

**INTEGRATION OF MARITIME SECURITY IN ADDRESSING  
THE THREATS TO SUSTAINABLE DEVELOPMENT OF BLUE  
ECONOMY IN THE KENYAN COAST (2010 - 2022)**

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## DECLARATION

**Student:** This project report is my original work and has not been presented for any award of a degree in this university or any other institution.

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## OPERATIONAL DEFINITIONS OF TERMS

<b>Blue economy development:</b>	Refers to the sustainable use of ocean resources for economic growth, improved livelihoods, and the preservation of ocean ecosystems also known as maritime economy.
<b>Blue resources:</b>	Refer to the various natural resources found in marine and aquatic environments.
<b>Marine security:</b>	Refers to the measures and activities implemented to safeguard the maritime domain, which includes oceans, seas, and coastal areas, from various threats and challenges.
<b>Maritime diplomacy:</b>	Refers to the use of diplomatic and strategic efforts by states to manage and enhance their maritime interests, relationships, and activities on the global stage.
<b>Maritime domain:</b>	Refers to the expanse of oceans, seas, coastal areas, and other interconnected waterways that collectively form a distinct and expansive space on Earth.
<b>Maritime governance:</b>	Refers to the set of policies, regulations, institutions, and practices that guide and oversee activities in the maritime domain.
<b>Integration of marine security:</b>	Refers to the harmonious coordination and collaboration of various elements within the maritime sector, as well as the integration of maritime activities with broader economic, environmental, and security considerations.
<b>Maritime safety:</b>	Refers to a set of measures, regulations, and practices aimed at preventing accidents, protecting human lives, safeguarding vessels, and preserving the marine environment.
<b>Maritime Security Operations:</b>	Refers to a series of coordinated and proactive measures implemented to safeguard the maritime domain from various threats and challenges.

**Maritime security:**

Refers to a range of measures and activities designed to safeguard the maritime domain, which includes oceans, seas, and coastal areas.

**Maritime terrorism:**

Refers to acts of terrorism carried out in the maritime domain, which includes oceans, seas, coastal areas, and associated infrastructure.

**Piracy:**

Refers to acts of robbery, violence, or other criminal activities committed at sea, typically by individuals or groups operating outside the jurisdiction of any particular state.

## **ABBREVIATIONS AND ACRONYMS**

<b>AIMS</b>	Africa's Integrated Maritime Strategy
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>AU</b>	African Union
<b>CGPCS</b>	Contact Group on Piracy off the Coast of Somalia
<b>DCI</b>	Directorate of Criminal Investigation
<b>GDP</b>	Gross Domestic Product
<b>IOR</b>	Indian Ocean Region
<b>JIIM</b>	Joint, Interagency, Intergovernmental, and Multinational
<b>KCGS</b>	Kenya Coast Guard Service
<b>KDF</b>	Kenya Defence Forces
<b>KFS</b>	Kenya Forest Service
<b>KMFRI</b>	Kenya Marine and Fisheries Research Institute
<b>KRA</b>	Kenya Revenue Authority
<b>KWS</b>	Kenya Wildlife Service
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NIS</b>	National Intelligence Service
<b>NPS</b>	National Police Service
<b>NSAC</b>	National Security Advisory Committee
<b>SLOCs</b>	Sea Lanes of Communication
<b>UN</b>	United Nations
<b>UNIFIL</b>	United Nations Interim Force in Lebanon
<b>UNSCR</b>	United Nations Security Council Resolution

## ABSTRACT

The aim of the research was to examine the integration of maritime security into the blue economy, determine the impact of maritime governance structures on the development of the blue economy and explore strategies to improve maritime security integration along the Kenyan coast. The study was guided by three main objectives: to examine the nature of the integration of maritime security into the development of the blue economy, to assess the impact of maritime governance structures on this development and to analyze strategies to improve the integration of maritime security into the blue economy of the Kenya Coast. Based on neorealism (structural realism) and institutional theories, the study used a descriptive survey research design for a population of 228 individuals working in marine facilities on the Kenyan coast. A purposive sampling method was used, resulting in a sample size of 114 respondents, from whom closed-ended questionnaires with Likert scales were completed. Data analysis was conducted using percentages derived from Likert scale responses. Key findings showed that Kenyan maritime security agencies rarely cooperate with neighboring states. Despite Kenya's commendable efforts to improve maritime security and promote the development of the blue economy - as evidenced by the establishment of the Kenya Coast Guard Service (KCGS) and Navy patrol bases - critical challenges and gaps remain. Notably, there is a significant lack of effective cooperation between maritime security authorities on the Kenyan coast and with neighboring states, which hinders the formation of a coherent regional maritime security framework for the development of the blue economy. Furthermore, local community engagement, which is crucial for marine security in the blue economy, is insufficient and there is a significant need for marine research and education initiatives. The study also highlighted weaknesses in laws and policies and highlighted the need to improve interoperability and address collaboration limitations. The study recommends promoting collaboration with regional authorities and local communities, promoting marine research and education, establishing technical assistance programs, formulating comprehensive laws and policies, adopting an interagency approach, improving interoperability of laws and policies, and making investments in proactive maritime security research. Education and training to ensure robust development of the blue economy.

# **CHAPTER ONE**

## **INTRODUCTION**

This chapter examines the background of the study on integrating maritime security into the development of the blue economy. As an introductory chapter to the research, the chapter further formulates the problem statement and defines the objectives of the study and the questions raised for the study as well as the meaning or importance of the research. Additionally, this chapter assesses the scope of the study and its limitations.

