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### Types of Security Awareness Programs to Enhance National Security in Lamu County

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#### Abstract

The security programs in a country are meant to ensure the national security of it. And the same applies in Kenya where there are various security programmes customized for each region in the country and also for each security situation. This is because, citizens in a nation, are bestowed some inalienable rights and freedoms including being safe from dangers and harms. As it is, Kenyans are constantly living in the fear of what could happen next, as well as the next point that could be attacked by the terror attacks as well as the local rebels. Despite this development, few studies have evaluated the types of security awareness programs on national security in Lamu County, Kenya. Using Theory of Reinforcement and The Theory of Reasoned Action, this study sought to demonstrate influence of security awareness programs on national security. The study adopted a cross sectional survey design, and was carried out in Lamu with the target population all adult residents. A multistage sampling technique was employed starting with the clustering of the regions in the study area. Purposive sampling was used to obtain the constituencies and the wards to be studied. Clustering was used to group the target population into three homogenous groups. Security agencies were randomly sampled. Village elders were purposively

sampled. Ten nyumba kumi elders were purposively sampled and the general public were systematically random sampled. Questionnaire and interviews schedules were used to collect data. Quantitative data was analyzed by use of descriptive statistics. Descriptive statistics mainly frequency distributions were used to summarize the results that facilitated in the interpretation of the key findings as well as presentation of the findings. Qualitative data was analyzed thematically. Both qualitative and quantitative data were triangulated to provide robust illustrations of the key findings. The study found that, there are four types of security awareness programs: Nyumba Kumi Initiative, the School Outreach Security Awareness Programs, Physical Security Awareness Programs and Cyber Security Awareness Programs. The study concluded that, the state should be considered the central security provider, and whose stability and legitimacy are the main sources of protection for its citizens, from any kind of threats. The study recommended that, the state security agencies need to streamline their department in terms of the training and developing the skills of their agents to be at par with how to confront the various environments when doing community awareness.

**Keywords:** Security Awareness, Security Awareness Programs, National Security, Operational Readiness, Kenya Security Forces, Security Awareness Programs

#### 1. Introduction

The concept of national security is based on the premise that the security of a nation-state and its citizens is a paramount and legitimate concern of that state. Further, national security is important for a number of reasons. National security is essential to the preservation of a state's sovereignty and territorial integrity. A state that is not secure is vulnerable to territorial incursions and annexation by other states. Secondly, national security is essential to the preservation of a state's economic security (Zani *et al.*, 2018)<sup>[37]</sup>. A state that is not secure is vulnerable to economic exploitation by other states, and also vulnerable to political instability and internal strife.

Snow (2019)<sup>[32]</sup> argues that national security involves all the means by which a state seeks to protect itself, its citizens, and its interests from external dangers and threats. Johnson (2013)<sup>[16]</sup> on the other hand describes national security as the protection against external and internal threats to a country's territorial integrity and sovereignty. This definition fits well within the

confines of national security as a preserve of the norms, rules, institutions and values of society. Reveron (2019) <sup>[27]</sup> defines it as the ability of a country's armed forces to defend its nation and the lives of its people. Therefore, national security is essential to the preservation of a state's citizen's security.

National security relates to security awareness programs in that both seek to protect a state and its citizens from external dangers and threats. It encompasses all the means by which a state seeks to protect itself, its citizens, and its interests. Security awareness programs on the other hand, seek to educate and inform individuals about potential threats and how to protect themselves from them.

According to Desman (2017) <sup>[10]</sup> security awareness programs are an on-going effort designed to educate security personnel about security threats and how to protect themselves and their nation from these threats. Blokdyk (2019) <sup>[5]</sup> defines security awareness programs as efforts by security and information technology (IT) professionals to mitigate and prevent user risk. They are important because they can help to reduce the chances of security incidents occurring and can also help to improve citizen's livelihood by ensuring that the citizens and visitors are aware of the importance to security and are taking steps to protect themselves and their assets (Schneider *et al.*, 2021) <sup>[29]</sup>. By making security personnel aware of security issues, they become better and able to protect not only themselves but also their jurisdictions.

Snow (2019) <sup>[32]</sup> states that "education, training and awareness may be our most prominent security measures". Some common types of security awareness programs include online training, in-person training, and newsletters or other printed materials. Awareness levels of the security programs can vary greatly from region to region. However, it is generally agreed that security awareness programs are important and that more people should be aware of them, in order to be prepared to mitigate themselves against dangers and harms.

In the implementation of a more efficient and cost-effective approach in enhancing security awareness, a multi-faceted on needs-based link is to be adopted. In general, security awareness programs can help to raise public awareness about national security issues and help to promote the importance of security measures in protecting the nation from potential threats. The ultimate goal in creating awareness programs mainly is to change the way society think and ultimately act. However, the level of security awareness among the various individuals living in Lamu County is at an all-time low.

