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Security Factors and Completion of National Government Constituency Development Fund Projects in Public Secondary Schools in Samburu County, Kenya

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Abstract

This study examined the relationship between selected security factors and the completion of National Government Constituency Development Fund (NG-CDF) projects in public secondary schools in Samburu County, Kenya. It focused on community hostility towards builders, vandalism of project structures, theft of construction materials and cattle rustling leading to school closures. A descriptive survey research design guided by a phenomenological paradigm was adopted. The target population comprised 265 participants, including 250 school-based participants (principals, deputy principals, heads of departments, Board of Management chairpersons and school bursars) and 15 key informants (sub-county directors of education, Teachers Service Commission sub-county directors, NG-CDF chairpersons, NG-CDF fund managers and deputy county commissioners). A census approach was adopted. Data were collected using structured questionnaires and interview schedules, yielding 212 completed questionnaires and 15 interviews. Quantitative data were analysed using descriptive statistics, Pearson's product-moment correlation and regression analysis, while qualitative data were analysed thematically. Findings revealed a strong negative and statistically significant relationship between security factors and project completion ($\beta = -0.775$, $p = .001$), with the regression model explaining 60.1 per cent of the variation in project completion ($R^2 = .601$). Community hostility, vandalism, theft of construction materials and cattle rustling were identified as constraints. The study recommends strengthening community engagement, collaboration with security agencies and protection of construction sites and materials. The findings contribute to improving NG-CDF project implementation and informing security-responsive school infrastructure planning in insecurity-prone regions.

Key terms: NG-CDF projects, project completion, public secondary schools, Samburu County, security factors.

1.0 INTRODUCTION

The completion of public infrastructure projects remains a major development challenge worldwide, particularly in regions affected by insecurity, political instability and weak institutional capacity. Existing research demonstrates that these conditions can interrupt construction activities, expose workers to threats, restrict access to project sites, disrupt supply chains and increase implementation costs. Espinoza and Presbitero (2022) established that nearly 60 per cent of public investment projects experience delays of at least one year, with weaker institutional capacity associated with longer implementation periods. Similarly, political instability and armed conflict undermine infrastructure development through the destruction of facilities, theft of equipment and materials, suspension of government operations and diversion of resources. In Sierra Leone, for example, conflict and political instability disrupted public infrastructure projects, resulting in the destruction of construction materials, theft, vandalism, increased costs and reduced project outputs (World Bank, 2004). These findings establish that security and institutional conditions are important considerations in infrastructure project implementation.

Community resistance also presents challenges to infrastructure development. Disputes over land ownership, employment opportunities, compensation, resource distribution and the perceived exclusion of local communities can generate protests, intimidation and interruptions to construction activities. Such resistance may undermine relationships between contractors, government agencies and beneficiaries, affecting project timelines and sustainability. These challenges demonstrate that successful infrastructure implementation requires not only adequate financial and technical resources but also political stability, effective security arrangements and meaningful community participation.

Similar challenges have been documented across African countries. The African Development Bank Group (2025) reports that insecurity has increasingly affected development project implementation in Nigeria, Mozambique, the Democratic Republic of Congo (DRC) and Ethiopia, contributing to project delays, reduced disbursement rates and increased operational risks. In Nigeria, for example, the average age of development projects increased from 4.2 years in 2019 to 5.5 years in 2023, while the disbursement rate declined from 65.5 per cent in 2021 to 53 per cent in 2023. Ebekozien et al. (2025), in a study of six construction sites in Lagos, Nigeria, identified pilfering of construction materials as a challenge associated with inadequate site security, poor material control and weak supervision. Similarly, Unruh et al. (2019), examining 26 large-scale infrastructure projects in Kenya, Tanzania, Ethiopia and Uganda, identified land disputes, population displacement, strained community relations and unmet local expectations as sources of tension affecting infrastructure development. Collectively, these studies demonstrate that insecurity, resource theft and community-related conflicts can undermine infrastructure implementation. However, much of this evidence addresses large-scale infrastructure and general construction projects, providing limited understanding of how specific security challenges affect the completion of educational infrastructure funded through decentralised development mechanisms.

In Kenya, the National Government Constituency Development Fund (NG-CDF) provides financial support for grassroots development projects, including the construction and improvement of school infrastructure. The fund was established under the Constituency Development Fund Act of 2003, subsequently amended in 2007, to support projects with immediate social and economic benefits for local communities (NG-CDF, 2024). Despite this funding mechanism, infrastructure implementation in some parts of the country remains vulnerable to insecurity, particularly in conflict-prone regions. For instance, the World Bank-

financed Horn of Africa Gateway Development Project, covering Kenya's northeastern region, has encountered security-related concerns associated with cattle rustling, resource competition, ethnic and clan conflicts, political dynamics, land injustices and theft-related insecurity (Agade et al., 2024). These challenges demonstrate how insecurity can affect construction personnel, contractors, project assets and relationships with beneficiary communities. Nevertheless, the extent to which these specific security challenges influence the completion of publicly funded school infrastructure projects remains insufficiently established.