### **1.1 Background to the Study**

The integration of maritime security along the Kenyan coast is critical to the sustainable development of the Blue Economy, but faces significant challenges that make effective implementation difficult. The fragmentation and overlapping responsibilities of various security agencies such as the Navy, Coast Guard, Maritime Police and environmental authorities lead to inefficiencies and coordination difficulties. Resource limitations and inadequate training further limit the capabilities of these forces. Jurisdictional issues, including unclear maritime borders and gaps in the legal framework, complicate the enforcement of laws against piracy, smuggling and illegal fishing. Environmental threats such as climate change and pollution pose additional risks to marine ecosystems. Socioeconomic impacts on local communities and the tourism sector add further complexity, as does the need for advanced monitoring and monitoring technologies. Addressing these multifaceted challenges requires a comprehensive approach that includes policy coherence, stakeholder engagement and regional cooperation to improve maritime security and ensure the sustainable use of marine resources.

Alongside the objectives of the "Green Economy," which include enhancing social justice, guaranteeing environmental preservation, and promoting human well-being, the "Blue Economy" is an emerging economic paradigm that places a higher priority on the preservation of marine resources (Bueger, 2013). The term "blue resources" refers to the various bodies of water and activities associated with them, such as rivers, lakes, and oceans. Economic endeavors that are closely associated with marine and coastal resources are what Ebarvina (2016) defines as the "blue economy.". Among these are mining, shipbuilding, tourism, desalination, marine energy, offshore gas and oil production, aquaculture, fishing, and sea/ship transportation.

The implementation of maritime security is associated with numerous challenges that endanger global interests in the maritime domain. In Mexico, the historical responsibility for protecting vital maritime infrastructure has traditionally rested with the Navy, a role that is now largely delegated to the Coast Guard (Sadler, 2021). The greatest threats to maritime security include non-state actors such as poachers, smugglers, pirates, terrorists and environmental pollutants, as well as natural hazards such as storms, massive waves, tsunamis and hurricanes. The analysis of maritime security force integration highlights critical issues related to the transition from the Navy to the Coast Guard, as well as coordination with non-state actors and response to natural disasters. In particular, the research lacks an in-depth examination of Mexico's specific challenges and successes in this transition. There is an obvious gap in research into the practical strategies for organizing operational capabilities and the potential obstacles faced by this process. Furthermore, the study provides insufficient attention to how effective coordination and integration of maritime security forces could optimize the exploitation of marine resources and facilitate the development of the blue economy in the Mexican context. The need for joint efforts by various

security forces is underscored by the global blue economy crisis, but practical evidence on how to achieve this coordination remains scarce. Future research should focus on identifying effective integration strategies, understanding the barriers to coherent maritime security operations, and assessing their impact on the sustainable development of the blue economy.

The integration of maritime security into the development of the Blue Economy in Brazil highlights notable roles and challenges in this context. According to Santos & Carvalho (2020), while Brazil's participation in the management of the United Nations Interim Force in Lebanon (UNIFIL) demonstrates an early commitment to international maritime responsibility, research lacks an in-depth examination of Brazil's later contributions and challenges in integrating the maritime security in the development of the Blue Economy. An in-depth analysis of Brazil's distinct contributions, obstacles, and cooperative endeavors in the wider international maritime security domain would enhance comprehension of efficient integration for the advancement of the Blue Economy. Furthermore, the comparison with Russia, India and China highlights their proactive approaches to protecting the blue economy, but the study does not draw parallels or contrasts with Brazil's strategies and results. Furthermore, there is a lack of discussion about how Brazil works with other nations, especially those considered successful in terms of Blue Economy Gross Domestic Product (GDP), to achieve sustainable security and equitable growth in maritime and coastal regions.

The integration of maritime security in Blue Economy development in the context of Asia highlights significant contributions from coastal defense powers in the region, particularly those with interests in the Indian Ocean and Sea Lanes of

Communications (SLOCs) (Asif, 2022). Japan, with a substantial reliance on energy and trade security in the Indian Ocean Region (IOR), has been actively aiding the coast security forces of South East Asian littoral states, showcasing a commitment to regional maritime security. The engagement of IOR coastal security forces in Joint, Interagency, Intergovernmental, and Multinational (JIIM) naval practices funded by the Association of Southeast Asian Nations (ASEAN) Regional Forum further emphasizes collaborative efforts. However, there lacks a detailed examination of specific challenges faced by Asian nations in integrating maritime security with Blue Economy development, especially considering the diverse socio-political landscapes within the region.

Moreover, there is a gap in understanding the effectiveness of the multi-layered approach proposed, as well as the specific policies and strategies adopted by countries such as Australia, ASEAN members, Bangladesh, Canada, and Japan in achieving Blue Economy development through enhanced maritime security. A more nuanced exploration of regional challenges, successes, and policy frameworks would contribute to a comprehensive understanding of the integration of maritime security in Asia's Blue Economy context.

In South Africa, integrating maritime security into blue economy development is leading to a diverse marine ecosystem and a significant maritime economy, which, according to Bond (2019), requires a nuanced examination of how maritime security measures align with blue economy objectives. However, in-depth analyzes of South Africa's strategies to mitigate maritime threats, promote sustainable practices and promote economic growth in maritime and coastal areas are lacking. Understanding the specific policies, collaborations and regional engagements that South Africa

undertakes in the area of maritime security would provide valuable insights into the challenges and successes in integrating security measures into the development of the Blue Economy. Closing these gaps would contribute to a more comprehensive and contextually relevant understanding of the interplay between maritime security and the development of the blue economy.

In Nigeria, the integration of maritime security into the development of the Blue Economy shows that the country has extensive coastal areas and is reliant on maritime resources, which are considered to play a crucial role in the development of the Blue Economy. However, detailed information about the effectiveness of the country's maritime security measures is lacking. Furthermore, there is a need for research to examine how Nigeria deals with issues such as piracy, illegal fishing and other maritime threats in order to fully realize the economic potential of its coastal and marine resources. Furthermore, there is a lack of information on Nigeria's collaboration with regional and international partners in improving maritime security for the development of the Blue Economy, hindering a comprehensive understanding of the broader context in which Nigeria operates.