Numerous studies have shown the evident threat terrorism poses to national security. Consequently, security awareness programs have been put high on the international and national political agenda. One such instance is the September 2001 terrorist attack in the United States. The 9/11 attacks highlighted the shared vulnerability of both strong and weak countries to the threat of terrorism (Mansfield-Devine, 2017) <sup>[20]</sup>. The attacks resulted in both local and international agencies taking up greater national security roles and responsibilities. Since the attack, there have been various counter terrorism strategies and security awareness programmes implemented to enhance national security in different countries (Renard, 2021) <sup>[26]</sup>.

The USA National Commission on Terrorist Attacks issued its final report on the 9/11 attack in July 22, 2004. The

report included forty-one recommendations on altering the way the government is set up to combat terrorism, to prioritize its efforts and organise security awareness programs (Wang *et al.*, 2017) <sup>[36]</sup>. The USA government spearheaded security awareness programs by offering training and education programs to governments that needed help (Carpenter, 2019) <sup>[6]</sup>. Asal *et al.*, (2021) <sup>[3]</sup> suggested that the strategies the USA put in place after the 9/11 have proven to be effective in countering major terror attacks in the country as the country has not experienced anything similar for more than twenty years now. It was therefore be imperative to know whether Kenya prioritized its efforts and organised security awareness programs after the several terrorists' attacks in the country, and if they are there, if they have proved to be effective in countering major terror attacks in the country.

Many other countries are adopting security awareness programs to enhance national security. One such country is Australia. A report in 2014 on the national threat level in the country indicated that, South Australia state is susceptible to terror attacks because of its diverse society (Barker, 2014) <sup>[4]</sup>. The country developed a Counter Terrorism Action Plan which included various measures to keep the Southern Australian community safe (Ananian-Welsh & Williams, 2014) <sup>[2]</sup>. One of the key measures in the Counter Terrorism Action Plan was security awareness programs. Security awareness programs teach security personnel about best practice techniques to prevent, prepare for and respond to terror attacks, which the South Australian Government is keen on to enhance national security. Therefore, this study sought to find out whether Kenya developed any security awareness programs to teach security personnel about best practice techniques to prevent, prepare for and respond to terror attacks.

African countries have also been making ongoing counter-terrorism efforts with the goal of promoting national security. Most countries have implemented security awareness programs in response to the high rate of terrorism (Kuol & Amegboh, 2021) <sup>[19]</sup>. Robinson (2017) <sup>[28]</sup> argues that these security awareness programs have renewed the emphasis on cooperation between countries and helped them pool resources towards combating and preventing terrorism. According to Hlandze (2021) <sup>[15]</sup> some of the programs have been efforts of collaboration between African states, which have helped to combat contemporary threats to international peace and security. Therefore, this study pursued to understand how security awareness programs that emphasize cooperation between countries have helped Kenya to combat and prevent terrorism, thereby affecting its national security.

According to Owaka (2022) <sup>[31]</sup> DRC Congo for instance, is incorporating security awareness programs by working with other countries in the midst of the war the country is facing. The continuous insecurity in the country has called for new approaches in order to promote the sovereignty of the country. Owaka (2022) <sup>[31]</sup> argues that, this approach will be instrumental in handling the crisis of insecurity DRC Congo is currently facing. This raised question as to the influence of incorporating security awareness programs on the national security of Congo.

Shohaieb, *et al* (2018) <sup>[30]</sup> analyzed the effect of physical security initiatives on supply chain performance. Physical security initiatives as a type of security awareness program is mostly implemented to prevent attackers from gaining

physical access and take what they want. The study used the Supply Chain Operations Reference (SCOR) model for measuring supply chain performance as it is found more relevant for study. The target population for the study were all the organizations in the automotive industry manufacturers/assemblers of the auto feeding and automotive industries and CBU importers and distributors in Egypt. A total of 90 automotive firms participated out of the 101 who were approached to participate. Primary data collected based in part on direct/personal semi-structured in-depth interviews and in part on questionnaires. A mixed methods approach was used in the data-collection phase to understand, map out and investigate from different standpoints. The findings showed that, there was no direct positive correlation between the physical security initiatives as a type of security awareness program and the performance of the supply chain. And the conclusion was that physical security initiatives as a type of security awareness program is only part of the solution for the effective implementation of supply chain operations, which in turn affects the performance of the supply chain. However, the study did not inform on national security, therefore the researcher set out to find out the impact of physical security initiatives as a type of security awareness program on national security.

Marlies *et al* (2021) <sup>[21]</sup> undertook a study to assess in an empirical way employees' training sessions as a type of security awareness program on physical security awareness. By the use of a survey of 60.4% female and 30.4% male, the relationship between employees' knowledge about security procedures and policy, the attitudes towards security and the self-reported security behaviour was measured. Also, a case study was carried out to examine the impact of training sessions on employee's level of security awareness. By organizing an awareness training, its effect on employees' knowledge, attitude and behavior was measured. While the first study found a significant relationship between employees' knowledge and attitude and their self-reported behaviour, the second study showed that the training session as a type of security awareness program had a positive effect on employees' level of security awareness. However, the current study intended to examine the influence of training session as a type of security awareness program on national security among the residents of Lamu County.

