

## **Influence of Preventive Mechanisms on Counter Terrorism Measures in Garissa University in Kenya**

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### **ABSTRACT**

This paper was derived from a study that was carried out in Garissa University in Kenya. Counter Terrorism Measures are the world's most effective actions of dealing with the threatening effects and consequences of terrorism. Having appropriate preventive mechanisms is a contribution by the government and security planners to ensure the nation and the universities are secure for learning to progress without any disruptions. The specific objectives of this study were to evaluate the influence of preparedness, assess the influence of preventive mechanisms, analyze the influence of challenges and establish the influence of the role of stakeholders in Counter Terrorism Measures in Garissa University in Kenya. Rational choice theory and descriptive research design was employed, targeted 105 students and staff. Data was collected using a semi structured questionnaire, analyzed using (SPSS) version 22. Results revealed that preparedness, preventive mechanism, challenges, and role of stakeholders had a statistically positive influence on CT measures in Garissa University in Kenya. These accounted to 49.7% of the variations in counter terrorism measures in Garissa University, this indicates that other factors not studied contributes to the other 50.3%. The study recommends more resources for counter terrorism measures, improvement on intelligence sharing, provision of modern communication systems and the University to collaborate more with other agencies to ensure laws are developed to help in monitoring of internet. The study has contributed to theory building; informs the policy makers, on the importance continuous improvement Counter Terrorism Measures.

**Key words:** Preventive Mechanisms, Terrorism, Counter Terrorism Measures. Soft Targets, University

### **INTRODUCTION**

Understanding terrorism and its definition is necessary this helps in employing the appropriate counterterrorism measures. Counterterrorism measures are explained as strategies or efforts

by the national security, the public and the learning institutions in preventing and deterring the effects and consequences of terrorist's threat [1]. Many organizations have in-place preventive mechanisms, that prevent intruders from accessing and offending in their premises; however, the increase in terrorism threats, has forced different institutions and government to commit more resources and efforts to ensure their organizations are protected.

This paper is an evaluation of the influence of preventive mechanisms on counter terrorism, these measures are aimed at pursuing, preventing, protecting, responding to terror action, that is identify and disrupting terrorist plans. These strategies must be well planned, installed or executed and finally assessed to determine their effectiveness. Preventive mechanisms like well processed intelligence, biometrics, scanners, protective systems, and lightings metal detectors must be measured to determine their ability and potential in accurately detecting threats. These measures are aimed at protecting critical infrastructure and valuable assets. They also prevent vulnerable groups especially the youths from being radicalized and also help in identifying behavior change that can lead to terror acts.

For example, the government of Kenya and the national security requires that organizations and institutions install preventive and protective measures that will effectively protect, reduce disruption of services and casualties in case of a successful attack. These include the learning institutions, which are tasked to put in place, counter terrorism measures which complies with the standards and guidelines of Ministry of Education on safety and security. The Ministry of Education expects Universities to establish police posts in their institution, special patrol vehicles for response, biometric identification gadget, CCTV cameras and security and safety policies among others [2]. Safety and security of the learning institutions can be achieved through well-developed criminal detections system, investigations, crime prevention procedures, intelligence gathering, community and police collaboration and effectively administering justice.

Preventive mechanisms mostly cover defensive measures that are made available by the institution, which are seen as complements, whereas, proactive measures are substitutes that are mainly offered by other security agencies [3]. Security of the nation and the learning institution is crucial and can be effectively achieved by ensuring there are defensive actions in place that makes it difficult and expensive for terrorist to attack successfully. Counter terrorism measures employed by the institutions reduce loss of property and lives in case of a successful attack [3]. The challenge of terrorism has forced institutions and the nation to employ appropriate defensive and offensive measures that are inexpensive, effective and beneficial to all stakeholders. [1].

Adoption of preventive mechanisms such as biometric identification is central in security and in investigations. Since the terror attack of September 11, 2001, different strategies have been employed in crime prevention, these include biometrics that have been used successfully in identification and verification at different organizations and learning institutions to prevent terrorist aggression [4]. Since terrorist can attack; anything, anywhere, and at any time the security agencies and learning institutions must assess their counter terrorism measures to be certain that they can effectively prevent and reduce the effects and consequences in case of a threat action.

