

An Evaluation of Maritime Security Strategies in Promoting Blue Economy in the Coastal Region: A Case Study of Mombasa County, Kenya

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Abstract: The Kenya government adopted the Blue Economy concept to spearhead the Big Four Agenda in order to compliment other economic pillars for national prosperity. However, maritime threats remain a security concern in the realization of blue economy benefits. The purpose of the study was to explore the influence maritime security strategies and their implications on blue economy in Mombasa County, Kenya. The study aimed to interrogate the influence of maritime security strategies in promoting blue economy in the coastal region, Mombasa County. It was anchored on three objectives; to establish the key maritime threats, examine the effects of maritime policing frameworks and establish the influence of human security on blue economy. The study was grounded on the stakeholder theory and carried out in four sub counties in Mombasa County. The target population comprised of public and private security agencies, ship handlers, Kenya Port Authority administrators, Fisheries department officials and Beach Management Units (BMU) representatives, County and Local Community Representatives. Godden (2004) determination of sample size was used to arrive at a size of 138 respondents. The study used stratified and purposive sampling methods to achieve the desired representations and the research tools were pilot tested in Shimoni, Kwale County. Collected data was presented using graphs, tables and pie charts. Descriptive and inferential statistics methods used for data analysis while frequencies, correlation and regression models were used to establish the relationship between the independent and dependent variables. The results indicated that there was a positive and statistically significant influence of all the three independent variable (key maritime threats ($\beta = 0.2591$, $p=0.000$), policing framework ($\beta = 0.138$, $p=0.012$); and human security ($\beta = 0.143$, $p=0.028$) on blue economy in Kenya. The study concludes that there is a positive and statistically significant influence of key maritime threats, policing framework and human security on blue economy in Kenya. Some of the study recommendations includes maritime security stakeholders and practitioners should develop homegrown, multi-sectoral and comprehensive strategies to address key maritime threats; harmonization of policing frameworks strategies to link development and the blue economy transformation; there is need to address human security issues such as poverty, lack of alternative livelihoods through empowerment programs and initiatives of coastal communities to solve some of the root causes of maritime insecurity: the government to formulate innovative strategies on maritime security and blue economy policies to encourage local and foreign investments into the blue economy through tax and non-tax incentives, tax exemption, investment tax allowance as well as grants.

Key Words: Blue Economy, Human Insecurity, Key Maritime Threats, Multi-Agency Approach and Policing Frameworks

I. INTRODUCTION

The future of the global ocean economy is blue economy (World Bank, 2017). The maritime security of the world's water bodies is critical as it has a great potential and significance to the blue economy (Behnam, 2012). Therefore, there is need to have the right maritime security strategies to ensure that oceans, coastlines, harbours among others marine resources of the world are adequately secured from any form of activity that is a threat and an impediment towards sustainable exploitation of the world's blue economy (Vrey, 2013; Erwiantono, 2013).

Maritime security strategies are great supporting pillars to the Blue Economy. Since it offers protection of sea lines of communications, provision of important oceanographic information to maritime industry and law enforcement within territorial waters is essential for progressive maritime industry. According to Mwachinalo (2017) maritime security is the good condition along the maritime space that makes it easier and smoothly for people to engage in economic activities and freely interact. According to Kraska & Pedrozo, (2013); Klein, (2011); and Roach, (2004) key maritime threats include; maritime inter-state disputes, maritime terrorism, piracy, trafficking of narcotics, people and illicit goods, arms proliferation, illegal fishing, environmental crimes, or maritime accidents and disasters. Maritime security supplements the blue economy through management strategies such as monitoring and laws enforcement.

The Blue Economy (BE) is described as a long-term ocean-based economic model that relies heavily on marine and coastal habitats and services with environmentally sound, creative infrastructure, technology, institutional and funding structures (Brent, Barbesgaard & Pedersen, 2020; Bertazzo, 2018). While according to World Bank (2017) blue economies refer to the sustainable use of ocean resources so as to promote economic growth, create jobs and improve livelihoods while preserving the health of the ecosystem. It covers three economic forms: development of marine economy, innovative development economy and global water crisis (Behnam, 2012; Pauli, 2009; McGlade, 2012). It is purposed to enhance preservation of human livelihoods where

almost half of the world population depends on it and centrally positioned in global trade, industry, labour, environment and security (Doyle & Seal, 2015).

The international ocean is fundamentally supposed to promote human well-being, such happens by controlling climate change, the absorption of carbon dioxide emissions, and the provision of seafood and nutrition essential for more than one billion people across the world Food Agriculture Organization, 2014a; MoiYoi, 2003). Thus, the world aquatic ecosystems provide broad range of resources and services therefore contributing to human and socioeconomic development. Thus there is need to align blue economy with the society needs (Global Sustainable Blue Economy Conference (2018). In the case of human security, United Nation Development Programme (UNDP) mentioned that food security, blue economy and resilience of coastal people are interrelated dimensions and thus a source of threats in the implementation of the maritime security strategies.

