained neutral, suggesting uncertainty or limited awareness of government interventions. This distribution implies that most respondents perceive government support as insufficient to effectively address the challenges faced by construction projects in insurgency-prone areas.

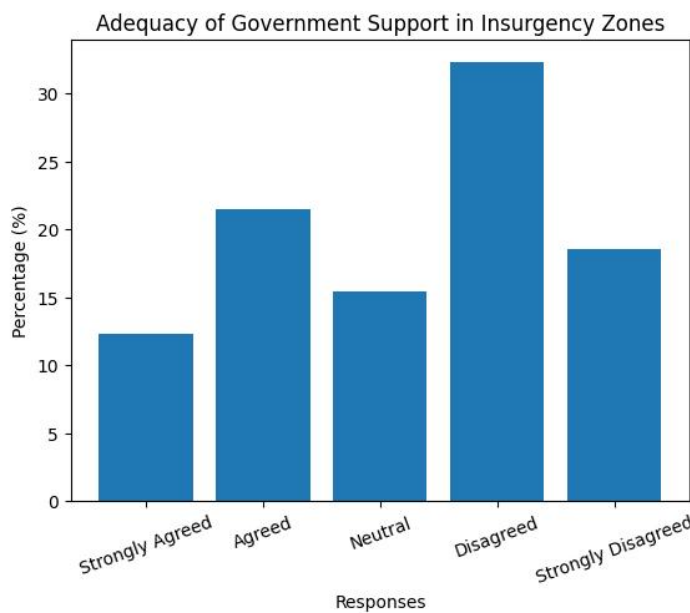


Figure 3.4: A bar chart indicating if government support is adequate in insurgency zones or not.

3.1. Discussion

The findings of this study demonstrate that insurgency has significantly altered the operational environment for construction project delivery in Borno State. The results indicate that security challenges associated with Boko Haram insurgency affect multiple dimensions of project implementation, including site accessibility, workforce participation,



project supervision, material supply chains, and institutional support [8,2]. These factors collectively create a complex risk environment that constrains effective project delivery in insurgency-affected zones.

One of the most significant findings of this study is the restriction of physical access to construction sites. A substantial proportion of respondents (73.8%) strongly agreed that insurgency has reduced access to construction sites. This suggests that insecurity directly interferes with the physical mobility required for construction operations. Limited access to project locations restricts routine activities such as site inspections, supervision, and material transportation. This finding aligns with previous research indicating that insecurity in conflict-affected regions can significantly disrupt infrastructure development by creating unsafe operational environments for contractors and consultants [12]. For example, studies examining the impact of terrorism on construction industries in fragile regions have shown that restricted site access often results in delays, cost escalation, and reduced project efficiency.

Another critical challenge identified in this study is the impact of insecurity on labour participation. The findings reveal that 76.9% of respondents strongly agreed that workers are afraid to report to project locations due to security threats. This highlights the psychological dimension of insecurity within the construction workforce. In conflict environments, labour shortages are not only caused by skill deficits but also by fear and perceived personal risk. Workers may avoid project sites located in high-risk areas or migrate to safer regions where employment opportunities exist under more stable conditions. Similar observations have been reported in recent studies examining labour dynamics in conflict-affected economies, where insecurity significantly reduces labour productivity and workforce stability.

The study further reveals that insurgent activities such as kidnappings, bombings, and ambushes have severe consequences for construction project progress. With 80% of respondents strongly agreeing that such incidents affect project progress, the findings highlight the vulnerability of infrastructure projects to unpredictable security shocks. Violent incidents can halt project activities, damage equipment, and increase project uncertainty. Unlike traditional project risks that can be predicted and managed through planning, insurgency introduces irregular disruptions that challenge conventional project management frameworks [13].

Another notable finding is the increasing dependence on security escorts for construction operations. Approximately 70.8% of respondents strongly agreed that military escorts or security personnel are required for site activities. While such security arrangements may provide temporary protection, they also introduce additional operational constraints. Construction schedules often become dependent on the availability of security personnel, which can delay project activities and increase costs. Similar findings have been reported in recent studies on infrastructure development in conflict zones, where security logistics significantly influence project timelines and resource allocation.