Eyadat (2018) <sup>[12]</sup> in his study on Information Security Awareness and Training Program in the Middle East Universities, sought to gain an insight and determine the information security awareness and training program levels in Middle Eastern higher education sector. One-hundred eighty-two websites of higher education institutes from eight countries (Saudi Arabia, United Emirate, Iraq, Jordan, Syria, Bahrain, Kuwait, and Qatar) in the Middle Eastern region were examined to understand the types and the extent of the SAT program included on the institutes' websites. Using two different browsers, Internet Explorer and Google Chrome, each site of the institute was surfed three to five times during the research period in 2013. Updates on the SAT of the examined institute sites were recorded through the repetitive visitations. The findings were that, 52 (29%) institutes deployed the security awareness program and 33 (18%) institutes deployed the training program. It also indicated that more than two-thirds (71%) and more than three-fourths (82%) of the examined institutes having no awareness program and training program, respectively, set

in place. Therefore, it was concluded that, due to the rapid evolution of the new technologies, the end users should receive proper training to avoid the potential threats that may cause the damage or loss of personal data. And therefore, an information system as a type of security awareness program without SAT program is vulnerable and prone to be hacked. This study was carried outside Kenya, and involved an information system as a type of security awareness program but the current study sought to find out the influence of information system as a type of security awareness program on national security.

Agbo-ola (2022) <sup>[1]</sup> sought to know, how employees can be motivated to engage in cybersecurity awareness programs as a type of security awareness program. It was done this through an exploratory case study approach using qualitative data collected from in-depth interviews of four cybersecurity awareness practitioners that were contacted. From an application perspective, the findings suggest that these practitioners do use a variety of techniques to motivate employee interest in cybersecurity awareness. The study identified four factors used by practitioners to motivate cybersecurity awareness which are 1) using different engaging techniques, 2) making it personable & relatable, 3) utilizing leadership commitment and 4) embracing technical controls. This study however aimed at exploring the impact of cybersecurity awareness programs as a type of security awareness program on national security.

Rawindaran *et al* (2022) <sup>[25]</sup> explored how Small and Medium Enterprises (SMEs) in Wales were handling cybercrime and managing their daily online activities the best they can, in keeping their data safe in tackling cyber threats. The sample collected consisted of 122 Welsh SME respondents in a collection of data through a survey questionnaire. The findings showed that there were large gaps in the awareness and knowledge of using intelligent software, in particular the uses of machine learning integration within their technology to track and combat complex cybercrime that perhaps would have been missed by standard cyber security software packages. The findings also showed that various elements such as education and the size of SME made an impact on their choices for the right software packages being implemented, compared to elements such as age, gender, role and being a decision maker, having no impact on these choices. Despite the study showing the usage of intelligent software as a type of security awareness program on Small and Medium Enterprises (SMEs), the current study sought to establish the impact of usage of intelligent software on national security.

In their study EkiciN *et al* (2022) <sup>[11]</sup> on meta-analysis of the impact of community policing on crime reduction, combined two previous meta-analyses of community policing (CP) and Turkish and English online searches. They used the Comprehensive Meta-Analysis (CMA 3.0) statistical program to calculate the effect sizes of previous studies. They also employed odds ratio (OR) as the effect size, as it is one of the most appropriate methods for proportions. Their findings showed that, no evidence suggesting that CP has an impact on reducing disorders, drug sales, or property crime, but it does have an impact on reducing crimes such as burglary, gun use, drug use, and robbery, as well as fear of crime. Depending on crime type, CP can be a promising policing strategy to reduce crimes. This study however aimed at examining the impact on national security when community policing as a type of

security awareness program is used by the various security stakeholders to promote effective policing.

In Kenya, security initiatives that aim at deterring, countering, protecting and resolving insecurity have been taking shape. This includes initiatives that are inherent to local communities, those that are a part of state community partnership, as well as those from non-state actors. The adoption of these initiatives raises pertinent questions on the underlying factors contributing to their use in addressing protracted insecurity in the area. In Kenya, cyber security awareness issues are mainly the responsibility of the National Cyber Security Committee. Other key stakeholders involved with cyber security awareness are the Ministry of ICT and various security and technology agencies with their main purposes being to coordinate amongst stakeholders and to protect, detect and manage revival from cyber incidents impacting on their networks (Kshetri, 2019) <sup>[18]</sup>. It has advanced in relation to taking adequate cyber measures and has a National Cyber Security Masterplan and Strategy that has been fully implemented. It has demonstrated to be very valuable in advancing coordination amongst all cyber security stakeholders. According to Kshetri (2019) <sup>[18]</sup> new policies include setting up a secure environment, risk assessment and application hardening activities by the security operations center for the Government. Such will promote confidence building measures and international cooperation in cyberspace by exchanging information on cyber incidents and best practices for cyber security. Although the factors that have led to development of cyber security awareness are well documented, there is scarcity of studies that have examined how these cyber security awareness impact national security, and more importantly in Lamu county where the study was undertaken.