The completion of school infrastructure projects remains a challenge in Samburu County, Kenya, where insecurity continues to disrupt development activities. Data from the Samburu County Education Office indicate an average incompletion rate of 56.5 per cent for NG-CDF projects over the preceding seven years. Incomplete projects limit access to essential educational facilities, contribute to resource wastage and undermine efforts to improve the quality of education. Insecurity-related incidents, including community hostility towards builders, vandalism of project structures, theft of construction materials and cattle rustling leading to school closures, may interfere with construction activities and delay project delivery. Although previous studies have examined insecurity, resource theft and community conflicts in infrastructure development, there is limited empirical evidence establishing the relationship between these specific security factors and the completion of NG-CDF projects in public secondary schools in Samburu County. This geographical, contextual and empirical gap provides the basis for the present study.

Specifically, community hostility towards builders may arise from disagreements over local employment opportunities, land ownership, local politics and cultural beliefs. Such hostility can create unsafe working conditions and contribute to project delays and abandonment (Wairire & Kamau, 2020). Vandalism of project structures may result in infrastructure damage and resource losses, particularly where communities feel excluded from development processes (Lemanski, 2020). Similarly, theft of construction materials can interrupt implementation and increase project costs because stolen materials require replacement (Chrine et al., 2020). Cattle rustling can also trigger insecurity, displacement and school closures, thereby disrupting construction activities and other educational operations (Lokidongoi et al., 2022). While these studies provide insights into individual security-related challenges, their combined relationship with NG-CDF project completion in Samburu County has not been adequately established. The present study addresses this gap by examining these four security factors within the context of public secondary school infrastructure development.

In this study, NG-CDF projects refer to school infrastructure development initiatives financed through the National Government Constituency Development Fund in public secondary schools. Project completion refers to the extent to which funded infrastructure projects are completed and made available for their intended use. Security factors refer to the selected insecurity-related challenges examined in the study, namely community hostility towards builders, vandalism of project structures by community members, theft of construction materials by labourers and cattle rustling leading to school closures. Public secondary schools refer to government-established secondary educational institutions in Samburu County receiving NG-CDF infrastructure funding. Samburu County constitutes the geographical study area, comprising Samburu Central, Samburu East and Samburu North sub-counties.

Therefore, this study examined the relationship between selected security factors and the completion of NG-CDF projects in public secondary schools in Samburu County, Kenya, focusing on community hostility

towards builders, vandalism of project structures, theft of construction materials and cattle rustling leading to school closures. The study adopted a descriptive survey research design guided by a phenomenological paradigm, using questionnaires and interviews to collect data from school-based participants and key informants. Quantitative and qualitative data were analysed to establish the relationship between the selected security factors and project completion.

H_0: There is no statistically significant relationship between selected security factors and the completion of NG-CDF projects in public secondary schools in Samburu County, Kenya.

2.0 LITERATURE REVIEW

Insecurity is a significant factor affecting the completion of national government constituencies development fund projects (Mutie, 2022). Especially in secondary schools in Samburu County, Kenya, the county is located in the arid and semi-arid region of Kenya, where there have been frequent incidents of insecurity, including cattle rustling, banditry, and inter-communal conflicts. These incidents have led to the closure of schools and disrupted the education of students in the region. As a result, school infrastructure development projects funded by the government through the NG-CDF have been adversely affected.

Community hostility towards builders is a major challenge that has been reported in Samburu County. In some cases, community members have been reported to threaten and harass construction workers, demanding that they employ local people. In some instances, the hostility has resulted in violence, leading to the suspension of construction work. According to a study by Wairire and Kamau (2020), community hostility towards builders leads to the abandonment of projects, causing delays and cost overruns. The hostility may be caused by various factors such as land disputes, local politics, or cultural beliefs.

Vandalism of buildings by the community is another challenge that affects the completion of development projects in Samburu County. Community members can damage the infrastructure constructed by the government, especially when the community feels left out of the development process (Lemanski, 2020). Vandalism of school buildings therefore leads to the suspension of construction work and loss of resources.

Stealing of building materials by the labourers is a significant challenge affecting the completion of school infrastructure projects. In some cases, construction workers have been reported to steal building materials intended for the development project, leading to delays in the construction process (Chrine et al., 2020). The theft of building materials leads to the suspension of construction work and additional costs to replace the stolen materials.

Cattle rustling is another challenge that affects the completion of development projects in Samburu County (Lokidongoi et al., 2022). The region has experienced frequent incidents of cattle rustling, which have resulted in the closure of schools and disruption of the education of students in the region. To address these security challenges, several measures have been implemented or proposed:

Increased Security Patrols – The Kenyan government, through the National Police Service, has deployed more security officers to schools in high-risk areas to protect construction workers and deter criminal activities.

Community Engagement and Sensitisation – NG-CDF committees have been encouraged to involve local communities in project planning to minimise hostility and vandalism. For example, in 2022, community barazas (meetings) were held in Maralal to address employment grievances related to NG-CDF projects.

Use of Secure Storage Facilities – Schools have been advised to store construction materials in secured storage rooms or transport them in phases to reduce theft.

Employment of Local Labour – Contractors are encouraged to employ a percentage of their workforce from the local community to reduce tensions and conflicts.

Alternative Construction Schedules – Some projects have adopted flexible work schedules, where construction happens during safer seasons when cattle rustling and banditry incidents are low.