The maritime security became an important subject after 9/11 attack and in 2011 it was adopted in the NATO Maritime Strategy as an objective (Christian, 2015). It's worthy to note that maritime security was a major challenge between 2008 and 2011 (Murphy, 2010). According to the UK National Strategy on Maritime Security (2014) maritime safety is inclusive of ship technical and quality standards, routing and nautical charts, the training of crews and labour conditions, and life-saving responsibility and standards. Safety concerns are core to maritime security given that it may involve environmental and cultural interests. The sea serves as a platform for potential targets and perpetrators with a link to economic development.

The modern Russia's socioeconomic space is increasing maritime orientation (Druzhinin, 2020). Russia's maritime orientation manifested itself primarily global and maritime shippings (Druzhinin, 2019; Fedorov & Kuznetsova 2019). Thus, maritime security is of great significance to Russian Federation as it as its coasts are washed by the waters one inland sea, twelve seas and three oceans. Russian world water bodies of great importance are is mainly Black Sea, Arctic and Pacific Ocean, thus instability and competition affecting this water bodies is of great concern Russian Federation (Fedorov & Kuznetsova 2019). Russia has developed various policy and frameworks such as Maritime Doctrine of the Russian Federation to support maritime security and blue economy (Druzhinin, 2020).

The maritime security and blue economy in East Asia has become of great importance due to huge seabed resources and shift of the weight of the world economy from North Atlantic to Asia (Woldeyes, 2015; Park 2014; Rumley, 2013; Behnam2012). East Asia maritime security has faced several challenges which range from piracy and terrorism group such as Liberation Tigers of Tamil Eelam (LTTE), environmental risks associated with possible oil and chemical spills, due to the increased maritime traffic, environmental threats such as

illegal, unreported, and unregulated (IUU) fishing or habitat destruction, and disputes and rivalries among nations may derive situations which hinder the sustainable development of the blue economy (Arif & Karim, 2013; Balam, 2012).

According to Pesjova (2016) approximately fifty percent of the world's commercial activities take place through the Indian Ocean and extends from Red Sea and Gulf of Aden to South Africa. The maritime boundaries in Africa are crowded with disagreements and contradiction and that is a huge threat for the stability of maritime along African shores (Ukeje & Mvomo, 2013). Recently, illicit activities such as drugs trafficking is on the increase and likely to strengthen transnational criminal networks while incapacitating youthful population in coastal states (Vrey, 2013). Notably, piracy remains a serious issue on African continent especially in along the India Ocean East African countries and in Gulf of Aden region (Childs, & Hicks, 2019; Murphy, 2009). West and Central Africa main maritime issues have been armed robberies at sea to steal illicit oil and hijack fuel activities, smuggling and trafficking of both humans and drugs (Cristiani, 2017; João, 2013).

Africa in its endeavor to enhance maritime security and develop the blue economy has several initiatives such as the Djibouti Code (2009) and Yaoundé Codes of Conduct (2013) are the main legal documents that govern maritime security cooperation for the African continent; and the Africa's Integrated Maritime Strategy (AIMS) which is commonly referred to as AU 2050 AIMS; describes the Blue Economy as the "new frontier of African Renaissance" United Nation Economic Commission Economic for Africa (UNECA), 2016; Arendal, 2015; Vrey, 2010). However, Africa maritime security issues has been mainly attributed to weak government like case of Somalia, poverty, absence of other significant economic opportunities (João, 2013).

Since Kenya adopted the blue economy concept to compliment different pillars of economy several issues have emerged among them security concerns along the coastal areas such as destructive maritime dispute with Somalia, destructive fishing practices, excessive mangrove cutting, low environment awareness among coastal communities, conflicts and competition over natural resources, decline in resources, increased growth in population among others issues (Hamad, 2016; UNEP, 2015). Infact, Kenya maritime zones are in accordance with United Nation Convention on the Law of the Sea (UNCLOS) provisions, which provide the legal framework for oceans management which applies to States parties. Additionally, Kenya's maritime security interests include; maintaining territorial integrity, prosperity through wealth creation and a good national esteem (GoK, 2017). The Kenya-Somali maritime boundary dispute has limited full economic exploitation of maritime resources including hydrocarbons yet it has a maritime territory of 230,000 Sq Km (UNDP, 2018).

Thus there was need to explore the interrelationship of maritime security strategies and blue economy where Mombasa County was the area of focus. The interest of studying the interactions between blue economy and maritime security interests as maritime security is identified as an enabler of the Blue Economy.