The establishment of the KCGS signifies the country's recognition of the threats posed by illegal activities within its territorial waters, including unlawful exploitation, unauthorized fishing, piracy, trafficking, and environmental degradation. However, according to Charo (2021) lack of interoperability mechanisms and frameworks for the KCGS to collaborate with other security agencies, hinder the comprehensive protection of the 'Blue Economy, hence the need for a multi-agency approach and a logical Command, Control, and Communication (C3) system to efficiently blend efforts for the operational and strategic defense of Maritime Critical Infrastructure.

Moreover, there is a clear call for Kenya to enhance its maritime security by fostering cooperation and integration among various security agencies, emphasizing the importance of such collaboration for the safeguarding and efficient exploitation of the Blue Economy.

The Kenyan Parliament implemented the Kenya Coast Guard Act of 2018, which established the Kenya Coast Guard Service (KCGS), whose operationalization began on October 22, 2018 (Njue, 2020). However, in Part II of the Act, the composition of the service does not provide for a cooperation and integration framework to involve other stakeholders in the coastal region. This law merely provides for the implementation of the Kenya Coast Guard Service and the definition of its powers, functions, internal organization and administration (Njue, 2020). In line with the requirements of the law, KCGS's main mission would be to ensure that the country's waters are safe by preventing dumping of garbage, hazardous waste and pollutants, providing rescue and search services and also arresting illegal fishermen (Kaaria & Chelimo, 2022).

The emphasis is on the broader importance of maritime resources for economic growth, particularly in countries heavily reliant on the wealth provided by the ocean. While Kenya recognizes the significance of its 'Blue Economy,' the absence of cooperation and integration within the KCGS raises concerns about the country's ability to fully exploit its maritime potential. The successful adoption of a multi-agency approach in dealing with internal security operations at the Kenya-Somali border is cited as a model, highlighting the potential benefits of similar collaborative efforts in the maritime domain. The need for an assessment of interoperability between the KCGS and other security agencies locally and regionally is emphasized,

underlining the critical role such integration plays in achieving higher and faster GDP growth, sustainable development, and the distribution of essential services and products for the well-being of the Kenyan populace. Closing these gaps is essential for Kenya to effectively harness the benefits of its Blue Economy and promote overall economic prosperity.

## **1.2 Statement of the Problem**

Significant efforts have been made to integrate maritime security into the development of the blue economy on the Kenyan coast. The establishment of the KCGS and Navy patrol bases demonstrates a commitment to maritime security infrastructure. Laws of Parliament on maritime security and blue economy development also provide a legal framework to promote national maritime interests. Despite notable progress in improving maritime security along the Kenyan coast, several critical aspects of integrating maritime security into blue development are being addressed. Economy not adequately taken into account. The lack of effective cooperation between Kenya's maritime security agencies such as the KCGS and the Navy, as well as neighboring states, is hampering the establishment of a comprehensive regional maritime security framework. The engagement of local communities, which is crucial for holistic maritime security and the development of the blue economy, is limited. Over the last decade, Kenya's blue economy and maritime trade have suffered from maritime intimidation and threats from increased piracy in the Gulf of Aden and the Indian Ocean, illegal immigration, terrorism, smuggling trade, arms proliferation, illegal bio-prospecting and interdiction, unregulated and unreported fishing, drug trafficking, illegal dumping and toxic substances. According to Jones (2014), insecurity, under-exploitation of the blue

economy, poverty and lack of police capacity by Kenya's Indian Ocean neighbors as well as criminal organizations such as Al Shabaab have increased maritime security challenges in Kenya and the Indian Ocean region. Furthermore, terrorists or people acting recklessly could pollute the seas, damage ecosystems and threaten Kenya's economic security due to its heavy dependence on marine resources (Kenya News Agency, 2016). Despite Kenya's role in maritime security, the region is poorly controlled and monitored (Long'iro, 2014). A lack of marine research and education initiatives indicates a lack of comprehensive programs to empower communities and combat the negative impacts of marine insecurity.

### **1.3 Study Objectives**

#### **1.3.1 General Objective**

The general objective of this study was to explore the influence of the integration of maritime security in addressing the threats to sustainable development of blue economy in Kenya.

#### **1.3.2 Specific Objectives**

The study was guided by objectives that:

- i. To identify the key characteristics and components defining the integration of maritime security in addressing the threats to the sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022.
- ii. Assessed the impact of maritime governance structures on the integration of maritime security in addressing the threats to sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022.

- iii. Analyzed strategies to improve the integration of maritime security in addressing the threats to sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022.

#### **1.4 Research Questions**

The research was conducted through these subsequent questions:

- i. What are the key features and components that define maritime security integration in addressing the threats to the sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022?
- ii. How have maritime governance structures impacted the integration of maritime security in addressing threats to the sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022?
- iii. What strategies can be analyzed and recommended to improve the integration of maritime security in addressing the threats to the sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022?

#### **1.5 Significance and Justification of the Study**

The development of the blue economy holds enormous potential for the country's development. However, threats such as illegal fishing, pollution, piracy and climate change pose serious risks to the sustainable use of blue economy resources along the Kenyan coast. Effective management of these threats is only possible if maritime security is given a high priority and integrated into the The country's blue economy development plan, which this study seeks to examine and improve, is integrated.

The study is of significant academic importance as it contributes to the existing body

of knowledge in the areas of marine studies, security studies and blue economy development. By examining the nature of integration, the impact of governance structures and improvement strategies, the results of the study provide a nuanced understanding of the complex interplay between maritime security and economic development in a specific regional context. Academic scientists, researchers and students in fields such as marine sciences, international relations and public policy can benefit from the insights gained from the study's results and gain a deeper understanding of the challenges and opportunities associated with integrating maritime security measures into the wider EU Framework for the development of the blue economy. Furthermore, the results serve as a basis for future studies and encourage a more comprehensive investigation of maritime security dynamics and their implications for sustainable economic practices in coastal regions.