The reviewed literature identifies insecurity, community hostility towards builders, vandalism of project structures, theft of construction materials and cattle rustling as challenges that may disrupt public infrastructure development. It also highlights proposed measures such as increased security patrols, community engagement, secure storage of construction materials, employment of local labour and flexible construction schedules. However, the literature presented does not sufficiently establish how these four specific security factors relate to the completion of NG-CDF-funded projects in public secondary schools in Samburu County. In particular, the combined influence of community hostility towards builders, vandalism of project structures, theft of construction materials by labourers and cattle rustling leading to school closures on project completion remains insufficiently examined. Therefore, the present study addresses this empirical and contextual gap by examining the relationship between these selected security factors and the completion of NG-CDF projects in public secondary schools in Samburu County, Kenya.

3.0 METHODOLOGY

A descriptive survey research design guided by a phenomenological paradigm was adopted to examine the relationship between selected security factors and the completion of NG-CDF projects in public secondary schools in Samburu County, Kenya. The design enabled investigation of conditions, while the paradigm facilitated exploration of stakeholders' experiences. The study covered Samburu Central, Samburu East and Samburu North sub-counties.

The target population comprised 265 participants, including 250 school-based participants and 15 key informants. The school-based participants comprised principals, deputy principals, heads of departments, Board of Management (BOM) chairpersons and school bursars. They were selected because of their administrative, supervisory, governance and financial responsibilities, which enabled them to provide relevant information on NG-CDF project implementation, security challenges and project completion. The key informants comprised sub-county directors of education, Teachers Service Commission (TSC) sub-county directors, NG-CDF chairpersons, NG-CDF fund managers and deputy county commissioners, who provided broader administrative, financial and security-related perspectives on project implementation.

Data were collected using structured questionnaires for school-based participants and interview schedules for key informants. The questionnaire used a four-point Likert scale, from strongly disagree to strongly agree, to assess community hostility towards builders, vandalism of project structures, theft of construction

materials and cattle rustling leading to school closures. Approval was obtained from Kabarak University's Institute of Postgraduate Studies, NACOSTI and county education authorities.

Quantitative data were analysed using SPSS version 24. Frequencies, percentages and means summarised responses; Pearson's product-moment correlation and regression analysis examined relationships between security factors and project completion. Normality, linearity, homoscedasticity and multicollinearity were assessed. Interview data were analysed thematically to contextualise quantitative findings.

Informed consent and confidentiality were maintained. Names were excluded from questionnaires, paper records were securely stored, and electronic files were password-protected. Data were retained for five years before destruction.

4.0 FINDINGS AND DISCUSSION

Return Rates of the Instruments

Two instruments, a school administrators' questionnaire and a key informants' interview schedule, were used to collect data. The return rates of these instruments are given in the table below.

Table 1: Instruments' Return Rates

Instrument	Administered/invited for interview	Returned/interviewed	Return rate in percent
School administrators' questionnaire	250	212	84.8
Key informants' interview schedule	15	15	100.0

Table 1 reveals that the school administrators' questionnaire achieved a high return rate of 84.8 per cent, while the key informant interview schedule recorded a 100 per cent response rate. The high questionnaire response rate well exceeds conventional research thresholds of 80 per cent or more, often considered as the benchmark for rigorous survey work (Taherdoost & Madanchian, 2024). Additionally, involving all the planned key informants enhanced the completeness of the qualitative dataset of the study, thus ensuring that diverse perspectives of key stakeholders were captured (American Association for Public Opinion Research [AAPOR], 2022). Despite these high rates, the potential for nonresponse bias in the questionnaire should still be acknowledged, given that administrators who did not respond may differ significantly from those who participated in terms of the number of NG-CDF initiated and finished projects. In totality, the data collected using these instruments were adequate given that the high response rates reduced the likelihood that the sample differed from the target population.

Selected Security Factor

Results of analysing selected security factors data gathered from school administrators are in the subsequent paragraphs. The administrators used a 4-point Likert scale (Strongly Disagree (SD) = 1, Disagree (D) = 2, Agree (A) = 3, Strongly Agree (SA) = 4) to indicate the extent of agreement with positive items on selected security factors. Reverse coding was used to express the extent of agreement with negative statements. The responses were summarised using percentages and also scored and transformed into composite security factors' index as shown in Table 2.

Table 2: Principals' Responses to Items on Security Factors

Security factor	N	SD	D	A	SA	Mean	SD
Community hostility towards builders affects completion of CDF projects	34	0.0	0.0	50.0	50.0	3.50	0.55
Vandalism of structures by community members causes the CDF projects to stall	34	0.0	0.0	52.9	47.1	3.47	0.36
Stealing of building materials by labourers affects completion of CDF projects	34	0.0	0.0	47.1	52.9	3.53	0.42
Cattle rustling leading to closure of schools affects the completion of CDF projects	34	0.0	0.0	29.4	70.6	3.71	0.56
Composite economic factors index	34					3.55	

The responses from school principals indicate that security factors were perceived to influence the completion of NG-CDF projects. Half (50.0%) of the respondents agreed, and the remaining 50.0 per cent strongly agreed that community hostility towards builders affected project completion. Similarly, 52.9 per cent agreed while 47.1 per cent strongly agreed that vandalism of project structures by community members caused projects to stall. On the issue of theft of building materials by labourers, 52.9 per cent strongly agreed and 47.1 per cent agreed that it affected project completion. The highest level of strong agreement (70.6%) was recorded for cattle rustling leading to school closures, while 29.4 per cent agreed that it hindered the completion of NG-CDF projects. The composite security factor index (M = 3.55) suggests that principals generally perceived security-related challenges as significant determinants of project completion.