II. THEORETICAL FRAMEWORK

Stakeholders Theory

The study used stakeholders' theory by Freeman (2010) which postulates that it is a genre of theories capable of explaining the interconnectedness of commerce, ethical problems and capitalism aspects. The maritime domain consists of vital groups stakeholders with diverse interests or capabilities/capability. Huntington (1996) posits the need to satisfy key stakeholders to alleviate failures of policies and strategies of organizations. It was observed that stakeholders' involvement in initial stages of strategy ensures effectiveness in plan development (Dess et al., 2012). Since the global economy grinds on the wheels of maritime industry, stakeholder's theory is relevant to the study since it analyses the relationship among the vital groups within the maritime domain complexities (Freeman, 2010).

In the maritime domain, there are many stakeholders where interests may conflict. According to Freeman (2010) and Donaldson & Preston (2015) stakeholders are people or groups with "legitimate interests in procedural and/or substantive aspects of corporate activity." In the adoption of ocean governance, Africa Integrated Maritime Strategy (2012) recommends for a continental maritime domain management to foster wealth creation from sea based activities and promote maritime security and safety. It acknowledges that there cannot be sustained socio-development without peace and security in order to build maritime governance. Despite the inclusivity of stakeholders' theory in understanding the role of stakeholders in blue economy growth, chances of negative reactions from the maritime organizations are likely due to absence of assessment criteria (Soni, 2016).

Conversely, illicit activities in the maritime domain take place within a complex cultural, physical and political environment (Michael, 2015) which undermines the maximum realization of blue economy benefits. The involvement of shareholders in management of maritime domain is essential for overall objective and thus this theory has been used as an approach to offer citizens and other relevant parties a voice in promotion of good governance (Bjorkman & Svensson, 2009). Organization for Economic Cooperation for Development (2008) asserts that this approach to governance is socially efficient and more sustainable. Donaldson & Preston (2015) suggest that institutional structures should always have environments that set-in motion response mechanism for all stakeholders hence the need for collective decision making.

Schouten, Wade & Wit (2014) emphasizes the need to establish structures and avenues for stakeholder participation.

To support this idea, the Kenya Constitution (2010) offers a framework for public participation in governance (GoK, 2010). This theory guides the researcher to identify the importance of various stakeholders and their unique positions in the maritime security in the wellbeing of national economic and citizenry welfare in Mombasa County. It also supports policing frameworks variable by emphasizing the need to have the voice of stakeholders in decision making processes, partnerships and openness in maritime security strategies.

Statement of the problem

The global blue economy is supported by a network of maritime industries which are operated by various stakeholders including those prosecuting transnational crimes. The UNDP (2017) acknowledges that the Eastern Africa region faces numerous key maritime threats which includes IUU fishing, piracy and armed robbery, maritime terrorism, arms proliferation, narcotics trafficking and human smuggling; degradation of marine ecosystems, illegal sand harvesting and the destruction of coral reefs and coastal pollution. These challenges negate the Kenya's ability to exploit the blue economy in the realization of Vision 2030 agenda as an avenue to diversify economic inputs for national development and growth. Thus, the maritime security continues to affect/influence the maximization of Kenya maritime potential. Although, Kenya adopted multiagency approach to counter maritime threats, much is yet to be realized (Charo, 2020; Botha, 2014; Busiega, 2016). Maritime security still lack interconnectedness between states and non-states actors and thus threatens the development of BE.

According to Hamad (2016) the Kenya EEZ vulnerability is due to; legal and jurisdiction weakness, geographical proximity to conflict neighborhood in Somalia, inadequate security, insecure base areas, and lack of maritime skills, ineffective leadership and inadequate state support. The failure to recognize the interconnectedness between maritime security and blue economy in Kenya maritime sector continue to derail maximum exploitation of maritime resources and opportunities. It exposes the Kenyan maritime space to threats which may undermine the maximum realization of blue economy benefits. Most of the maritime security policies are dealt in ad hoc and case by case manner. This study therefore finds a gap, and it is in this backdrop that the researcher sought to explore the influence of maritime security strategies on blue economy along the coastal region in Mombasa County, Kenya.

Aim of the Study

The main purpose of the study was to analyze the influence of maritime security strategies on Blue Economy in Mombasa County, Coastal Region. Kenya

Research Question

How Maritime security strategies promote the blue economy in the coastal region, Mombasa County, Kenya.

Specific Objective

To evaluate the maritime security mechanisms in the development of blue economy in Mombasa County, Kenya.

Research Methods

The study used mixed method which consists of correlation and descriptive methods in collection of data using questionnaire was utilized to achieve reliable data (Owen, 2002; Creswell, 2007). A hybrid approach therefore facilitates the determination of the effect that independent variables have on dependent variable (Fukuyama, 2015).