Mkutu, Marani and Ruteere (2014) <sup>[23]</sup> while researching for the Centre for Human Rights and Policy Studies (CHRIPS) on Securing the Counties on the Options for Security after Devolution in Kenya, revealed several security awareness programs for improving security in various counties. Some of the strategies included, building on local good practices on community policing and community security initiatives, strengthening peace and conflict resolution initiatives, better coordination of security actors, improving police-community relations, targeted investment in opportunities for the youth, dealing with radicalization, controlling gangs and militias, resolving resource and land conflicts and preventing and addressing ethnic exclusion (Mkutu, Marani & Ruteere, 2014) <sup>[23]</sup>. The study showed that, the counties require several security awareness programs and appeared to allude to the importance of the programmes to the country. But it falls short in providing a holistic explanation on how these security awareness programs affect national security.

Chimba and Muna (2021) <sup>[24]</sup> in their study on the effects of community policing as a security strategy on local security management practices in Kwale county, Kenya, revealed that, knowledge of community policing initiative among members, information sharing on community policing and attitudes on community policing among community members on local security management practices affected security management practice. The study therefore recommended that, the community should be made aware of their role in community policing and the police should ensure that they interact well with the community so that the members of the communities are able to provide information to the police willingly which may help prevent crime.

However, how these effects of community policing as a security awareness programs feed into the national security remains unclear.

Also, the national police service annual crime report (2022), reported that the number of crimes as having increased by 12.1% between 2019 to 2020, and by 6% between 2020 and 2021. This is a 18.1% increase of crime in 2 years (between 2019 – 2021). This is despite the heavy presence of state security agencies deployed in the region. Therefore, the need to understand how these deployments which are part of the security awareness programs influence national security, provided the impetus for this study.

## 2. Materials and methods

The study adopted a Cross sectional survey design. It is a design that collected data from different respondents at the same time to make inferences about the population of study. With it, there is a stronger likelihood for participation of respondents. It also helped to gather objective information that can be used for generalization to a larger population. It also helped to gather diverse information on the security awareness programs due to the diversity of the respondents' experiences. Diversity of the information gathered enriched the data of the study.

The study was conducted in Lamu County. It's on a 6,215square kilometer land area and is one of the 47 counties of Kenya founded in 2010 after Kenya's 8 provinces were subdivided into 47 counties. Lamu is home to many multinationals and international organizations that use the services of PSI. It also has the most diverse experiences of security operations and its home to both local and foreign military installations therefore offering the best example of security awareness programs. But its results should be cautiously be presumed as a representation of other parts of Kenya. Lamu County constitutes 2 constituencies: Lamu West and Lamu East. Lamu West has 7 wards: Shella, Mkomani, Hindi, Mkunumbi, Hongwe, Witu and Bahari. Whereas Lamu East has 3 wards which are Faza, Kiunga and Basuba (County Government of Lamu, 2019) <sup>[8]</sup>.

The target population for this study were the adults residents of Lamu from the age of 19 and above who understand their national security needs. The approximate number of age 19 and above in the county are 69,370 (48.2%) (City Population, 2019) <sup>7</sup>. According to National Council for Population and Development (2020), the area has a population of approximately population of 143,916.

The researcher used multistage sampling to get the sample size and identify the respondents. Multistage sampling divides large populations into stages to make the sampling process more practical, and can use simple random sampling and a combination of stratified sampling or cluster sampling (Theresa & McBurney, 2012) <sup>[33]</sup>. Clustering was also used to group the target population into three homogenous groups: The senior police officers, junior police officers, village and nyumba kumi elders and the general public. Clustering involves arranging a set of objects in such a way that objects in the same group (called a cluster) are more similar to each other than to those in other groups (clusters) (Kriegel, Kröger, & Zimek 2012) <sup>[14]</sup>.

1. First, 2 constituencies were purposively sampled (that is 100 of the total county constituencies). Gay and Diehl (1992) <sup>[13]</sup> recommends 20% of an n compared to the general N. However, the researcher increased to 100%