It is important to note that learning institutions are public areas that need to be accessed by all, but due to the challenges of terrorism threat, that access has been limited. Having effective measures and system ensures that, criminals are denied access to these areas, in order to protect the occupants from becoming victims of terror attacks. Learning institutions should not live in denial they must accept the fact that terror threats are real. And absence of these strategies creates an opportunity for terrorist and other criminals accessing learning institution.

**Purpose:** To assess the influence of preventive mechanisms in counter-terrorism measures in Garissa University in Kenya

### **PROBLEM STATEMENT**

Terrorism is a global phenomenon, a problem that is increasingly spreading. The changing methods of operation by terrorists has made it necessary for institutions to ensure that they have Counter-Terrorism Measures which can effectively deal with the threatening effects and consequences of terrorism. Issues of terrorism have become so complex and challenging to the national security, law enforcement, learning institutions and other individuals that are charged with security. Terrorist activities require effective counter terrorism strategies to deal with them effectively.

The Garissa University College attack in 2015, created a necessity to implement effective measures to avoid the damage, effects and consequences that were experienced. The delays that were experienced in response to this particular attack, demonstrated some gaps, that the counter terrorism measures in the university were either inadequate, weak or that they were absent and there was poor collaboration with the community and other agencies. Following these attacks, the Government of Kenya and the Ministry of Education, have made recommendations to the universities. That they should have a workable security policy and follow safety and security guidelines and standards in implementing counter terrorism measures. This evaluation was based on the security policies, safety and security guidelines as per the Ministry of Education. The evaluation has helped the researcher to know whether the measures available are effective and yielding the desired results at Garissa University. The study considered the preparedness, preventive mechanisms, challenges and the role of stakeholders in counter terrorism measures in Garissa University in Kenya.

Most of the researchers have largely focused on nations outside Kenya. The gap in this research was that, there had been no evaluation on the counter terrorism measures in Garissa University in Kenya. This study therefore provided the true and most accurate state of counter terrorism measures in the university. The evaluation was important because it was aimed at helping the learning institutions to take precautions and avoid circumstances where they react after an incident and also to minimize the effects and consequences in case of a successful attack.

### **OBJECTIVES OF THE STUDY**

1. To evaluate the influence of preparedness in counter-terrorism measures in Garissa University in Kenya
2. To assess the influence of preventive mechanisms in counter-terrorism measures in Garissa University in Kenya

3. To analyze the influence of challenges in counter-terrorism measures in Garissa University in Kenya
4. To establish the influence of the role of stakeholders in counter-terrorism measures in Garissa University in Kenya

## **THEORETICAL FRAMEWORK**

### **Rational Choice Theory**

Rational choice theory was founded by Cesare Beccaria in the 18<sup>th</sup> century, since then it has been used in many disciplines. The theory implies that every man has a rational side, which enables him to make consistent choices. In respect to this theory, it is presumed that terrorists are rational and they make choices that will maximize their benefits. It stipulates that people make decisions, act or commit a criminal activity after weighing the benefits likely to be obtained. The behavior and acts of terrorism are based on benefits, costs and expectations that perpetrators may get [5]. Terrorists respond rationally to measures taken to counter them. They choose options that promise the largest benefit in relation to the cost, and they respond in relation to the changing risk. Counter terrorism measures are engaged to uncover, monitor and disrupt terrorist activities and plots.

Perpetrators think carefully before going on a mission to offend in an area, they usually survey the area and collect some intelligence, to avoid becoming victims of poor decision making. In the same way the learning institutions and security agencies must make decisions that are well informed in order to secure an area by putting in place preventive mechanisms that can be able to deter the would be perpetrators. [6] States that there is need to understand terrorist to be able to counter them, effort made by the security agencies through commitment and putting appropriate structures can effectively have impact and deter the terrorist operations. Security practitioners have choices to make; they must be willing to prevent terrorism in learning institutions. These choices should be based on the vulnerability of the learning institutions which creates a demand that they be appropriately secured.