Research Site and Rational

The study was carried out in 4 sub-counties occupying maritime space in Mombasa County; Nyali, Likoni, Mvita and Changanwe. Conceptually, the study sought to establish the influence of maritime security strategies using three parameters (key maritime threats, policing frameworks and maritime security challenges) on revitalization and management of blue economy along the coastal regions, Mombasa County, Kenya.

Target Population

According to Cooper & Schindler (2014) target population are all members with similar characteristics about which a researcher wants to make inferences. The target groups are stakeholders in the Kenya maritime domain and bale to provide data for analysis. They are selected in consideration of their critical and comprehensive knowledge on maritime affairs in the coastal region and specifically Mombasa County. The questionnaires were administered to targeted stakeholders who comprise of various maritime stakeholders such as Kenya Maritime Authority, Ship Chandliers/Clearing Agencies, Port Facility Administrators, Beach Management Unit, Local Fishing Community, Kenya Port Authority, Mombasa County Maritime officials, Kenya Navy, Kenya Coast Guard Services, Maritime County officials, Private Security Agencies and Ship Construction/Repair Companies.

Determination of Study Sample

The sampling frame can be defined as a list of elements where the sample is drawn and it has a close relationship with the population (Cooper, 2006).

Sampling Procedures

Kothari (1990) posits that sampling process is a technique of choosing a suitable representation of the entire population. The study used stratified sampling in the identification of necessary sub-groups in the population and purposive sampling in data collection on key respondents for informative representation.

Sample Size

The table below illustrates the sample size of 138 considered according to Cooper & Schindler (2006).

Study sample

Type of Respondent	Target Sample	No of Response
Kenya Maritime Authority	08	06
Ship Chandliers/Clearing Agencies	12	10
Port Facility Administrators	15	13
Beach Management Unit	10	10
Local Fishing Community	25	22
Kenya Port Authority	09	08
Mombasa County Maritime Kenya Navy	10 15	09 15
Kenya Coast Guard Services	12	10
Maritime County officials	10	08
Private Security Agencies	06	06
Ship Construction/Repair Companies	06	06
Total	138	123

Source: Researcher (2022).

Source: Field Data (2022)

III. RESULTS AND DISCUSSIONS

This chapter entails data presentation, analysis and interpretation of findings based on the study objectives. The study sought to establish the influence of maritime security strategies on blue economy in the coastal region Mombasa County, Kenya.

Response Rate

The purpose of table presentation was to assist in acquiring the correct number of the questionnaires that were successfully filed out of the total number of what was sent out, and again to check whether the number was adequate for data processes to continue (Borg and Gall, 2008). The study targeted 138 respondents, whereby 123 responses were successfully received for analysis making a response rate of 89.13%. This reasonable response rate was achieved after the researcher made frequent physical visits and follow ups of the respondent. According to Babbie and Earl (2009), 50% response rate is deemed adequate and one can proceed with data analysis.

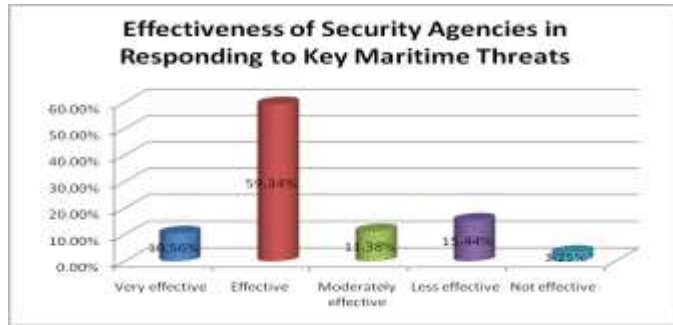
Influence of Key Maritime Threats on Blue Economy

Key Maritime Threats to Blue Economy

The study sought to establish the main key maritime threats to blue economy in Mombasa County. This means that the blue economy growth is still threaten by activities ashore as a result of lack of licit economic opportunities. Kenya is vulnerable to transit of illegal activities due to its strategic location in the Indian Ocean region. The respondents were requested to rate how effective has security agencies responded to key maritime threats. Majority of the respondents 59.34% indicated that security agencies has been effective, 15.44% indicated less effective, 11.38% indicated

moderately effective, 10.56% indicated very effective while only 3.25% indicated that security agencies has not been effective responding to key maritime threats.

Effectiveness of Security Agencies in Responding to Key Maritime Threats



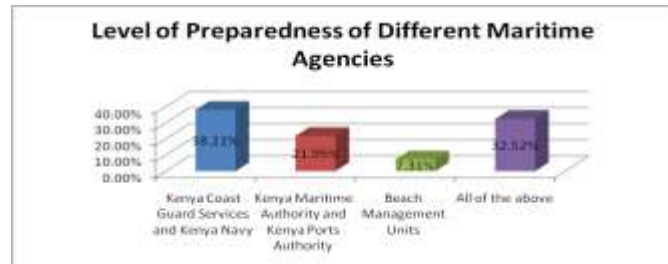
Source: Field Data (2022)

Key Maritime Threats

The study requested the respondents to indicate their extent of agreement on statements on influence of key maritime threats on blue economy in Mombasa County, Kenya. A scale of 1-5 was used to interpret the means scores where 5 was very great extent while 1 was to no extent. The findings are as presented below.