- according to Martin and Bateson (1986)<sup>[22]</sup> who argue the statistical power is enhanced by increasing the sample size.
2. Second, 2 county wards were purposively sampled, that is 20% of the total constituencies. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% for a small number of n compared to the general N. They were Mkunumbi with land area of 1366.1 (km<sup>2</sup>) and Basuba with land area of 1708.7 (km<sup>2</sup>). They were selected because they are the ones having the largest area sizes and hence offering the best site for diversity. They are also in high population density areas and are also mostly experiencing security operations. This made them appropriate samples as they are rich in the information needed to address the objectives.
  3. Third, from the four police station: Lamu police lines, Mokowe police station, Baharini police post, Mpeketoni police station and Hindi police station, two OCSs were purposively picked to interview their resident OCS. That was 50% of the total stations. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% for a small number of n compared to the general N. However, the researcher increased it because according to Martin and Bateson (1986)<sup>[22]</sup> the statistical power is enhanced by increasing the sample size.
  4. Fourth, one station was randomly chosen for the study, and which was Mpeketoni police station. That was 25% of the total stations. Gay and Diehl, (1992)<sup>[13]</sup> recommends 20% for a small number of n compared to the general N. However, the researcher increased it because according to Martin and Bateson (1986)<sup>[22]</sup> the statistical power is enhanced by increasing the sample size.
  5. Fifth, from Mpeketoni police station 50 police officers below the rank of an inspector were randomly sampled from a total of 76. The 76 figure was from the verbatim of the OCS but the figure could be more or less due to the sensitivity of such information. That was 65.8% of the total stations. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% for a small number of n compared to the general N. However, the researcher increased it because according to Martin and Bateson (1986)<sup>[22]</sup> the statistical power is enhanced by increasing the sample size.
  6. Sixth, one of the two OCPDs in Lamu county was interviewed. That was 50% of the total stations. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% for a small number of n compared to the general N.
  7. Seventh, 7 village elders were purposively sampled from Mkunumbi and Basuba wards as our respondent. That was 25% of the total number of chiefs who are 28. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% of an n compared to the general N. However, the researcher increased it because according to Martin and Bateson (1986)<sup>[22]</sup> the statistical power is enhanced by increasing the sample size.
  8. Eighth, twelve nyumba kumi elders were purposively sampled as our respondent. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% of an n compared to the general N. That was 23% of the total number of chiefs who are 52. Gay and Diehl (1992)<sup>[13]</sup> recommends 20% of an n compared to the general N. However, the researcher increased it because according to Martin and Bateson

(1986)<sup>[22]</sup> the statistical power is enhanced by increasing the sample size.

9. Ninth, the general public for every 6th member of the general public were systematic random sampled as our respondent. A total of 305 will be needed. Systematic random sampling is a type of sampling method in which sample members from a study population are selected according to a random starting point Nth number (Crossman, 2017)<sup>[9]</sup>.

The summary of the details above, are captured in the Table 1 below.

**Table 1:** Sampled Respondents

Respondents	Total	Sample
Chiefs	5	2
Sub-chiefs	14	3
OCPDs	2	1
OCSs	4	2
Police officers below the rank of an inspector.	76	50
Village elders	28	7
Nyumba Kumi elders	52	12
General public	69,370	305
<b>Total Sample</b>	<b>69,551</b>	<b>384</b>

Krejcie and Morgan (1970)<sup>[17]</sup> produced an easy reference table for determining sample size. No calculations are required to use the table which is reproduced appendix VI. The study used Krejcie and Morgan (1970)<sup>[17]</sup> table and the target population of 69,551 falls under N 75,000. Therefore, the sample size should be 382 or more. This research adopted 384.

The mixed methods approach used in this study, with questionnaires collecting quantitative data, whereas one-on-one interviews will gather qualitative data. Questionnaires (Appendix I): Questionnaires were administered utilizing both 'closed-ended' questions (questions that were mainly have rating scales or a list of different answers to choose from) and 'open-ended' questions (where respondents were given an opportunity to write their opinions or feelings about the response). Research questions were guided the construction of the questionnaire so that all areas are addressed. The questionnaires were administered with the help of research assistants. People are more truthful while responding to the questionnaires regarding controversial issues due to the anonymity of responses. Participants were allowed to complete the questionnaires themselves.

Interviews: One-on-one interviews were conducted with the security officers: Chiefs and senior police officers the rank of an inspector and above.

Also on the 2 village elders, 2 nyumba kumi elders. Interviews are an effective data gathering tool because they minimize the problem of unanswered questions and give room for further probing.

This was carried out on a random sample of 50 respondents: Security agencies, village and nyumba kumi elders and the general public in Malindi County. It is not to be part of the study population but with similar characteristics as the sampled population. The results from the pilot study will help the researcher to refined and tuned the tools by correcting ambiguities, misinterpretation and irritating language.

The study was informed by data sourced from primary sources: The consumers and the providers of security

awareness programs. Questionnaires: Amongst the security guards, questionnaires will be administered to them by research assistants, who will be present as the respondents fill.

Interviews to be recorded: One-on-one interviews will be scheduled with the selected respondents who will be interviewed. The researcher, will go to their station for the interviews.

Qualitative data was analyzed thematically, pinpointing, examining and recording patterns. It was then presented in a report of key findings under each main theme or category, using appropriate verbatim quotes to illustrate those findings.