Rational choice theory is instrumental in solving terrorists' violence. This is because the government and security planners have a responsibility to make decisions that contribute to the safety and security of learning institutions. Their decisions are beneficial because having effective counter terrorism measures will reduce the effects and consequences of terrorism. If a terrorist perceives that the measures in place are effective, then they are unlikely to offend, because of the fear of being apprehended. Terrorists' tries to protect their actions and campaigns from being overwhelmed by effective counter terrorism measures [3]. The government and the security agencies must establish counter terrorism measures and social programs to limit locals from supporting terror groups. Therefore rational choice theory was useful in measuring the influence of preventive mechanisms on counter terrorism measures.

## **EMPIRICAL LITERATURE**

[7] Investigated the influence of the adoption of evidence-based interventions for preventing extremism. The study conducted a desk review of published literary books, journals, articles and abstracts. The study assessed 371 published journal articles, books and study protocols. The findings showed that focusing behavior change interventions and use of community policing as effective approaches for preventing violent extremism. However, the study focused majorly on ascertaining whether the publications provide solutions or interventions for

terrorism while pointing out sweeping suggested interventions. Thus, it was imperative to conduct this study to assess the influence of the determinants of counter terrorism measures in Garissa University.

[8] Investigated the existing security measures selected universities in Nairobi County for combating terrorism threats. Both mixed-method and exploratory research approaches was used by the study. The study sampled 69 participants selected from six campuses and government security agencies within Nairobi County. The study employed questionnaires, observation and interviews collected primary data. Both qualitative and quantitative analysis techniques were used to evaluate the data. Results showed that there are insufficient counterterrorism security measures in satellite university campuses. The study indicated that Universities should have procedures and practices for investigating and reporting security breaches/ safety hazards. This includes having screening systems at all university entry points, armed police officers within university premises, integration of both CCTV and panic alarms systems as well as hardening of university perimeter security.

### **PREVENTIVE MECHANISMS**

Counter terrorism measures include mechanisms that help in crime prevention. These mechanisms provide quality service that helps in crime detection and control. Preventive mechanisms act as deterrence, safeguards soft targets, is an intervention of behavior change and minimizes gains/benefits of terrorists. The main reason for assessing the available mechanisms is to determine their ability, to be effectively relied upon in countering terrorist attacks in the institutions. Learning institutions contract private security firms to offer services including screening of people entering the institutions [9].

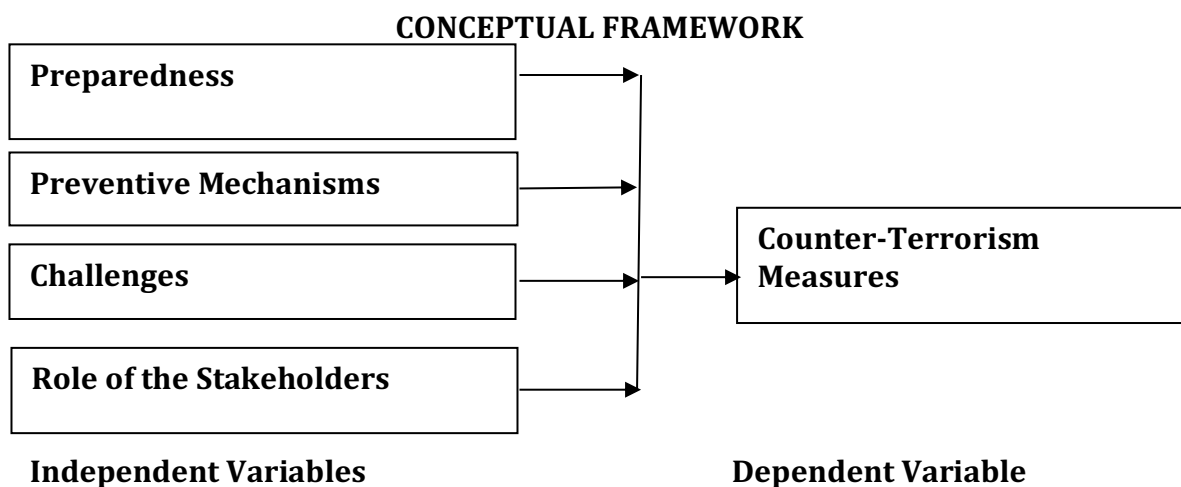
The security planners must recognize that failure to take action to prevent terror threats will bring about some consequences, taking an action will bring some results. Even when there seems as if all is well, it does not mean the threat is not there. Terror activities require serious attention because of their impact and consequences, therefore, the selected preventive mechanisms must have the ability to prevent terrorist attack, that in pursuing terror suspects, protecting vulnerable targets and responding in case of a successful attack.