At the policy level, the findings of the study are of utmost importance to policymakers, government agencies and international organizations concerned with maritime security and blue economy development in Kenya. Identifying gaps in cooperation between maritime security agencies and neighboring states, limited collaboration with local communities, and the lack of comprehensive marine research and education programs provides actionable insights for policy formulation and implementation. Policymakers can use the study's recommendations to improve collaboration with regional authorities, prioritize marine research and education initiatives, and formulate laws and policies that promote interoperability and regional cooperation. The results of the study can serve as a guide for the development of strategic frameworks that align maritime security measures with blue economy objectives, promote sustainable economic growth and maritime security on the Kenyan coast, and potentially serve as a model for other coastal regions facing similar

challenges are faced. The duration allows the study to capture long-term trends, changes and developments in maritime security measures, threats and their impact on the development of the blue economy along the Kenyan coast, while the Kenyan coast provides a specific geographical context rich in marine biodiversity and economic nature is activities and socio-political dynamics. Kenya's coastal regions are extremely vulnerable to various maritime security threats, including illegal fishing, piracy, smuggling and environmental degradation, which directly impact the sustainable use of marine resources and economic development.

### **1.6 Scope of the Study**

The study examined the impact of maritime security integration in addressing threats to the sustainable development of the Blue Economy along the Kenyan coast. The independent variable was maritime security, while the dependent variable of the study was the use of the blue economy. Key dimensions of the study's independent variables included maritime defense strategy, specialized training of security agencies, increased surveillance and patrols by security agencies, and maritime governance. The study was guided and supported by the theory of neorealism (or structural realism) and institutional theory. The people of interest in this research consisted of members of various security institutions primarily involved in combating port and maritime threats in Kenya and the adjacent borders with Tanzania and Somalia. The total population unit was 228. The research used purposive sampling design to achieve a sample size of 114. The study also utilized the study's exploratory design to guide the entire research process. In addition, the data was collected between July and October 2023.

## **1.7 Limitations of the Study**

The study was subject to certain limitations that needed acknowledgment to ensure a nuanced interpretation of the findings. Firstly, the study's time scope, covering the years 2010-2022, limited the depth of historical analysis and did not capture long-term trends that significantly impacted maritime security and blue economy development. Additionally, the availability and reliability of data within this timeframe varied, potentially influencing the comprehensiveness of the study. Furthermore, the research heavily relied on existing policies, laws, and institutional frameworks, and any changes or updates in these during or after the study period was not fully accounted for. Methodologically, the study's reliance on participant perspectives introduced bias or subjective interpretation, as some respondents did not have a comprehensive understanding of the complex interrelationships within the maritime security and blue economy landscape. Additionally, the study's focus on Kenya's coastal region limited the generalizability of its findings to broader regional or global contexts, as different coastal areas faced unique challenges and opportunities.

To ensure the completeness and accuracy of the results, multiple data sources were triangulated and robust validation techniques were used. This included prioritizing ongoing monitoring and dialogue with relevant stakeholders to enable the identification of any key developments and their impact on the results of the study. Adjustments and updates were made as necessary to maintain the relevance of the study. Various research methods, including interviews, surveys and document analysis, were used to triangulate data and effectively validate results. To increase the credibility and trustworthiness of the study results, rigorous analysis techniques such

as thematic coding and peer debriefing were also used. In addition, where possible, comparative analyzes were conducted with similar coastal areas facing comparable challenges to provide broader insights and implications beyond the specific geographical scope of the study.

Delimitations of the study were also essential to clarify the boundaries and scope of the research. The study specifically concentrated on the Kenyan Coast, and while this geographical focus provided depth to the analysis, it restricted the applicability of findings to other coastal regions. Moreover, the study primarily investigated the integration of maritime security in blue economy development, and as such, it did not comprehensively address other factors that influence economic growth or hinder security measures. Delimiting the study to certain sectors within the blue economy, such as fisheries and shipping, overlooked potential interactions with other sectors. Finally, the study emphasized on the perspectives of maritime security agencies and local communities, potentially overlooking the viewpoints of other relevant stakeholders, such as businesses, non-governmental organizations, or international partners.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter begins by empirically reviewing the nature of the integration of maritime security, the maritime governance structure, and strategies to improve the integration of maritime security. In the same section, gaps in knowledge emanating from the empirical studies were analyzed. The next section analyzed theories providing a fundamental basis for the study linking up past knowledge. Finally, the chapter highlighted the conceptual framework through which the research is anchored. It comprises of logically developed network of interrelationships among variables and how they were measured.

#### **2.2 Empirical Literature Review**

Maritime security and sustainable development of the Blue Economy are interconnected aspects that are critical for coastal states such as Kenya, particularly along the extensive Indian Ocean coastline. This empirical literature review examines the integration of maritime security in addressing threats to the sustainable development of the Blue Economy along the Kenyan coast from 2010 to 2022. The Kenyan coast serves as a microcosm of global maritime challenges where the exploitation of marine resources intersects with security intersects concerns, environmental protection and socio-economic development. Understanding the empirical evidence and scientific discourse on this topic is crucial for policymakers, researchers and stakeholders who wish to formulate effective strategies and policies to promote sustainable development in coastal regions while addressing security threats. This paper examines key themes, insights and gaps in the existing literature and

provides insights into the complex dynamics of maritime security integration and its implications for the development of the blue economy in the Kenyan context.

### **2.2.1 The Nature of Integration of Maritime Security and Blue Economy**

#### **Development**

Responsibility for maritime security has evolved from the traditional prerogative of the Navy to diverse stakeholders involving coastal communities, shipping companies, fishing companies, tourism operators, port operators, and academic and research institutions (Feldt, Roell, & Thiele, 2013). Maritime security poses a significant challenge for the poor coastal as well as island countries located within the Indian Ocean Region. The issue is quite evident for the regions with large regions of maritime jurisdiction.

Consequently, the management of maritime security within such areas is a critical and challenging endeavor. For effective security implementation, there is a dire need for authentic cooperation among regional countries, including Kenya, Tanzania, Somalia, and Seychelles, as well as international stakeholders with significant interests in regional security, such as the United States, China, and European Union member states. Therefore, the challenge of maritime security has evolved from being the sole prerogative of navies to involving non-military agencies.