Influence of Policing Frameworks on Blue Economy

In the figure below, majority of the respondents 38.21% indicated Kenya Coast Guard Services were well prepared compared to other security agencies. This study support the views of Heiner (2014) and Timothy (2017) who noted that the maritime agencies ought to be well prepared for surveillance, patrolling tasks and interdiction among other security roles and responsibilities.



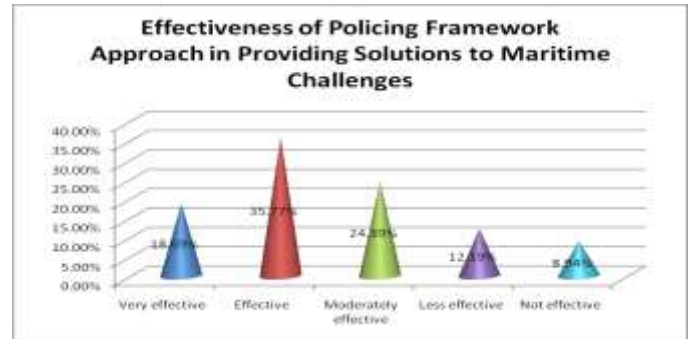
Source: Field Data (2022)

Effectiveness of Policing Framework Approach in Providing Solutions to Maritime Challenges

In the figure below, 35.77% of the respondents indicated that policing framework approach has been effective, 15.44% indicated moderately effective, 18.69% indicated very effective. 12.19% less effective while only 8.94% indicated that policing framework approach has not been effective in providing solutions to maritime challenges.

The effectiveness of policing framework approach in providing solutions to maritime challenges can be enhanced

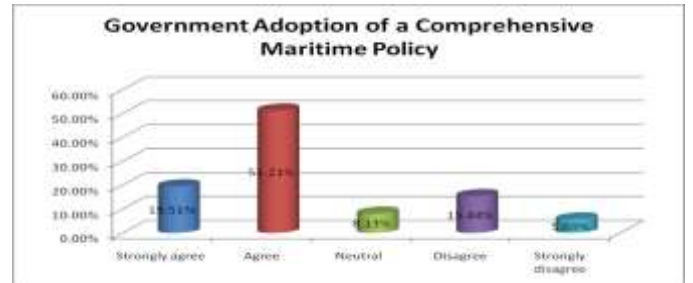
through capacity building and reform of the maritime security sector (Bueger & Mohanvir, 2012). Due to mainly Somali piracy and terrorism related activities most of maritime agency/department have initiated capacity building and reforms in their respective agencies in order to enhance their effectiveness.



Source: Field Data (2022)

Government Adoption of a Comprehensive Maritime Policy

In the figure below, 51.21% of respondents agreed that government has adopted a comprehensive maritime policy, 19.51% of respondents strongly agreed, 15.44% of respondents disagreed, 8.1% of respondents were neutral while only 5.69% respondents strongly disagreed that government has adopted a comprehensive maritime policy. The Kenya government has realized that the maritime security and blue economy activities are inter connected and thus the need for adoption of comprehensive maritime policy.



Source: Field Data (2022)

Policing Frameworks

In the table below, majority of respondents agreed that maritime safety strategies and policies influence the revitalization and management of blue economy in Kenya. The respondents also agreed that to great extent do tourism strategies and policies, development and implementation of international conventions, code, policies and strategies that strengthen maritime safety and security and poor law enforcement influence the revitalization and management of blue economy. Effectively coordinating and implementing the policing frameworks can greatly boost the revitalization and management of blue economy in Kenya. Majority of the individuals were not aware of existing maritime policies. This study results concurs with Bueger (2015) who indicated that

policing frameworks which are inclusive well-coordinated and implemented are able to address maritime security challenges such as piracy and terrorism. Maritime policing frameworks and legal systems need to be flexible, well-coordinated and problem-solving oriented rather than been inflexible and purely enforcement based. This is exhibited by the spirits of Djibouti Code of Conduct and The EU strategy on fight against maritime piracy which allows for arresting, transfer, prosecution and jailing of piracy suspects across different jurisdictions.