The main aim of preventive mechanisms is to remove the enemy before they attack; security practitioners' do not know everything about the enemy. In most instances security personnel do not depend so much on experience, the agencies must be prepared for anything, sometimes something can occur which they have no reference to. These mechanisms are security layers that complement each other in the efforts of preventing terrorist from inhibiting their wicked behavior. There are no strategies that are recommended internationally. Measures are selected with effectiveness in mind, according to the situation and the available resources. Therefore, planning and adjusting to the changes in the environment necessary. To achieve the expected result the people involved must be well trained, remunerated and must have effective communication structures in place.

Institutions must be committed to ensure that the counter terrorism measures are regularly evaluated, so that ineffective measures are abandoned [12]. It is important to evaluate these measures against the need of protection, to determine their effectiveness and be able to make recommendations, the assessment has to look into the physical security, the personnel

competency, the policies both security and risk policies, the processes and procedures and the systems. Security of an institution or nation is a very important aspect, and the need to be assured of their wellbeing as they perform their daily activities is what matters [10]. The purpose of the preventive mechanisms is mainly to harden the target/ make an attack difficult/impossible and expensive. The occupants and the assets and infrastructure are at a risk and also the daily operations can be disrupted because they are exposed to terror acts .It should be noted that well planned preventive strategies can lower the threat risk. That is why constant assessment is necessary.

Citizens are aware of the insecurities that have been caused by the emergence of terrorism, what they demand every day as they go out to perform their duties that the government and security agencies ensures they are safe and secure [11]. Preventive counter terrorism measures include physical security measures such as the reinforced perimeter walls, mandatory surveillance cameras, and special vehicles for response, social media monitoring software, alarm systems, proper lighting, control rooms and improved communication systems. They also include personnel who are competent and of the right capacity, and safety policies that are well integrated into the university strategic plan; terrorist can only be deterred by strong security measures.



### RESEARCH METHODOLOGY

This paper adopted descriptive research designs. The target population in this study, was staff and students in the institution whose total was 1054. Sample size used in this research was 105 respondents. Data collection instruments in this research were questionnaires. The Statistical Packages for Social Sciences (SPSS) version (v22) were used to analyze the data to show the relationship between the variables.

The study used descriptive analysis to determine whether there are any associations between the variables. This study therefore used both bivariate and multivariate regression analysis. Bivariate regression was used to evaluate the association between the respective independent on the dependent variables. A multiple linear regression model was used to test the influence of the preventive mechanisms on Counter-Terrorism Measures in Garissa University in Kenya.

## ANALYSIS RESULTS

Descriptive analysis with measures of central tendency (means and standard deviation) categorizes nominally, responses given by the respondents based on Likert scale as used in the questionnaire. This enabled the researcher to describe the responses provided by respondents in relation to the objectives of the study. Descriptive analysis results for each study objective are presented using tables. The nominal representations of the respondents' responses per each questionnaire item are categorised based on the mean range shown in table 1 below.

The respondents' responses on statements of preventive mechanism based on a Likert scale are as shown in table 1 below.

**Table 1: Preventive Mechanisms**

<b>Statements</b>	<b>Mean</b>	<b>Std.</b>
Security lightings are well distributed in the campus	4.13	1.04
The institution has adopted modern communication equipment	3.51	1.12
Surveillance Cameras are monitored for 24 hours by trained officers	3.91	1.02
Perimeter wall is in good condition	3.61	1.13
Security personnel committed to ensuring there is security	4.69	0.79
Patrol vehicles are maintained	3.56	1.42
Duress alarms are working and maintained	3.54	1.16
Security barriers effectively control access	3.87	1.21
Metal detectors are maintained	3.63	1.13
Intrusion detection systems are integrated and there is a centralized control	4.22	1.34
The watch towers are manned for 24 hours	4.17	0.76
The biometric gadgets are manned by security officers	3.54	1.14
Students and staff are identified biometrically to access the campus	4.58	0.83
Visitors are thoroughly screened at the gates	3.61	1.13
There are sniffer dogs services in the campus	3.47	1.21
Material control procedures are followed	3.91	1.03
Traffic control rules are followed at the parking lots	3.22	1.17
Security policy is communicated to the occupants	3.73	1.14
Body and vehicle screening procedures are followed	3.57	1.03
Suppression equipment are well maintained	3.16	1.29
The institution has modern lifesaving equipment	3.53	1.15
The control room is monitored for 24 hours by trained officers	4.07	1.04
The institution has displayed safety procedures	4.31	0.81
The institution regularly conducts trainings on safety, security and terrorism	3.87	1.13
The institution has well communicated emergency response procedures	3.83	0.77
The risk policy is well communicated	3.72	0.89
The gates are manned by security officers	3.97	1.11
The institution has clear evacuation procedures	3.86	1.02
<b>Average</b>	<b>3.81</b>	<b>1.07</b>