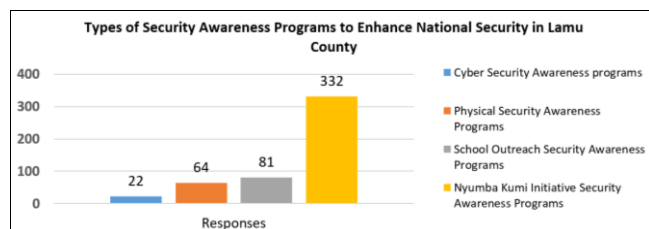
Quantitative data was analyzed using descriptive statistics like percentages, average and mean, and pie charts. The researcher fed in information in a statistical analysis tool especially ANOVA, to find out the influence of security awareness programs on national security.

The data from both qualitative and quantitative analysis, was triangulated to see the impact of security awareness programs on national security.

The researcher informed all participants through a covering letter of their voluntary participation and confidentiality of the information they give. Thus, an informed consent was sought from all respondents.

### 3. Results and discussion

To establish the types security awareness programs, the participants were asked to indicate which of the types security awareness programs being used to enhance national security in Lamu County. The results are displayed the figure below.



Source: Field Data (2023)

Fig 1: Types of Security Awareness Programs to Enhance National Security in Lamu County

As can be observed from the table, majority of participants mentioned Nyumba Kumi Initiative Security Awareness Programs and are represented by  $n=332$  (96.8%), followed by School Outreach Security Awareness Programs at  $n=277$  (80.8%), at the third position was Physical Security Awareness Programs represented by  $n=219$  (63.8%), and lastly, Cyber Security Awareness Programs represented by  $n=76$  (22.2%). These findings are discussed in the subheadings below.

#### a. Nyumba Kumi Initiative Security Awareness Programs

It is a model against crime, that encourages people to reach out to one another, communicate and share information about one another. This helps communities to screen security dangers and share data to the nearby organizations and state security organs. Every 10 households or estimated level of neighborhood (cell) guarantees security and opens performance to one another under a cell leader. One of those nyumba kumi elders interviewed explained...

*“Most differences between neighbors have been as a result of misconceptions and viewing each other with suspicion through stereotyping. Nyumba Kumi helps enhance security among each one of us with our neighbors. It goes a long way in enhancing our integration. If we can work together to ensure we are more secure as a group, then it is also true that we can work together to bridge our differences”* (RESP1/8/2023).

Another general public respondent had this to say

*“This will help us know other people better and possibly drop perceived ethnic differences. With a more unified living environment, it will also help us embrace a common approach on various issues in our environment for our empowerment”* (RESP2/8/2023).

Nyumba Kumi is a Swahili word for ten homes. It is a path in which ten homes within an area, should team up and keep guard over their neighbors, particularly on issues to do with neighbor's wellbeing and security matters. With the current wave of insecurity in Kenya, it is imperative for one to know his or her neighbor for the sake of safety. The Nyumba kumi initiative is an interesting strategy as it puts the community in a position whereby, they are able to share and report illegal activities without waiting for the national government to act on it.

If Nyumba Kumi activities are to move effectively, then there is supposed to be desires expecting neighbors to know each other well and to enhance their security through watching out for their wellbeing. The idea focuses on uniting neighbors in groups characterized by physical areas, felt needs and pursuit for basic goals: A sheltered, supportable and prosperous neighborhood. Successful nyumba kumi initiative would diminish neighborhood wrongdoings, diminish neighbors' dread of wrongdoing, and uplift personal satisfaction in the community.

Nyumba kumi initiative work through nearby accomplices to enable individuals to recognize and organize their wellbeing and security needs and unite people in the community, police officers, neighborhood experts and other security and equity suppliers to address them. Nyumba kumi is the apparent push to improve security consequently perceiving the association and shared obligation of the police officers and the people in the community in guaranteeing a sheltered and secure condition. Besides, it is a dynamic association between the police officers and people in general to battle wrongdoing and improve group security, which is the center subject of Kenya's Nyumba kumi initiative. Therefore, nyumba kumi reacts to the decrease out in the open lightness in the police and the requirement for association between various partners to battle wrongdoing.

Therefore, nyumba kumi initiative is a new style of policing that is reactive to the needs of local communities; a service multiplier that contributes to conflict resolutions. The role of the police service in nyumba kumi initiative is stipulated by the Kenya Police (2014), that entails the fact that they should communicate with the community and give the feedback regarding crime and security information, providing a listen ear and understand public needs, being part and parcel of problem solving towards community satisfaction, being transparent and accountable, other police

duties and providing a platform for the formation of nyumba kumi initiative forums.

It is no secret that there is a lot of fear in our society over the rate of crime in the country but this should encourage the resolve to know each other and help out. This fear reminds us that we are all the same regardless of our tribe, creed or political affiliation. In other words, we all stand affected by the activities of criminals. Wamaitha *et al* (2019) <sup>[35]</sup> reiterated that, nyumba kumi initiative is an interesting strategy as it puts the community in a position whereby, they are able to share and report illegal activities without waiting for the national government to act on it.