The results also indicate that insecurity limits effective site supervision. A large proportion of respondents agreed that security threats restrict adequate supervision of construction activities. Effective supervision is essential for maintaining construction quality, safety, and compliance with technical standards. When supervisors are unable to conduct regular site visits due to security concerns, monitoring becomes weaker and the risk of construction errors increases. This situation may contribute to the use of inferior materials and compromised construction quality, as indicated by the responses obtained in this study [14].

Furthermore, the findings reveal dissatisfaction with government support and security provision for construction stakeholders operating in insurgency-affected areas. More than half of the respondents disagreed that government support for construction in insurgency zones is adequate. This perception suggests that stakeholders believe institutional support mechanisms are insufficient to address the risks associated with operating in high-security environments. Infrastructure development in fragile and conflict-affected regions often requires strong government intervention through policy support, financial incentives, and coordinated security frameworks. Without such support, contractors and investors may be reluctant to undertake projects in high-risk areas.

The findings of this study reinforce the concept of the security–development nexus, where insecurity undermines development outcomes and stalled development may further intensify instability. In the context of Borno State, persistent insurgency continues to disrupt infrastructure delivery, which in turn slows reconstruction and economic recovery [15]. Recent reports from organizations such as the World Bank and the United Nations Development Programme emphasize that rebuilding infrastructure in conflict-affected regions requires not only financial investment but also adaptive governance structures capable of addressing security challenges.

Overall, the results suggest that improving construction project delivery in insurgency-affected zones requires integrated strategies that address both technical and security-related challenges. Strengthening security coordination, improving institutional support, and adopting conflict-sensitive project management practices are essential for enhancing construction resilience in regions affected by insurgency.



## 4. CONCLUSION AND RECOMMENDATIONS

### 4.1. Conclusion

Based on the findings of this study, it is evident that Boko Haram insurgency has deeply altered the landscape of construction project delivery in Borno State, Nigeria. The construction industry, which normally depends on stability, planning and coordination, operates under severe strain in conflict affected environments. This study demonstrates that insecurity is not just an external challenge but a central factor shaping how projects are planned, executed and in many cases abandoned. The persistent threat of attacks, kidnapping and violence creates an atmosphere of fear that affects decision making at all levels, from project owners to site workers. As a result, construction activities become unpredictable, fragmented and heavily constrained by security considerations rather than technical or economic logic [8].

The challenges faced by construction stakeholders go beyond physical danger. The findings show that insecurity disrupts communication, weakens supervision and reduces accountability on project sites. When professionals cannot visit sites regularly or remain on site for extended periods, quality control suffers and errors go uncorrected. Skilled labour shortages further compound this problem, as experienced workers often avoid insurgency affected areas in favour of safer locations. This situation forces contractors to rely on less skilled labour, which increases the likelihood of poor workmanship and technical defects. Based on this understanding, the insurgency indirectly lowers professional standards within the construction process, even when stakeholders are willing to deliver quality projects.

The study highlights institutional and governance gaps. Many respondents disagreed that government support and security provision for construction firms are adequate. This indicates limited capacity to protect projects, support contractors and manage infrastructure in conflict affected zones. Without strong institutional backing, construction stakeholders are left to manage of insurgency on construction project delivery is intensified by weak policy enforcement and limited strategic intervention [8,2].

### 4.2. Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed to improve construction project delivery in insurgency affected zones.

i. There should be strengthened security and institutional support for construction stake holders in order to address the challenges faced by these stake holders in insurgency affected zones, government authorities and security agencies should establish coordinated security frameworks that provide adequate protection for construction personnel, project sites and material transportation routes. Improved institutional support will help restore confidence among contractors, consultants and investors, thereby enabling safer and more effective project execution in conflict affected areas.

ii. There should be an integration of risk based project planning and quality control mechanisms in order to mitigate the effects of insurgency on projects cost, time and quality performance, construction firms should incorporate risk based planning strategies that account for potential security disruptions during project scheduling, budgeting and procurement processes. Additionally, enhanced quality control systems, including periodic structural assessments and improved supervision mechanisms, should be implemented to ensure that construction standards are maintained despite operational constraints.

### Conflicts of Interest

The authors declare no conflict of interest.

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