Table 3: Deputy Principals' Responses to Items on Security Factors

Security factor	N	SD	D	A	SA	Mean	SD
Community hostility towards builders affects completion of CDF projects	42	0.0	0.0	50.0	50.0	3.50	0.38
Vandalism of structures by community members causes the CDF projects to stall	42	0.0	0.0	54.8	45.2	3.50	0.36
Stealing of building materials by labourers affects completion of CDF projects	42	0.0	0.0	45.2	54.8	3.45	0.41
Cattle rustling leading to closure of schools affects the completion of CDF projects	42	0.0	0.0	28.6	71.4	3.55	0.42
Security factor index	42					3.50	

Deputy principals also considered security factors to be important in determining the completion of NG-CDF projects. Half (50.0%) agreed, and the other half (50.0%) strongly agreed that community hostility towards builders affected project completion. More respondents (54.8%) agreed than strongly agreed (45.2%) that vandalism of structures by community members caused projects to stall. Conversely, 54.8 per cent strongly agreed while 45.2 per cent agreed that theft of building materials by labourers negatively influenced project completion. A substantial majority (71.4%) strongly agreed that cattle rustling leading to school closures affected the completion of NG-CDF projects, compared to 28.6 per cent who agreed. The overall security factor index (M = 3.50) indicates that deputy principals viewed security factors as having a considerable influence on the completion of NG-CDF projects.

Table 4: Board of Management Responses to Items on Security Factors

Security factor	N	SD	D	A	SA	Mean	SD
Community hostility towards builders affects completion of CDF projects	41	0.0	4.9	46.3	48.8	3.44	0.35
Vandalism of structures by community members causes the CDF projects to stall	41	0.0	0.0	53.7	46.3	3.46	0.36
Stealing of building materials by labourers affects completion of CDF projects	41	0.0	0.0	46.3	53.7	3.54	0.43
Cattle rustling leading to closure of schools affects the completion of CDF projects	41	0.0	0.0	29.3	70.7	3.71	0.31
Security factor index	41					3.54	

The responses from Board of Management members show a generally high level of agreement that security factors affect the completion of NG-CDF projects. Nearly half (48.8%) strongly agreed, and 46.3 per cent agreed that community hostility towards builders influenced project completion, while 4.9 per cent disagreed with the statement. A majority (53.7%) agreed that vandalism of structures by community members caused projects to stall, whereas 46.3 per cent strongly agreed. In addition, 53.7 per cent strongly agreed, and 46.3 per cent agreed that theft of building materials by labourers affected project completion. The strongest consensus was observed on cattle rustling leading to school closures, with 70.7 per cent strongly agreeing and 29.3 per cent agreeing that it hindered completion of NG-CDF projects. The composite security factor index (M = 3.54) indicates that Board of Management members generally perceived security issues as important factors affecting project completion.

Table 5: Bursars' Responses to Items on Security Factors.

Security factor	N	SD	D	A	SA	Mean	SD
Community hostility towards builders affects completion of CDF projects	48	0.0	0.0	50.0	50.0	3.50	0.61
Vandalism of structures by community members causes the CDF projects to stall	48	0.0	0.0	54.2	45.8	3.46	0.48
Stealing of building materials by labourers affects completion of CDF projects	48	0.0	0.0	45.8	54.2	3.54	0.53
Cattle rustling leading to closure of schools affects the completion of CDF projects	48	0.0	0.0	29.2	70.8	3.71	0.44
Security factor index	48					3.55	

School bursars likewise perceived security factors as influencing the completion of NG-CDF projects. An equal proportion of respondents (50.0%) agreed and strongly agreed that community hostility towards builders affected project completion. More than half (54.2%) agreed that vandalism of project structures by community members caused projects to stall, while 45.8 per cent strongly agreed. On the other hand, 54.2 per cent strongly agreed, and 45.8 per cent agreed that theft of building materials by labourers hindered project completion. The highest proportion of strong agreement (70.8%) was recorded on cattle rustling leading to school closures, with 29.2 per cent agreeing that it affected project completion. The composite security factor index (M = 3.55) suggests that bursars regarded security challenges as significant determinants of the completion of NG-CDF projects.