Table.1. above shows the summary on statements on preventive mechanisms, the findings shows that the majority of the respondents agreed to a very great extent with the statement that security personnel are committed to ensuring there is security (mean=4.69). Many also respondents agreed to a great extent that students and staff are identified biometrically to access the campus and (mean=4.58). Further, the findings some respondents agreed to a

moderate extent that traffic control rules are followed at the parking lots and that suppression equipment are well maintained (mean=3.22 & 3.16 respectively). These findings indicated that most respondents agreed with the statements on preventive mechanism as shown by an average mean of 3.81, and a standard deviation of 1.07. The findings therefore imply that Garissa University has employed interventions measures to counter terrorism as demonstrated by employing security personnel and the use of biometric at the access points. The findings further imply that the university has not done much to ensure that the traffic rules are followed at the parking areas and fire suppression equipment are not maintained.

**Table 2: Model Summary for Preventive Mechanism**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.429a	0.184	0.173	0.20931
a Predictors: (Constant), Preventive Mechanism				

The F-Critical,  $F_{0.05, 1, 75}$  was 3.968 while  $F_{\text{tabulated}}$  is 16.948. This implies that  $F_{\text{tabulated}} > F_{\text{Critical}}$ . Thus, model is significant as indicated by significance level of 0.000 at 5% significance level. The findings are as indicated in table 3.

**Table 3: Analysis of Variance for Preventive Mechanism and CT Measures**

Model		ANOVA				
		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.743	1	0.743	16.948	.000b
	Residual	3.286	75	0.044		
	Total	4.029	76			

**Table 4: Coefficients Results for Preventive Mechanism and CT Measures**

	Un-standardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.716	0.361		4.749	0.000
Preventive Mechanism	0.485	0.118	0.429	4.117	0.000

The results in Table 4 revealed that preventive mechanism has a significant effect on counter terrorism measures (Beta coefficient of 0.485); sig=0.000).

Descriptive analysis findings indicated that the respondents agreed with the statements on preventive mechanism as shown by an average mean of 3.81. Correlation results imply that preventive mechanism significantly effects counter terrorism measures in Garissa University Kenya ( $r = 0.429$ , Sig = 0.000). These results imply that an increase in preventive mechanisms leads to an increase in the effectiveness of counter terrorism measures in Garissa University. The results also showed that preventive mechanism have statistically significant association with counter terrorism measures in Garissa University, ( $\beta = 0.438$ , p-value < 0.05). This implies that increase in a unit preventive mechanism will result in 0.438-unit in improvement of the counter terrorism measures in Garissa University. Table 4.4:



**Table 5: Model Summary on Preparedness**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386a	0.149	0.138	0.2138
a Predictors: (Constant), Preparedness				

The F-Critical,  $F_{0.05, 1, 75}$  was 3.968 while F tabulated is 13.124. This implies that  $F_{\text{tabulated}} > F_{\text{Critical}}$ . Thus, model is significant as indicated by significance level of 0.01 at 5% significance level. The findings of the study are indicated in table 4.5.

**Table 6: ANOVA Results on Preparedness and CT Measures**

		ANOVA				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.6	1	0.6	13.124	.001b
	Residual	3.428	75	0.046		
	Total	4.028	76			

**Table 7: Regression Coefficients Results on Preparedness**

Variable	Un-standardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.88	0.366		5.14	0.000
Preparedness	0.423	0.117	0.386	3.623	0.001

The results in table 7 above established that preparedness influences counter terrorism measures in Garissa University in Kenya. (Beta coefficient of 0.423; sig=0.001).