In Kenya, the protection of maritime critical infrastructure was traditionally a navy mission before the inception of the KCGS in 2018 (Mohamed, 2018). The threats to maritime security are categorized into the activities of non-state actors, natural weather phenomena, and active sea denial propagated by states during conflicts (Bueger, 2015). Non-state actors include illegal immigrants, poachers, smugglers, pirates, terrorists, and polluters. Natural weather phenomena, on the other hand,

include storms, giant waves, tsunamis, and hurricanes (Busiega, 2016). Maritime insecurity impacts regional stability and trade by interfering with freedom of the seas.

Feldt, Roell, & Thiele, (2013), also demonstrated marine security is rather a nebulous concept that involves diverse institutions or stakeholders each facilitating common goals. Marine security institutions comprise the public, entities from the international community, and the private sector in addition to the government. Common goals of the agencies involved in the marine security agenda are to conserve the freedom of the oceans, facilitate as well as protect commerce, and uphold excellent governance at the oceans (Hasin, 2023).

Maritime security cooperation is influenced by the challenges and threats posed by transnational forces as well as man-made and unintended risks or dangers in transboundary waters. The compelling reasons for cooperation in the field of maritime security include maintaining international and national peace and security, promoting national sovereignty, preserving national territorial integrity and political independence. Likewise, cooperation in the field of maritime security is crucial for the security of maritime lines of communication, protecting security from potential crimes at sea and protecting the environment (Hasin, 2023). In addition, cross-border cooperation in the field of maritime security ensures the safety of seafarers and fishermen, promoting the development of the blue economy while promoting environmental protection.

For the peace and stability of these countries, maritime security is a fundamental component of common security and should therefore be considered as an integral part of the economic development of the regions involved (Kiswaa, 2020). Kenya, in particular, should advance or further develop its maritime policy that aims to promote

the economic growth of its citizens through the concept of improved maritime security (Cohen *et al.*, 2019). The idea would lead to improved international competitiveness of its resources. Therefore, the country needs to enhance its maritime security by improving interoperability between the Kenya Coast Guard Services (KCGS) and other security agencies.

Braun *et al.* (2016) discussed how sharing data with national, continental, and regional authorities can support maritime integration and create a safe maritime environment for the growth of the blue economy. According to Brüggemann *et al.*, data fusion helps increase awareness of the state of the ocean by combining information from various sources with data from Earth observation stations. in 2016). Working together with all security stakeholders, a coordinated service network must be created and quickly integrated into maritime services. Ship movements are monitored, and any anomalous ship behavior is identified, as particular goals of this technological advancement in data sharing. That being said, there are a few difficulties with this kind of development, like the need to integrate the marine safety database with a third party and deal with heterogeneous ship data and real-time position tracking. It is possible to implement robust data sharing for maritime security at regional, global, and even continental levels by taking countermeasures, especially considering the challenges involved.

Siebels, (2020) on the other hand, reported maritime security integration encompasses a wide range of elements at the continental and regional level for blue economy development. In this regard, effective marine security integration espouses establishing linkages between good seas governance, durable maritime security outcome explorations, and investment in the same. In such endeavors, regional

cooperation for blue economy development is fundamental, in which cooperation and collaboration are sought not only for security operations but financial investment, technology, and research (Siebels, 2009). The author further cites that, the nexus between the blue economy and marine security in the past has largely been about counter-piracy and illegal fishing. With the marine security agenda drawing much attention in the recent past, more avenues for integration in advancing the blue economy have been explored.

### **2.2.2 Impacts of Maritime Governance Structure on Blue Economy Development**

Pesjova (2016) noted an inefficient social security apparatus and the failure of effective governance in the coastal areas was due to the creation of a favorable environment for illegal actions. This leads to flourishing criminal activities and thus disturbs social peace. An unsafe marine environment has negative impacts on the operationalization of the blue economy (Menzel & Otto, 2020). Increasing criminal activity in the marine environment is undermining the attractiveness of the seas and oceans for all economic activity, including fishing and maritime transport.

Menzel & Otto (2020) reported that maritime governance encompasses a wide range of public organizational functions for maritime actors to assist nations in improving the livelihoods of their citizens. For example, administrative units or authorities issue reliable regulations and laws; and the establishment of significant institutions through the implementation of efficient oversight and monitoring systems aimed at improving maritime security, criminal justice systems and profitable operations (Woldeyes, 2015). From a general perspective, maritime security is anchored in a country's development plan and national security, laws and policies, institutional agenda and supervisory systems, and foreign policy frameworks. In other words, maritime

security administrative units play a crucial role in improving the quality of life for the development of the blue economy. The lack of proactive maritime governance undermines the social security framework, thereby negatively impacting lives and livelihoods.

Van Wyk (2015) highlighted that the concept of maritime security has generated great debate at the international level in recent decades, as the waters of the Indian Ocean are one of the main areas of world trade. Therefore, the prevailing political, economic and security circumstances influenced by poor governance in the maritime domain encourage insurgency and militancy, thereby endangering the livelihoods of people living along the Indian Ocean and beyond (Mukhopadhyay, Loveson, Iyer & Sudarsan, 2020). Moreover, the international population continues to experience transnational issues ranging from illegitimate or smuggling of arms, drugs, immigrants, illegal imports, global terrorism, bunkering or oil theft, piracy, illegal fishing and mining, and environmental pollution through unlawful dumping of hazardous waste (Van Wyk, 2015). Overall, weaknesses in marine security governance affect the lives and livelihoods of not only states sharing transboundary waters but everyone.