Table 6: Head of Departments Responses to Items on Security Factors

Security factor	N	SD	D	A	SA	Mean	SD
Community hostility towards builders affects completion of CDF projects	47	0	0	51	49	3.49	0.61
Vandalism of structures by community members causes the CDF projects to stall	47	0	0	53	47	3.47	0.52
Stealing of building materials by labourers affects completion of CDF projects	47	0	0	47	53	3.53	0.47
Cattle rustling leading to closure of schools affects the completion of CDF projects	47	0	0	28	72	3.72	0.39
Security factor index	47					3.55	

The findings from heads of departments similarly indicate that security factors were perceived to affect the completion of NG-CDF projects. Slightly more respondents (51.0%) agreed than strongly agreed (49.0%) that community hostility towards builders affected project completion. Likewise, 53.0 per cent agreed while 47.0 per cent strongly agreed that vandalism of structures by community members caused projects to stall. In contrast, 53.0 per cent strongly agreed, and 47.0 per cent agreed that theft of building materials by labourers negatively affected project completion. The statement receiving the highest level of strong agreement was cattle rustling leading to school closures, where 72.0 per cent strongly agreed, and 28.0 per cent agreed that it hindered the completion of NG-CDF projects. The overall security factor index (M = 3.55) indicates that heads of departments generally perceived security factors as having a substantial influence on the completion of NG-CDF projects.

Table 7: School Administrators' Responses to Items on Selected Security Factors

Security factor	**N**	**SD**	**D**	**A**	**SA**	**Mean**	**SD**
Community hostility towards builders affects completion of CDF projects	211			50.7	49.3	3.49	0.53
Vandalism of structures by community members causes the CDF projects to stall	211			54	46	3.47	0.51
Stealing of building materials by labourers affects completion of CDF projects	208			46.2	53.8	3.52	0.55
Cattle rusting leading to closure of schools affects the completion of CDF projects	209			28.2	71.8	3.68	0.45
Security factor index	211					3.54	0.34

The secondary schools located in arid and semi-arid regions are often prone to insecurity threats. The results are supported by Mutie (2022), who opined that cases of cattle rustling, banditry, and inter-communal conflicts lead to disruption of school operations. The frequent insecurity adversely affects school infrastructure developed through the NG-CDF program (Mutie, 2022). Incidents such as harassment of workers by local communities have also been reported by Wairire and Kamau (2020). According to Wairire and Kamau (2020), such hostilities can lead to abandonment of the construction site, hence delays and cost overruns in NG-CDF projects. Lemanski (2020) supports the current findings on the basis that vandalism to school infrastructure can occur when the locals feel sidelined in the decision-making phases.

Regarding security factors, 50.7 per cent of the respondents agreed that community hostility towards builders affected the completion of NG-CDF projects. In addition, 54.0 per cent of the respondents agreed that vandalism of structures by community members caused the NG-CDF projects to stall. On the other hand, 53.8 per cent of the respondents strongly agreed that stealing building materials by labourers affected the completion of NG-CDF projects. Moreover, 71.8 per cent strongly agreed that cattle rustling leading to the closure of schools affected the completion of NG-CDF projects.

Qualitative Data on Selected Security Factors

Qualitative data provided by key informants through interviews was also analysed. It focused on key themes that had not been adequately addressed in the questionnaire and quantitative data. The following findings were obtained from the interview discussions regarding Selected Security factors and the completion of NG-CDF projects:

The study sought to gather the opinions of the participants regarding the instances where the community members are hostile to the builders in secondary schools. The majority of the participants reported that there were instances when the community members were hostile to employees of construction companies putting up NG-CDF projects in secondary schools; only a few held contrary opinions. The hostility was attributed to the non-involvement of locals in projects, political incitement or the awarding of tenders to contractors who are viewed as outsiders. The other cause of hostility reported is that most employees of the contractor are not locals (viewed as outsiders). These findings support those of a study by the National Crime Research Centre (2024) which showed that lack of stakeholder engagement and perceived exclusion often lead to resistance, conflict and disruption of development projects. These findings point to the importance of community participation and inclusion in project implementation.

It was also necessary to determine the manner in which vandalism of structures by community members affected the completion of NG-CDF projects in secondary schools. All the interviewees reported that there were instances when incomplete projects were vandalised, particularly when schools are closed and there are minimal activities going on. The extract from interviewee 1 below confirms this:

> *Vandalism of incomplete projects is common in schools during holidays. This affects project timelines, as additional funds must be sought for repairing the damage caused by the vandals.*

These findings are consistent with reports of the National Crime Research Centre (2024), which indicate that insecurity in parts of Northern Kenya has resulted in destruction of school infrastructure and disruption of development projects. The Centre has also documented cases where insecurity and local conflicts have led to vandalism of public facilities, including those in schools.

When asked whether theft of building materials by labourers affects the completion of CDF projects, all the interviewees agreed that it did. They explained that stealing leads to a shortage of materials and stalling of projects. This forces constructors to source additional funds for purchasing materials, leading to delays in project timelines. These findings reflect broader concerns in the construction sector in Kenya, where internal security concerns such as pilferage contribute to inefficiencies and cost overruns. Kariuki and Wanyoike (2022) attribute this security constraint to weak site supervision and lack of accountability mechanisms, which increase vulnerability to theft and ultimately affect project performance. Effective site management and security controls are therefore essential for safeguarding project resources.