Statements on Policing Frameworks	Mean	Standard Deviation
To what extent does national economic strategies and policies influence the revitalization and management of blue economy in Kenya	4.3146	0.80433
To what extent does tourism strategies and policies influence the revitalization and management of blue economy in Kenya	4.2752	0.80433
To what extent does maritime safety strategies and policies influence the revitalization and management of blue economy in Kenya	4.5146	0.91895
To what extent does poor law enforcement influence the revitalization and management of blue economy in Kenya	3.9463	0.99532

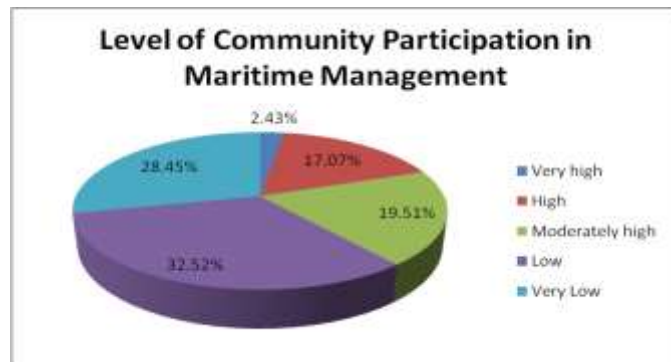
Source: Field Data (2022)

Human Security on Blue Economy

The study sought to establish which socioeconomic activities undermines the realization of blue economy in Mombasa County.

Level of Community Participation in Maritime Management

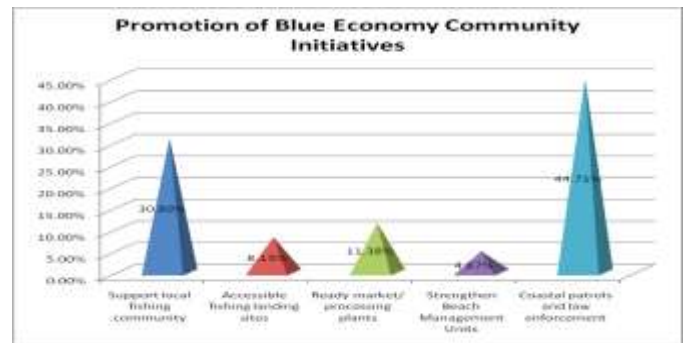
In the figure below, 32.52% of respondents indicated low, 28.45% indicated very low, 19.51% indicated moderately high, 17.07% indicated high while 2.43% indicated very high level of community participation in maritime management. The study results infer relatively low level of community participation in maritime management. The study concurs with Hassan, Ong’ayo and Osore (2018) who indicated that there is relatively low and passive level of participation of local communities in maritime management or development projects as most of local people believe that these maritime projects do not address their needs and interests as well due to the high illiteracy level among Kenyan



Source: Field Data (2022)

Promotion of Blue Economy Community Initiatives

The figure below, 44.71% of respondents indicated coastal patrols and law enforcement, 30.89% indicated support local fishing community, 11.38% indicated ready market or processing plants, 8.13% indicated accessible fishing landing sites while 4.87% indicated strengthen beach management units. The study results infer Mombasa County government is promoting blue economy community initiatives. The study findings agrees with the findings of UN-Habitat, (2021) who established that the both national and county governments support local communities initiatives with aim of protecting Kenya's coastal ecosystems and generating employment, livelihoods and business opportunities.



Source: Field Data (2022)

Human security

The table below, shows the extent of agreement on statements on influence of effects of human security on revitalization and management of blue economy in Mombasa County, Kenya.

Statements on human security	Mean	Standard Deviation
To what extent does strategies for human trafficking influence the revitalization and management of blue economy in Kenya	3.1015	1.01190
To what extent does strategies against IUU fishing influence the revitalization and management of blue economy in Kenya	4.2805	0.17877
To what extent does drugs/narcotics control and prevention strategies influence the revitalization and management of blue economy in Kenya	3.6341	0.82420
To what extent does poverty alleviation strategies influence the revitalization and management of blue economy in Kenya	3.5463	0.90774
To what extent does literacy promotion strategies influence the revitalization and management of blue economy in Kenya	3.7444	0.86603
To what extent does strategies against maritime ecosystems pollution and waste management influence the revitalization and management of blue economy in Kenya	2.4293	1.16904

Source: Field Data (2022)

Relationship Maritime Security Strategies and Revitalization of Blue Economy

The study employed inferential statistics to establish the relationship between variables. The inferential statistics

applied include: the regression analysis and Pearson product-moment correlation analysis.