Descriptive analysis findings indicated that respondents agreed with the statements on preparedness as indicated by an average mean of 3.63. Correlation analysis findings also indicated that the preparedness has significant association with counter terrorism measures ( $r = 0.386$ ,  $p\text{-value} = 0.001$ ). Results imply that an increase in the level of preparedness can have a considerable influence on the effectiveness of counter terrorism measures in Garissa University. Regression analysis findings indicate that coefficient in preparedness was significant in counter terrorism measures as shown by ( $\beta = 0.344$ ,  $p\text{-value} = 0.000$ ). This implies increase in unit of preparedness leads to 0.344-unit improvement in the effectiveness of counter terrorism measures in Garissa University.

**Table 8: Model Summary for Challenges of Effective Counter Terrorism Measures**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.443a	0.196	0.185	0.20781
a Predictors: (Constant), Challenges of Effective Counter Terrorism Measures				

The F-Critical,  $F_{0.05, 1, 75}$  were 3.968 while F tabulated is 18.28. This implies that  $F_{\text{tabulated}} > F_{\text{Critical}}$ . Thus, model is significant as indicated by significance level of 0.000 at 5% significance level. The findings are as indicated in table 9.

**Table 9: ANOVA for Challenges of Counter Terrorism Measures**

		ANOVA				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.789	1	0.789	18.28	.000b
	Residual	3.239	75	0.043		
	Total	4.028	76			

**Table10: Coefficients for Challenges of CT Measures**

Variable	Un-standardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	2.179	0.24		9.074	0.000
Challenges of Effective CT Measures	0.330	0.077	0.443	4.275	0.000

The results in table 10 revealed that challenges have a positive and significant influence on counter terrorism measures (Beta coefficient=0.330; sig=0.000).

Descriptive analysis findings indicated respondents supported the statements on CT measures as shown by average mean of 3.55. Correlation analysis findings also indicated that challenges counter terrorism measures positively correlated in Garissa University as shown Pearson coefficient of 0.443 and p-value of 0.000. This implies that an increase in the number of challenges can have a positive effect on the effectiveness of counter terrorism measures in Garissa University. Regression analysis findings have shown that there is a positive relationship between challenges and counter terrorism measures as indicated by a beta coefficient of 0.248 and a significance value of 0.000. This implies that a unit increase in the challenges lead to 0.248-unit effect in the effectiveness of counter terrorism measures in Garissa University.

**Table 11: Model Summary for Role of Stakeholders**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.358a	0.128	0.117	0.21638

a Predictors: (Constant), Role of Stakeholders

The study used ANOVA to check for the significance of the model. The F-Critical,  $F_{0.05, 1, 75}$  was 3.968 while F tabulated is 11.038. This implies that  $F_{\text{tabulated}} > F_{\text{Critical}}$ . Thus, model is significant as indicated by significance level of 0.001 at 5% significance level. The findings are as indicated in table 12.

**Table 12: ANOVA Results for Role of Stakeholders and CT Measures**

		ANOVA				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.517	1	0.517	11.038	.001b
	Residual	3.511	75	0.047		
	Total	4.028	76			

**Table 13: Coefficients for Role of Stakeholders and CT Measures**

	Un-standardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	2.418	0.237		10.197	0.000
Effective CT Measures	0.254	0.077	0.358	3.322	0.001

Table 13 above indicates that the role of stakeholders has influence on counter terrorism measures (Beta coefficient=0.254; sig=0.001).

Descriptive analysis findings indicated that the respondents agreed with the statements on the role of stakeholders as shown by average mean of 3.64. Correlation analysis findings has shown that the role of stakeholders has significant effect on counter terrorism measures in Garissa University ( $r=0.358$ ,  $p\text{-value} = 0.001$ ). This implies that an increase in the involvement of stakeholders can have a significant impact on the effectiveness of counter terrorism measures. Regression analysis findings revealed that the coefficient for role of stakeholders was significant as indicated by ( $\beta= 0.123$ ,  $p\text{-value}=0.043$ ). The findings imply that a unit increase in the role played by stakeholders can lead to a 0.123-unit improvement in the effectiveness of counter terrorism measures in Garissa University.