Engel (2014) reported that KCGS is an overwhelmed organization, which is why such maritime challenges require an all-encompassing, multi-layered strategy involving military, political and societal measures, rigorous regional security capabilities, improved methods of information sharing, advanced and rigorous Law improvement and enforcement in the context of multinational cooperation at sea and also on land (Hasin, 2023). The integration of security agencies, local communities and humanitarian organizations in the northeast region of Kenya has effectively reduced

Al-Shabaab attacks and is a success story of integration and synchronization of forces. For better governance in the Northeast region, the organizational framework involves the committee's representatives deployed at district, regional and national levels. The Regional Commissioner (RC) heads the committee at the regional level, while the County Commissioners lead the committee at the county level. The RC reports to the National Security Advisory Committee (NSAC). The approach has proven effective in dealing with insecurity in the Northeast region since 2018. Overall, an interagency and multi-layered maritime governance structure is fundamental to improving maritime security and safeguarding the lives and livelihoods of coastal communities.

Bennett *et al.*, (2019) delved that healthy oceans are linked to human wellbeing and prosperity. Appropriate governance of the oceans as the common global property has direct implications on overall human well-being and socioeconomic prosperity. While the exploitation of marine resources fosters the socioeconomic prosperity of a people, overexploitation has negative implications for human life. Such poor governance practices in activities such as seabed mining are associated with diverse known risks. Similarly, the new usage of oceans heightens the risks associated with climate change (Brito-Morales *et al.*, 2020). As such, to promote sustainability and boost demand equity on marine resource exploitation, appropriate policies to guide marine governance must be developed, thereby averting human life from the consequences of ocean resource exploitation.

Hasin (2023) corroborated that marine governance advocates managing the diverse interests of multiple stakeholders. Poor management of the marine space harms the interests of various stakeholders in the marine environment, especially with regard to the operationalization of the blue economy. Adequate marine space management is

essential to facilitate the free flow of various activities from different stakeholders. An effective governance framework is therefore crucial to facilitate the realization of stakeholders' interests (Guerreiro, 2021). Overall, appropriate marine space management requires cooperation and collaboration as well as an inclusive structure to improve the governance framework in managing stakeholder interests. In addition, scientific and technological advances in maritime space management should be used to effectively implement the interests of multiple stakeholders in the shared global assets in areas such as trade, mining, communications and sovereign requirements of a state. The EU's policy changes in the area of maritime security in 2006 had far-reaching economic and social impacts, necessitating an institutional framework to control the negative externalities resulting from such advances.

### **2.2.3 Strategies to Improve Maritime Security Integration for Blue Economy**

#### **Development**

Bateman and Bergin (2011) proposed international and local integration and cooperation of states in the field of maritime security. In addition, the African Union (AU) Agenda 2063 states that progress in the maritime economy is crucial for the country's development. In line with this speculation is also the 2050 Africa's Integrated Maritime Strategy (2050 AIMS), which explains that securing the country's and Africa's maritime situation can create significant wealth and thus significantly improve the economy (Gesami, 2021). The 2050 AIMS, which came into force in January 2014, protects fishing, production and disposal of oil and gas waste, ensures maritime security, combats piracy, protects the natural environment and thus protects African biodiversity and also protects and transports within African ports Advocate for marine education and the development of an African shipbuilding industry (Egede, 2016).

Generally, the organization provides an innovative and sustainable strategic agenda focused on ensuring the establishment and realization of an effective continental maritime domain. Busiega (2016) developed a military naval approach that advocates for the integration of all military strategies from air, land and sea, a strategy that promotes the marine environment action plan. The approach mainly consists of the targeted implementation of government policy, which is the core of establishing sustainable national interests. This includes the country's coastline, the adjacent waters, the world or the corresponding region. Busiega (2016) suggested that maritime policy must be put into practice by incorporating a range of maritime measures, such as the development of systematic data on the political, strategic and economic characteristics of the oceans and islands belonging to the nation's coastal state in the Proximity of regions.

According to Mboce & McCabe (2021), military approaches are crucial to the ability to develop maritime security in the country. A significant example is the establishment of the Kenyan naval base in Mtongwé and the establishment of another naval base in Manda, Lamu. Another crucial step in ensuring maritime security in Kenya is the establishment of a coast guard in the country. There is a need to strengthen the integration body to involve both state and non-state actors in the protection and use of the blue economy.

Ebarvina (2016), on the other hand, noted that the formulation and implementation of policies for marine regions is crucial as they are crucial in promoting ecologically sustainable improvement. The policy approach promotes reliable marine industries worldwide through the concept of protecting biodiversity within marine ecology (Brito-Morales *et al.*, 2020). Kenya must invest in establishing a maritime policy that

explains the strategic policies to secure Kenya's territorial waters and land. Strategic ocean policy should also be further developed to address the need for strategic control to prevent threatening aggressors from crossing the maritime areas (Tarapore, 2021). Overall, policies and laws regulating maritime space are fundamental to initiate and promote integration into the regional, national and international maritime framework.

Security agencies on the Kenyan coast are tasked with the core responsibility of ensuring optimal security and coordination of the respective collaboration and cooperation with the potential offshore agencies. Proper coordination between the Kenya Navy, Coast Guards, Police forces, and all other agencies is also crucial in meeting the challenges associated with maritime and affecting nations in the 21<sup>st</sup> Century and guaranteeing a stable and peaceful maritime ecosystem (Dalaklis, 2012). The strategy also covers Indian Maritime Forces such as the Regional Navy as well as the Coast Guard aimed at redefining their responsibilities in consonant with the shifting circumstances. Most importantly, the security agencies in Kenya, are more informed about the security gaps within the transboundary waters, and other issues affecting the blue economy in Kenya.

Charo, (2021), on the other hand, proposed a multi-agency approach to maritime security for a robust blue economy development. Through internal collaboration and cooperation, pertinent challenges may get resolved fast and timely to support blue economy development in the short run. National Security can harmoniously conduct Integrated, Scalable, Agile, and Synchronized Steady-State operations across the depth and breadth of the Area of Responsibility Proximal to the coastline (Kaila, 2023). Similarly, in the Kenyan context, National Security Agencies can improve on the Unity of Effort, Command and Control, and Intelligence Fusion Structure to

enhance interoperability in theatre within the East African region, and within the borders. Through a multi-agency approach, faster integration of the security agencies on the maritime agenda, to boost the blue economy for both inland waters and coast regions, is a critical endeavor (Douglass, 2009). In this regard, state and non-state actors aimed at safeguarding the territorial integrity and sovereignty of the state ought to work in collaboration. This research critically investigated collaborative efforts in playing the Coast.