Correlation Results

Table: Correlation Coefficients

VARIABLES		Key Maritime Threats	Policing Frameworks	Human Security Strategies	Revitalization of Blue Economy
Key Maritime Threats	Pearson Corr.	1	.145*	.050	.267**
	Sig. (2-tailed)		.022	.433	.000
	N	123	123	123	123
Policing Frameworks	Pearson Corr.	.145*	1	.072	.181**
	Sig. (2-tailed)	.022		.263	.004
	N	123	123	123	123
Human security	Pearson Corr.	.050	.072	1	.175**
	Sig. (2-tailed)	.433	.263		.006
	N	123	123	123	123
Revitalization of Blue Economy	Pearson Corr.	.267**	.181*	.175**	1
	Sig. (2-tailed)	.000	.004	.006	
	N	123	123	123	123

Key: *. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed)

Source: Field Data (2022)

Relationship Maritime Security Strategies and Revitalization of Blue Economy

The study employed inferential statistics to establish the relationship between variables. The inferential statistics applied include: the regression analysis and Pearson product-moment correlation analysis.

Correlation Results

The table below, shows the adopted pearson product-moment correlation analysis used to determine the correlation between the maritime security strategies (key maritime threats, policing frameworks and human security) and the revitalization of blue economy. It demonstrates a positive (r = 0.267) and statistically significant (p<.05) relationship between key maritime threats and revitalization of blue economy in Kenya. Thus the study results infer that key maritime threats have a positive significant relationship with revitalization of blue economy in Kenya.

The study results also show a positive (r =0.181) and statistically significant (p<.05) relationship between policing frameworks and revitalization of blue economy in Kenya. Thus the study results infer that policing frameworks has a positive significant relationship with revitalization of blue economy in Kenya.

Correlation Coefficients

The figure above shows the correlation results shows a positive (r = 0.175) and statistically significant (p<.05) relationship between human security and revitalization of blue economy in Kenya. Thus the study results infer that human security have a positive significant relationship with revitalization of blue economy in Kenya. Thus the study results infer that key maritime threats have a positive significant relationship with revitalization of blue economy in Kenya. The study results also show a positive (r =0.181) and statistically significant (p<.05) relationship between policing frameworks and revitalization of blue economy in Kenya. Thus the study results

Regression Results

The study adopted a multiple regression model to evaluate the relationship between maritime security strategies (key maritime threats, policing frameworks, human security) with revitalization of blue economy in the coastal region, Kenya. The regression model was as follows:

where:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \epsilon$$

Y is revitalization of blue economy in Kenya

x₁ is key maritime threats

x₂ is policing frameworks

x₃ is human security

β₀ is constant

ε is error term

The table below shows a summary of regression findings which indicate an adjusted R-Squared of 0.627. These results demonstrate that 55.4% of the proportion of variation in revitalization of blue economy in Kenya depends on key maritime threats, policing frameworks, human security variables. The remaining 44.6% of revitalization of blue economy in Kenya depends on other predictors not covered in this study.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.792 (a)	0.627	0.554	0.289

a. Predictors: (Constant), Key Maritime Threats, Policing Frameworks, Human security.

Source: Field Data (2022)

The figure below shows. analyses of variance (ANOVA) test conducted to test and confirm if the study results were significant. The selected threshold of significance chosen for the study was 0.05 at 95% confidence interval. The ANOVA results F (3, 242) =10.501, p < 0.001 outlined in Table 14 support the goodness of fit model explaining the variations in

the dependent variable. This validates that key maritime threats, policing frameworks and human security are useful predictors of revitalization of blue economy in Kenya.

ANOVA Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.661	3	.220	3.790	.000 ^b
	Residual	10.114	123	.058		
	Total	10.775	126			
a. Dependent Variable: Revitalization of Blue Economy						
b. Predictors: (Constant), Key Maritime Threats, Policing Frameworks, Human security.						

Regression Coefficients

The table below shows, that a unit increase in key maritime threats results in 0.259 units increase in revitalization of blue economy, holding all other variables constant. The results further show that ($\beta = 0.255, p < .01$), thus there is a positive and statistically significant influence of key maritime threats on revitalization of blue economy. A unit increase in policing frameworks results in 0.138 units increase in revitalization of blue economy, holding all other variables constant. The results further show that ($\beta = 0.138, p < .05$) hence there is a positive and statistically significant influence of policing frameworks on revitalization of blue economy in Kenya. A unit increase in human security results in 0.143 units increase in revitalization of blue economy, holding all other variables constant. The results further show that ($\beta = 0.143, p < .05$), therefore, there is a positive and statistically significant influence of human security on revitalization of blue economy in Kenya.

These maritime variables affects the growth of BE greatly. When key maritime threats manifests, investments and operational costs do increases within the Kenya waters. Secondly, when poor policies are implemented the results included inadequate coordination and misuse of resources. Thus, the county and national governments are exposed to hazards endangering their business environment resulting to loss of revenues. An increase in human insecurity onshore, it results to increase of illegal activities offshore such as cross border crimes and trade. Therefore, an optimum level should be reach to realize the benefits of blue economy development.