#### **b. School Outreach Security Awareness Programs**

For there to be a raised level of safety and security in a region, and be able to successfully manage typical crisis occurrences, then school outreach security awareness programs are a great course that can be offered to the staff members of the school and the students. In the words of a resident respondent...

*“Security awareness training in learning institutions can be a strategy used by security professionals to prevent and mitigate citizen’s risk. These programs can be designed to help citizens to understand the role they play in helping to combat community security breaches. Effective school security awareness training would help the students and employees understand proper the security risks associated with their actions and to identify potential offenders.”* (RESP3/8/2023).

As captured from the quote, the school outreach security awareness programs activities would give the students and staff an opportunity to learn about the current state of school safety, including the most common risks that students encounter today. It will also guide them on how they can make a school property safe for both the students and the faculties, with an emphasis on how they can prevent common violence and crisis from ever occurring. Ways to manage common crisis events will be discussed as well.

These school outreach security awareness programs would help to minimize risks thus preventing any harm from happening. An effective school outreach awareness training program would address the community security mistakes that citizens make when in the community and in the physical world such as not informing in strangers and harboring criminals.

Effective school Outreach Security Awareness Programs begin with informed leadership. To address this matter, state security agencies have to develop the Integrated Security Planning for school administrators. The program would present a comprehensive and integrated approach to school security and emergency readiness specifically designed to address the unique culture, challenges, and operational characteristics of diverse schools. The school outreach security awareness programs should be tailored to be received by school support staff such as bus drivers, custodians, secretaries, and teachers. Special programs geared to parents, community members, and policy-makers would also be available. The ability to effectively address the needs of such diverse audiences, both individually and collectively, is one of the top factors that would contribute to the success of such programs. The security awareness

programs should be customized to engage employees and students of all levels, regardless of how long they have been with the school.

Effective school outreach security awareness programs would let students and employees practice proper security practices, recognize the security risks tied to their actions and identify potential security vulnerabilities that can be encountered through the school and community. Security negligence attacks can financially cripple businesses and harm the community’s reputation. School outreach security awareness programs would therefore teach students and employees how to protect their school's and community’s assets and other resources. By reducing the likelihood of security incidents and breaches, schools and communities can minimize their investment losses and maintain a more secure and resilient environment.

Security awareness is the process of educating and directing an employee's attention to security-related issues inside an organization. Employees who are aware of security concerns are more inclined to feel accountable for maintaining security, understand its importance, and are aware of the consequences and disciplinary actions for noncompliance.

Security training, on the other hand, focuses on imparting specialized knowledge and skills to staff members so they can improve their capacity to recognize and effectively address security issues. The main goal of security training is to provide useful advice on security best practices, including how to handle sensitive information appropriately, spot phishing emails and develop secure browsing habits.

In short, school outreach security awareness programs should foster a security culture and mindset within the school and community, as it imparts skills required to manage and mitigate security risks. It should be comprehensive, starting with rudimentary lessons and moving up to advanced materials. It should also include an assessment process to help schools and communities identify an individual's level of community security awareness and subsequently create a learning pathway for them. This is also emphasized by Velki, *et al* (2017) <sup>[34]</sup> who argues that, there is a great reason to be concerned about pupils’ risky behavior and their low awareness about security and privacy issues. And hence the need to reach out to them for awareness and training on security related issues.

#### **c. Physical Security Awareness Programs**

Physical security awareness is that part of security concerned with wide initiatives that should help citizens and visitors to identify, avoid, and report security threats of all kinds. As can be active and passive measures, designed to safeguard to personnel, equipment, installations, materials, and information in a country, against espionage, sabotage, terrorism, damage, and criminal activity. A security agent respondent said this...

*“Citizens and organizations need security awareness programs because in this rapidly evolving world, awareness of one’s surroundings is paramount, especially when it comes to personal, community and commercial property security. But those needing it the most are hospitals, government agencies, residential buildings, and commercial organizations.”* (RESP4/8/2023).

At this stage, awareness requirements are for all individuals in various roles which require specific knowledge that would involve security threats, vulnerabilities, mitigation strategies, and safeguards. The awareness level, would be applicable to all individuals within the community as security is their responsibility. Before a community would start to implement an awareness program or campaign, it would be important to first understand the environment that they operate within. There are many factors that would be considered, but the primary considerations would be understanding the culture, existing policy, regulation, and legislation. The factors which would be a primary consideration can help individuals work more efficiently and safely as it brings everyone into focus as a community.

Individuals would perform and coordinate more efficiently when there is a common understanding of their roles and responsibilities within the community. This is because, in some instances there can be a blurred understanding as people may not understand how these roles and responsibilities work together in order to accomplish the community's security endeavor. While understanding directives and guidance outlined in specific directives is important when undertaking physical security awareness programs, it is of utmost importance that the state and communities understand who the responsible parties are in the design, development, and implementation of physical security awareness programs.