A multi-layered approach can be adopted to foster marine security, for a robust blue economy development and growth at national and regional as well as international levels (Engel, 2014). Some transboundary waters comprise diverse geopolitical issues of trade and security hence the basis for a multi-layered approach. Charo, (2021), argued that there would be long-term maritime security issues to address the ‘Blue Economy’ implemented through a comprehensive multi-layered approach. A multi-layered approach would comprise of societal military, as well as political procedures, supports regional security potentials, develops gathering of intelligence and information sharing, ensures there is more efficient law enforcement, as well as enhances multinational cooperation on both sea and land (Engel, 2014).

Multi-layered approach and policy have aided blue economy development in Australia, ASEAN, Bangladesh, Canada, and Japan. On the other hand, Brazil initiated the control of the UNIFIL which was the initial maritime security action established within the Mediterranean Sea. The approach contributed to global accountability within the sea (Sieff, 2009). Secondly, Russia is engaged in the protection of the ‘Blue Economy’ by the management of various maritime security activities within the Baltic, Mediterranean, and Norwegian Sea, in addition to the

Indian Ocean, as a sovereign source in the struggle against piracy. Overall, the multi-layered approach has been successful in promoting safer marine spaces, spurring blue economy development at regional and international levels, considering the geopolitical factors in place.

## **2.3 Theoretical Framework**

### **2.3.1 Neo-Realist Theory**

The Neo-Realist, also known as Structural Realist, theory is a school of thought in international relations that emphasizes the impact of the international structure, particularly the distribution of power among states, on their behavior (Walt, 1998). Key tenets of Neo-Realist include the assumption that states are the primary actors in the international system, driven by self-interest and the pursuit of security. Neo-Realist contends that the anarchic nature of the international system, where there is no central authority, leads states to prioritize survival and balance power to ensure their security. The theory asserts that states engage in rational decision-making to maximize their security within the constraints of the international structure. In the context of the study on the integration of maritime security in blue economy development in the Kenyan Coast, the Neo-Realism theory guided the examination of state behavior and interactions, emphasizing the role of power dynamics, security considerations, and the pursuit of national interests in shaping the integration of maritime security measures within the broader economic development framework. The study assessed how states, particularly Kenya and its neighboring countries, navigated power relations and security concerns to collaboratively or competitively address maritime security challenges in the pursuit of blue economy development.

The Kenyan Coastline is a conduit of critical and strategic resources and its harnessing and growth provide partiality for international powers to apply their control in the region. The international promotion of the coastal resources and interest in the Maritime security of Kenya is rooted in the conviction that the merits of the collaboration should be shared by the entire Regional Maritime community involved.

### **2.3.2 Institutional Theory**

Institutional theory, within the context of the study on the integration of maritime security in blue economy development in the Kenyan Coast, refers to a theoretical framework that explores the influence of formal and informal institutions on shaping organizational behaviour and decision-making. Key tenets of institutional theory include the recognition of institutions as socially constructed and shared norms, rules, and practices that guide the behaviour of actors within a specific environment. The theory emphasizes the role of institutions in providing stability, reducing uncertainty, and influencing the choices made by organizations or, in this case, maritime security agencies and other relevant stakeholders (Scott, 2004). In the study, institutional theory guided the examination of how formal laws, policies, and governance structures, as well as informal norms and practices, influenced the integration of maritime security measures in the development of the blue economy along the Kenyan Coast. The research explored the institutional context within which maritime security initiatives operated, assessing the impact of established norms, regulations, and collaborative frameworks on the decision-making processes and actions of relevant actors involved in blue economy development in the coastal region.

Scott looks at institutions as norms, laws and regulations, and customs, which direct human behaviors (Van de Ven, 1993). Scott also explained that organizations apply

the rules of working through which they command the ‘collective action.’ Institutions do not only hold back but they expand and liberate human actions, and personal constructs as well as transform institutions thus transforming the environment to their purposes and needs (Scott, 2004). The theory is dynamic as it allows organizations to transform according to laws and customs thus resolving conflicts productively. Change in the Institutions is caused by individual actions, modification in process, and expectations with its results exerting insightful results on state behavior.