Participants were also expected to elaborate on whether cattle rustling was experienced within their locality and the resulting implications of such occurrences. All the interviewees agreed that it affected project completion rates. They reported that such incidents led to the closure of schools, contractors stopping work, and the abandonment of some project sites due to insecurity. They reported that such incidents led to the closure of schools, suspension of construction activities, and, in some cases, abandonment of project sites. These findings are similar to those of a study on insecurity in Northern Kenya, which revealed that banditry and cattle rustling frequently disrupt socio-economic activities,

displace communities and hinder infrastructure development in Northern Kenya (Nyagwara & Ogutu, 2024). Further, insecurity severely affects education and development projects by creating an unsafe environment for implementation in counties such as Samburu, Turkana and Baringo. Additionally, insecurity has also been linked to school closures and reduced access to education, further compounding development challenges (Wanjara & Ogembo, 2024). These interview results showed a shared belief among participants that insecurity activities such as cattle rustling adversely impacted project completion rates by generating an unsafe environment for execution.

Wairire and Kamau (2020) allude to the fact that hostility towards construction workers is attributed to tensions in local politics, variation in cultural perspectives and beliefs and land disputes among clans. Vandalism of buildings and machinery can cause suspension of construction activities (Lemanski, 2020). Furthermore, the study agrees with Chrine et al. (2020), who observed that delays in the construction process can also be linked to theft of building materials, leading to extra costs to replace stolen inputs. The threat of cattle rustling has been cited by Lokidongoi et al. (2022) as a major impediment to completion of NG-CDF projects in Samburu region. The schools are forced to close, and normal learning is disrupted.

Lastly, participants were asked to make suggestions targeted at solving security issues that affected the completion of NG-CDF projects in secondary schools in Samburu County. The interviewees made a number of recommendations that can be used to address security issues. They proposed that the provincial administration and the police, in collaboration with local communities, should come up with strategies for controlling insecurity. They were also of the view that contractors should engage more locals as labourers as a way of reducing community hostility.

These recommendations are in harmony with those of the World Bank (2023), which states that effective citizen engagement and stakeholder management are essential for successful infrastructure delivery. The recommendation of the Bank is based on the premise that communities which are actively involved in development initiatives are more likely to support project implementation and safeguard project assets, thereby reducing security risks and improving project outcomes.

These findings demonstrate that security should not only be viewed in terms of protecting project materials and personnel, but also in terms of managing stakeholder relationships and minimising conflicts that may disrupt implementation of projects. Strengthening community participation, enhancing transparency in project management and establishing effective conflict resolution mechanisms could therefore help reduce hostility towards contractors and improve timely completion of NG-CDF projects in public secondary schools.

Regression Assumption Tests on Relationship between Selected Security Factors and Completion of NG-CDF Projects

Before conducting regression analysis, diagnostic tests were performed to determine whether the data met the assumptions required for linear regression. These tests were necessary to ensure that the estimated relationship between selected security factors and completion of NG-CDF projects was statistically valid, reliable, and appropriate for hypothesis testing. Normality was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests to establish whether the security factor index approximated a normal distribution. Linearity was examined using analysis of variance for linearity to confirm that the relationship between security factors and project completion was linear. Homoscedasticity was evaluated

by examining a scatterplot of standardised residuals against standardised predicted values to determine whether the variance of residuals remained constant across observations. Satisfying these assumptions enhanced the robustness of the regression model and increased confidence that the findings accurately reflected the influence of selected security factors on completion of NG-CDF projects in public secondary schools in Samburu County.

Normality Test

Table 8 shows that the security factor index is normally distributed. The Kolmogorov-Smirnov test recorded a statistic of 0.161 with p = 0.102, while the Shapiro-Wilk test showed a statistic of 0.903 with p = 0.123 (df = 211). Since both significance values are above 0.05, the assumption of normality is satisfied, which implies that parametric tests can be used for further analysis.

Table 8: Normality Test on Relationship Between Selected Security Factors and Completion of NG-CDF Projects

	Kolmogorov-Smirnov[a]	Kolmogorov-Smirnov[a]	Kolmogorov-Smirnov[a]	Shapiro-Wilk	Shapiro-Wilk	Shapiro-Wilk
	Statistic	df	Sig.	Statistic	df	Sig.
Security factor index	.161	211	.102	.903	211	.123
a. Lilliefors Significance Correction	a. Lilliefors Significance Correction	a. Lilliefors Significance Correction	a. Lilliefors Significance Correction	a. Lilliefors Significance Correction	a. Lilliefors Significance Correction	a. Lilliefors Significance Correction

Linearity Test

Table 9 shows that there is a significant linear relationship between selected security factors and completion of NG-CDF projects. The linearity component is significant (F = 5.027, p = 0.026), while deviation from linearity is not significant (F = 0.541, p = 0.705), hence indicating that the relationship is linear. The combined model is not significant, which suggests weak overall group differences, but the assumption of linearity is satisfied for regression analysis (F = 1.439, p = 0.212).

Table 9: Linearity Test on Relationship Between Selected Security Factors and Completion of NG-CDF Projects

			Sum of Squares	df	Mean Square	F	Sig.
Completion of NG-CDF Projects * Security factor index	Between Groups	(Combined)	1.298	5	.260	1.439	.212
Completion of NG-CDF Projects * Security factor index	Between Groups	Linearity	.907	1	.907	5.027	.026
Completion of NG-	Between	Deviation from	.391	4	.098	.541	.705

CDF Projects * Security factor index	Groups	Linearity					
Completion of NG-CDF Projects * Security factor index	Within Groups	Within Groups	36.798	204	.180		
Completion of NG-CDF Projects * Security factor index	Total	Total	38.095	209			

Homoscedasticity Test

As shown in Figure 1, the scatterplot displays the regression standardised residuals plotted against the regression standardised predicted values. The data points cluster in vertical columns with a reasonably stable vertical spread across the spectrum of predicted values, showing no evident cone or funnel shape. This balanced and evenly distributed spread indicates that the regression model successfully satisfies the assumption of homoscedasticity.