### REGRESSION ANALYSIS

A Multiple linear regressions model was used to examine the relationship between preparedness, preventive mechanism, challenges, role of stakeholders and counter terrorism measures in Garissa University in Kenya. The multiple linear regression equation of the form  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e$  where;  $Y$ =counter terrorism measures;  $X_1$ = preparedness;  $X_2$ = preventive mechanism;  $X_3$ = challenges of Counter Terrorism Measures and  $X_4$ = role of stakeholders while  $e$ = or error term.

**Table 14: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.705a	0.497	0.469	0.16777

The model summary findings in Table 14 revealed that R was 0.705 that implies that there is an association between independent and the dependent variables. R squared ( $R^2$ ) measures the effect a unit change in dependent variable (effects counter terrorism measures) this is influenced by a change in the independent variables (extent of preparedness, preventive mechanism, challenges, and the role of stakeholders). In this study, R squared value of 0.497 implies that the independent variables have a combined effect of up to 49.7% of the variations in counter terrorism measures in Garissa University. These results imply that means that other factors not studied accounted for 50.3% of variation in Counter Terrorism Measures. This finding brings a need to conduct a research in future to determine these factors.

The study used ANOVA model to test if it was fit in evaluating the influence of preparedness, preventive mechanism, challenges, and the role of stakeholders on counter terrorism measures in Garissa University. The findings are indicated in Table 15 below.

**Table 15: Analysis of Variance (ANOVA)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.002	4	0.5	17.778	.000
	Residual	2.027	72	0.028		
	Total	4.028	76			

The findings indicate that F statistic which indicates the overall significance of the model is significant at p-value of 0.05 (p-value=0.000). This shows that the model is significant. The F critical value is 2.499 while the F calculated statistic ( $F_{4,72}$ ) is 17.778. The results imply that the  $F_{tabulated} > F_{critical}$  value ( $17.778 > 2.499$ ) meaning that the model is significant. This shows that the model was significantly fit to be used in predicting the effects of the independent variables on counter terrorism measures.

The study also used regression coefficients to examine the connection between the variables of the study. The model coefficients are presented in Table 16 below.

**Table 16: Model Coefficients**

Variable	Un-standardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	0.361	0.436		0.828	0.014
Preparedness	0.344	0.093	0.314	3.694	0.000
Preventive Mechanism	0.438	0.095	0.388	4.598	0.000
Challenges of CT Measures	0.248	0.065	0.333	3.815	0.000
Role of Stakeholders	0.123	0.062	0.173	1.969	0.043

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ounter terrorism measures = 0.361 + 0.344 Preparedness + 0.438 Preventive Mechanism + 0.248 Challenges of Counter Terrorism Measures + 0.123 Role of Stakeholders

### SUMMARY

Descriptive analysis findings indicated that the respondents agreed with the statements on preventive mechanism as shown by an average mean of 3.81. Correlation results imply that preventive mechanism significantly effects counter terrorism measures in Garissa University Kenya ( $r = 0.429$ ,  $Sig = 0.000$ ). These results imply that an increase in preventive mechanisms leads to an increase in the effectiveness of counter terrorism measures in Garissa University. The results also showed that preventive mechanism have statistically significant association with counter terrorism measures in Garissa University, ( $\beta = 0.438$ ,  $p\text{-value} < 0.05$ ). This implies that increase in a unit preventive mechanism will result in 0.438-unit in improvement of the counter terrorism measures in Garissa University.

### CONCLUSIONS OF THE STUDY

In this paper preventive mechanisms were found to have significant influence on counter terrorism measures in Garissa University Kenya. Therefore, the study concluded that an increase or improvement in preventive mechanisms such as manning of biometric gadgets by security officers, thorough screening of visitors at the gates, clear evacuation procedures and installing intrusion detection systems as well as centralized control of security can lead to considerable influence on counter terrorism measures in Garissa University in Kenya.

## RECOMMENDATIONS OF THE STUDY

The study found that preventive mechanism significantly affects counter terrorism measures. Therefore this paper recommends improvement on the security of parking areas in university, and also in the installation, and maintenance of fire equipments and this should be done with collaboration fire and other security agencies.

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