Physical security awareness programs would introduce citizens to safe community practices and help them develop skills they will use both at work and in their personal lives. Successful physical awareness programs unite community leaders around a common awareness goal of protecting a community's resources of people and properties. By buying in to the security goals of the community and country, various national leaders would increase physical security awareness and create a robust security culture. A community physical security culture can be characterized as a facet of the broader communal and national culture, which encourages citizens and visitors to fulfill their responsibilities in alignment with a community and country security endeavors.

In a rapidly evolving world, awareness of one's community surroundings is paramount, especially when it comes to personal or communal property security. Personal and communal security awareness go hand in hand for the most well-rounded security awareness programs, which is where security awareness training comes in. Physical security awareness programs would include working with the community, experts, and trusted partners to raise the collective understanding of threats and actions that can be taken to prevent or mitigate the risks posed by these threats. And the outcome would be the communities and individuals are provided with the necessary awareness of security and operational best practices and steps to take to detect, prevent and mitigate threats and malicious activity. Therefore, it would increase the security posture of the community and help its members to detect, prevent, and recover from incidents; ensure that citizens are better prepared and educated.

#### **d. Cyber Security Awareness Programs**

In our data-driven world, most individuals are at least partially dependent on a measure of electronic storage and networking. Perhaps out of experience, organizations are

generally aware of the need for effective cyber security frameworks including firewalls, access and awareness training, and anti-malware systems. Individuals, however, tend to be somewhat behind the curve, when it comes to tightly securing their data-verse. Cyber Security Awareness Programs would aim to educate individuals and organizations about the risks associated with online activities. These programs cover topics such as safe internet browsing and protecting personal information. These investigations are also used for personal matters. A general public respondent had this to say...

*“Every second spent on the internet increases your chance of becoming a victim of identity theft or a phishing email fraud. In the world where digital interactions and electronic documentation are now more or less the norm, this is especially important. From digital classes, online money payments and cloud documentation, individuals and institutions are exposed to risks of a cyber-attack”* (RESP5/8/2023).

Awareness of Internet security issues is a benefit to all, from the seasoned systems administrators, to the home user paying a bill online, having classes or streaming a movie, to users just now learning about the usage of phones, computers and the Internet. Managing the security of our personal information, and maintaining ownership of the goods and services we have purchased are universal challenges. The Internet community knows few geographical bounds, and foundational cyber security awareness is critical to the safety of the general public.

Intruders focus on taking advantage of users to gain access to either their data or an organization's networks and its sensitive information. They do it through techniques such as phishing, masquerading, or social engineering, as they attempt to manipulate human emotions. A user of a gadget may have access to critical data, login credentials, and other information that, if improperly used, could cause harm to themselves, their friends or an organization. For example, logging on to attend online classes leaves students exposed to digital hacks and bugs, schools that run a free Wi-Fi system could very easily have their public hotspot hacked or cloned, giving hackers access to laptops and mobile devices of thousands of students and staff. Then there is the fact that educational systems have a huge data collection of student history including personal data like birth certificates, home addresses, phone numbers, medical history and even biometrics. One hack into a school's system could leave more than a thousand people exposed.

Considering this increase in prevalence and sophistication of cyber-attacks, especially citizens should begin to tackle this problem with the seriousness, thoroughness and urgency that it deserves. While some individuals and many organizations have put technical solutions in place to mitigate these malicious activities, security solutions require an embedded culture of cyber security awareness to be truly effective. Cyber-criminals are well aware that some individuals and institutions do not have the same cyber-security consciousness as major companies, making them a prime target for their criminal activities. A common tactic used by threat agents is spear-phishing attacks. Here, they target individual an institution by spoofing an email to make it look as if it is coming from a senior person know to them and send it to people they are known to work or relate



closely with. These messages will then send victims to websites that attempt to steal credentials or contain attachments which will drop malware.

Cyber criminals target people more than they target systems as people tend to be more vulnerable than systems. So, it is important that all stakeholders are made aware of the risks they face and the need to integrate cyber-security into their daily lives. Therefore, cyber security awareness programs for individual members are very crucial element of any effective cyber security strategy. While several layers of firewall protection and comprehensive antivirus coverage are necessary to prevent hackers from gaining unauthorized access, these systems are not in themselves sufficient. It is important to note that cyber-security awareness training must be carried out periodically because a “one and done” approach would be largely ineffective, as online criminals are constantly evolving and developing new ways to exploit system vulnerabilities and attack network users.

#### 4. Recommendations

Based on the conclusions, the study recommends that, there should be efforts to enhance the types of security awareness programs and strengthen the existing ones in order to reach out best to the community and citizens. If this can be achieved, then it will greatly contribute to national security. The state therefore has to involve the stakeholders in this sensitive endeavor.

#### 5. Further Research

Based on the scope and the findings for this study, the following is the recommendation for future research: The research limited itself to the security awareness programs in Lamu County, Kenya. However, a number of similarities in the security awareness programs were noted, especially through literature. It would be useful to extend this study to other regions, to determine to what extent the findings are applicable in the whole of the country Kenya.

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