Model Summary

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Beta	Std. Error	Beta		
1	(Constant)	2.167	.133		16.353	.000
	Key Maritime Threats	.255	.103	.239	3.095	.000
	Policing frameworks	.138	.055	.153	2.523	.012
	Human Security	.143	.065	.135	2.210	.028
a. Dependent Variable: Revitalization of Blue Economy						

Source: Field Data (2022)

IV. CONCLUSION

The summary of the findings concludes that the three maritime security strategies in promoting blue economy; key maritime threats, policing frameworks and human security are fundamental in exploitation of blue economy potential. This aims towards the realization of national objective of Vision 2030 agenda and support of the Big Four mid-term goals. The study acknowledges the need to tackle natural and man-made maritime threats which may undermine the revitalization of blue economy. Actions against key maritime threats such as counter terrorism strategies, maritime patrols strategies, anti-piracy strategies and maritime surveillance strategies among others are essential enablers to blue economy. Maritime security strategies enhances protection and safeguarding of maritime resources, transportation systems, critical infrastructure such as ports, oil refineries, bridges among others which are vital towards promotion, revitalization and management of blue economy in Kenya.

The policing frameworks found multi agency, tourism, maritime safety and law enforcement at sea to influence the management of blue economy. Therefore, application of effective maritime policies augmented with effective implementation would ensure growth of blue economy. Despite Kenya having good policing frameworks strategies; there is lack of commitment, poor coordination and partial implementation of these frameworks.

Human security issues such as poverty, lack of alternative livelihoods are main causes of maritime insecurity. There cannot be sustainable maritime security without empowerment of local communities and development of human security related aspects. Rightfully, when human security issues are handled inappropriately by county and national government the population would overexploit the maritime resources thereby undermining the sustainability of the blue economy. The youth become vulnerable as a result of risk factors and maybe targeted to join criminal activities such as terrorism and piracy organizations. To counter human insecurities, the study therefore advocates for provision of alternative livelihoods, increased literacy on maritime issues, raise awareness and support local businesses. Such kind of initiatives will definitely go long way in developing the idea of blue economy concept.

The strategic location of Mombasa County and a good natural harbor affords a lucrative opportunity to expand the benefits of blue economy. The growth of maritime tourism, seafaring, ships construction industry, sea transportation and commercial fishing are some of the area which requires assurance of maritime security. This study therefore, concludes that there is a positive and statistically significant influence of key maritime threats, policing frameworks and human security on revitalization of blue economy in Kenya.

V. RECOMMENDATIONS

Recommendations for Practitioners

The maritime security stakeholders and practitioners should develop homegrown and comprehensive maritime strategies to address key maritime threats to ensure maximum exploit of blue economy opportunities. These maritime security strategies will enhance our national capacity to detect, deter, interdict, and defeat terrorism/piracy, criminal acts among other key maritime threats; which was ultimately promote blue economy in the coastal region, Kenya. There is need for maritime security agencies and other stakeholders to coordinate and share information on maritime security strategies to avoid duplication of efforts. This will ensure consistency, comprehensiveness and harmonious outcomes on revitalization and management of blue economy in Kenya.

There is need to develop the capacity of security agents so enhance their effectiveness in responding to key maritime threats and this will go a long way in boosting maritime security activities such as patrols, arrests, prosecutions, maritime safety and inspections.

The study recommends that there is need to address human security issues such as poverty, lack of alternative livelihoods through empowerment programs and initiatives of coastal communities as by doing so was solve some of the root causes of maritime insecurity. Additionally, the maritime security agencies should increase maritime surveillance/reconnaissance and maritime coastal patrols to enhance maritime presence in order to preventing IUU fishing, human trafficking, and drugs/narcotics among others which may jeopardize the revitalization and management of blue economy in Kenya. Stakeholders should promote more investments in Kisumu and Lamu region to harness the immense potential of blue economy growth in Kenya.

The study recommends that there is need to boost the participation of local communities in blue economy projects; by do so will enhance sustainability of marine resources. The county of Mombasa should develop robust schemes to enhance maritime literacy among the inhabitants of Mombasa County such as organizing water sport activities and fishing competitions to promote government policies on management and revitalization of blue economy. Finally, there is need to undertake continue training and skills development to prepare the inhabitant on the benefits of blue economy.

Recommendation for Policy Intervention

The government should formulate robust and modern maritime security and blue economy policies. Such policies may include incentives to promote local investors as well as Foreign Direct Investment (FDIs). In order to realize social economic benefits on the blue economy, the county government policies on blue economy ought to be harmonized and their mandates clearly demarcated. Lastly, the study also recommends that maritime security and blue economy legislations, policies, frameworks and strategies ought to

adopt a multi stakeholders approach so as to enhance coherence for effective implementation and success.

Recommendations for Further Study

It is suggested that more research should be done in other areas to explore blue economy benefits in other coastal/inland waters of Kenya, analyse independent sector of maritime economy which support BE initiatives.

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