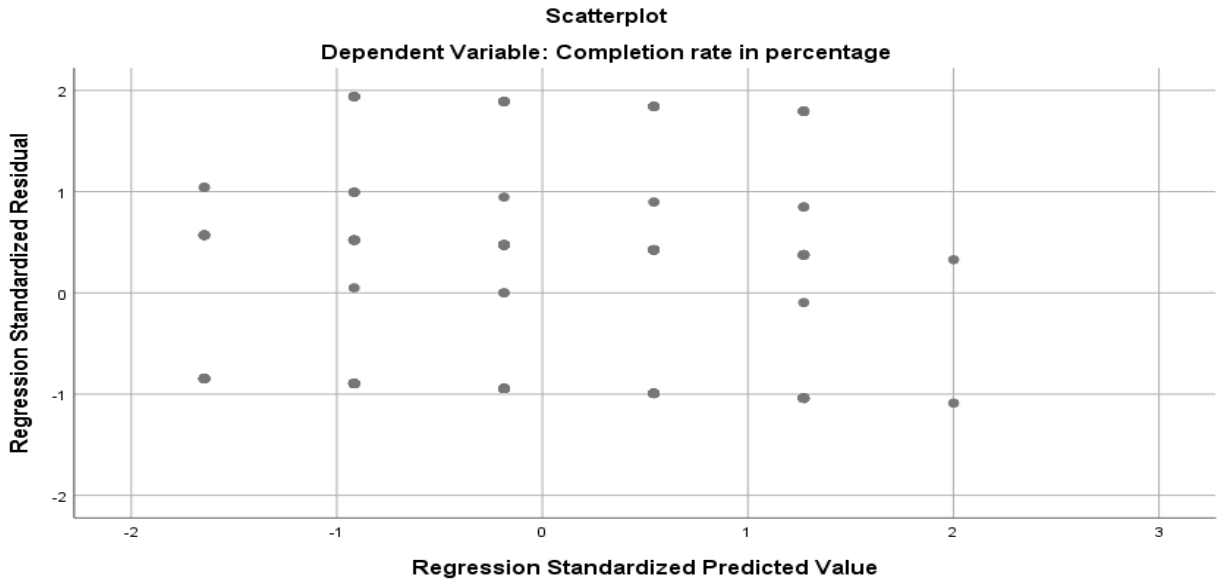


Figure 1: Homoscedasticity Test on Relationship Between Selected Security Factors and Completion of NG-CDF Projects

Pearson Correlation Between Selected Security Factors and Completion of CDF Projects

According to the results in Table 10, selected security factors had a statistically significant negative relationship with the completion of CDF projects ($r = -0.775$, $p < 0.01$). The findings indicated that an increase in security-related challenges was associated with a decrease in the completion of CDF projects.

Table 10: Pearson Correlation Between Selected Security Factors and Completion of CDF Projects

		Security Factors	Completion of CDF Projects
Security Factors	Pearson Correlation	1	-.775*
Security Factors	Sig. (2-tailed)		.001
Security Factors	N	212	212
Completion of CDF Projects	Pearson Correlation	-.775*	1
Completion of CDF Projects	Sig. (2-tailed)	.001	
Completion of CDF Projects	N	212	212
**. Correlation is significant at the 0.01 level (2-tailed).	**. Correlation is significant at the 0.01 level (2-tailed).	**. Correlation is significant at the 0.01 level (2-tailed).	**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation results revealed a statistically significant strong negative relationship between selected security factors and completion of NG-CDF projects ($r = -0.775$, $p = .001$). This indicates that increased insecurity, including cattle rustling, vandalism, theft of construction materials, and community hostility, is strongly associated with lower project completion rates. Among all the study variables, security factors exhibited the strongest association with project completion, highlighting the unique security challenges experienced in Samburu County. The findings imply that improving site security and strengthening community participation are essential for enhancing the completion of NG-CDF projects. The results are consistent with studies reporting that insecurity and external risks significantly disrupt construction schedules and project performance. For instance, Abed and Rashid (2023) identified security-related and financial risks among the most critical threats facing school construction projects, while recent studies in international contracting found political instability, civil disturbances, and security risks to be major causes of delayed project completion. However, studies conducted in relatively stable urban settings reported weaker security effects, suggesting that the Samburu context amplifies the influence of insecurity on project implementation.

These findings are consistent with Abed and Rashid (2023), who identified security-related risks as major contributors to delays in school construction projects. Similar findings were reported by El Khatib and Alabdooli (2022), who established that political instability and insecurity significantly reduced construction project performance in fragile environments. Likewise, Amoah and Osei Tutu (2021) found that external security risks negatively affected timely completion of public infrastructure projects in developing countries.

The findings further imply that strengthening community participation and enhancing local security mechanisms could substantially improve project completion rates in insecure environments. Community ownership of projects encourages residents to safeguard construction materials, support contractors, and

resolve conflicts that may interrupt implementation. Collaboration between school management, local administrators, security agencies, and community leaders can therefore reduce project risks and create an enabling environment for timely completion. The particularly strong negative correlation recorded in this study demonstrates that security challenges constitute a more critical barrier to project completion in Samburu County than in many other regions experiencing relatively stable security conditions.

However, the findings contrast with Nke and Wachira (2023), who found that management and financial factors had a greater influence on completion of school construction projects in Nairobi County than security concerns, illustrating the context-specific nature of security challenges in project implementation.

Hypothesis Test on the Relationship Between Selected Security Factors and NG-CDF Project Completion Rates

The relationship between Selected Security factors and the completion of NG-CDF projects was determined by testing the hypothesis of the study. The hypothesis stated that:

H0: There is no statistically significant relationship between Selected Security factors and the completion of National Government Constituency Development Fund projects.

It was tested using simple linear regression at the .05 level of significance. It entailed regressing the Selected Security Factors index on NG-CDF project completion rates. The results are contained in Table 11.

Table 11: Results of Regressing Selected Security Factors on NG-CDF Projects Completion Rates

Scale	Unstandardized Coefficients	Unstandardized Coefficients	Standardized Coefficients	t-value	p-value
	B	Std. Error	Beta	t-value	p-value
Constant	2.595	.067		38.857	.000
Security factors	-.782	.044	-.775	-17.753	.001
r = .775, R^2 = .601, F (1, 209) = 315.168, p = .001	r = .775, R^2 = .601, F (1, 209) = 315.168, p = .001	r = .775, R^2 = .601, F (1, 209) = 315.168, p = .001	r = .775, R^2 = .601, F (1, 209) = 315.168, p = .001	r = .775, R^2 = .601, F (1, 209) = 315.168, p = .001	r = .775, R^2 = .601, F (1, 209) = 315.168, p = .001

The regression analysis shows a strong negative and statistically significant relationship between selected security factors and completion of NG-CDF projects (r = -.775). The coefficient of determination (R^2 = .601) indicates that selected security factors explain 60.1 per cent of the variation in project completion rates, which demonstrates substantial explanatory power of the model. The overall model is statistically significant, confirming that security factors significantly influence NG-CDF project completion (F (1, 209) = 315.168, p = .001). In addition, the regression coefficient indicates that an increase in security-related challenges is associated with a substantial decrease in project completion rates (B = -.782, β = -.775, t = -17.753, p = .001). This suggests that insecurity conditions such as crime, instability, and safety concerns significantly hinder the implementation and completion of NG-CDF projects. Therefore, hypothesis four,

which stated that there is no statistically significant relationship between selected security factors and NG-CDF project completion rates, is rejected.

Discussion

The findings demonstrate that security challenges are important constraints on the completion of NG-CDF projects in public secondary schools. The strong negative and statistically significant relationship suggests that increasing exposure to community hostility towards builders, vandalism, theft of construction materials and cattle rustling is associated with reduced project completion. This relationship can be explained by the disruption these security challenges cause to construction activities, including delays, loss of resources, interruptions to work and increased implementation costs.

The findings are consistent with Kinoti and Sang (2022), observed that controversies and hostility surrounding Constituency Development Fund implementation can undermine project implementation and contribute to delays in project completion. Their observation suggests that community acceptance and cooperation are important conditions for sustaining construction activities. Similarly, Wamuru and Kikwatha (2025) emphasise that identifying and managing project risks, including security threats, is essential for maintaining implementation stability and achieving project objectives. This supports the present finding by demonstrating that inadequate attention to security risks can compromise project progress and completion. Mwathe and Nzuki (2025) further argue that applying risk avoidance and reduction strategies enhances NG-CDF project performance. Their argument highlights the importance of proactive measures, such as community engagement, protection of construction materials and collaboration with security agencies, in reducing disruptions to project implementation. Taken together, these studies reinforce the conclusion that effective management of security risks is necessary for improving the completion of NG-CDF projects in public secondary schools.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion: The experienced community hostility towards contractors is primarily driven by the exclusion of local residents from project benefits and important decision-making involving NG-CDF projects. The community may respond by vandalising incomplete structures, which can increase project costs and extend completion timelines. Moreover, theft of construction materials often disrupts project progress as it creates material shortages and additional expenditure. Similarly, in nomadic regions, cattle rustling and insecurity directly interrupt construction activities via school closures and site abandonment. Therefore, security failures imply that project success depends not only on funding and management but also on community acceptance and local stability.

Recommendations: The study recommends the implementation of structured community participation programs during project planning and implementation to enhance local ownership. There is a need to prioritise the employment of qualified local labourers with the target of reducing hostility and enhancing support from the community. Furthermore, site security could be strengthened through actions such as guards, fencing and regular patrols. The adoption of modern technology, including integrated material inventory control systems with capabilities for regular audits, could minimise theft and resource misuse. The level of collaboration between schools, local administrators, security agencies and community leaders could proactively address insecurity threats that affect NG-CDF project implementation.

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