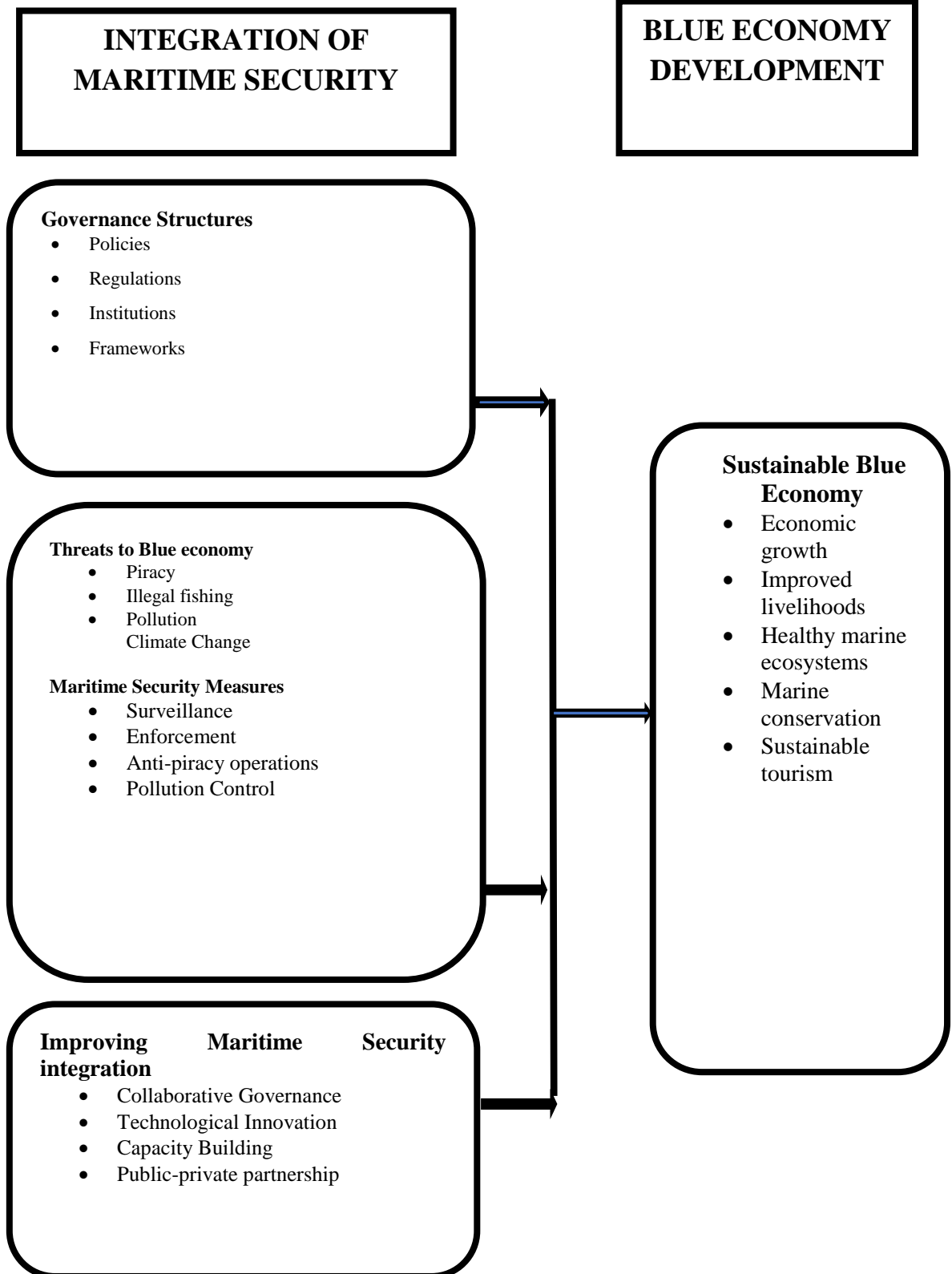
The Neo-Realism (Structural Realism) theory and Institutional theory complemented each other in the study on the integration of maritime security in blue economy development in the Kenyan Coast by offering distinct yet interrelated perspectives on the complex interactions between states, institutions, and maritime security dynamics. Neo-Realism provided a foundational understanding of state-centric behavior, emphasizing power relations, national interests, and security concerns in shaping the actions of states and their maritime security agencies. This lens facilitated the examination of strategic interactions and potential conflicts among states in the pursuit of maritime security within the anarchic international system. On the other hand, Institutional theory enriched the analysis by focusing on the role of formal and informal institutions in guiding the behaviour of maritime security agencies, emphasizing the impact of established norms, rules, and governance structures on the integration of security measures into blue economy development. Together, these theories enabled a comprehensive examination of how both state-driven power dynamics and institutional frameworks influenced the integration of maritime security initiatives within the broader context of economic development along the Kenyan Coast.

## **2.4 Conceptual Framework**

The conceptual framework indicates the relationships that exist between independent and dependent variables (Mugenda & Mugenda, 2008). A conceptual framework refers to a logical network explaining the interrelationships among variables thought to be the fundamental elements of the dynamics of the condition under investigation. The independent variables are the integration of maritime security, maritime governance structure, and strategies to improve the integration of maritime security. The dependent variable is harnessing the blue economy on the Kenyan coast through optimal use of oceanic resources, strengthening the blue economy infrastructure, guaranteed coastal security, and reduction of oceanic degradation and pollution. The figure below summarizes the conceptual framework.

*Independent Variables*

*Dependent Variables*



**Figure 2.1: Conceptual Framework**

**Source: Researcher, 2023**

From Figure 2.1, the conceptual framework suggests that Neo-Realism (Structural realism) theory means, that power is the most important factor in a state. To achieve international, geographical, and economic potential, integration of maritime security and harnessing the blue economy is critical.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The Chapter explores the research methodology utilized in the research. It particularizes on the study's targeted population, sampling procedure and design, instruments used in data collection, reliability, and validity tests as well as the method used in data collection. The Chapter further justified the data analysis methodology that was utilized, and pertinent ethical issues considered.

#### **3.2 Research Design**

The study used a descriptive survey research design. The research design involved a researcher observing gaps in maritime security integration and attempting to understand them more deeply. The descriptive survey research design laid the foundation for future studies modeled on blue economy development in coastal Kenya (Creswell & Creswell, 2014). Through descriptive survey research design, the study enabled the researcher to understand the concern under investigation through comprehensive interrogation of agencies, integration, and blue economy development in the Kenyan Coast.

The rationale behind adopting the descriptive survey research design was to create familiarity with key settings; Details, in addition to concerns, a clear understanding of the picture of the condition being noted, creation of new assumptions and ideas, growth and development of preliminary hypotheses or theories. The approach also helped determine whether future research is realistic and reliable, and topics should be distinguished for more organized formulation in addition to exploring questions in new research. The descriptive survey research design assisted the researcher in

gathering enough information about the Kenyan coast to serve as a study basis for a refined study on maritime security in Kenya.

### **3.3 Study Area**

The study was conducted on the Kenyan coast. The reason for selecting and choosing the study sites was that they host the majority of establishments, actors and institutions linked to the maritime sector.

### **3.4 Target Population**

The target population was a significant stakeholder in maritime security. The target population cut across a range of sets or groups involved in the daily activities within the region surrounding the Indian Ocean. These included members of different security institutions involved in the countering port and maritime threats in Kenya and the neighbouring borders with Tanzania and Somalia. These included the Kenya National Intelligence Service, Kenya Maritime Authority, Kenya Ports Authority, Kenya Navy, Kenya Defence Forces (Army and Airforce), Tanzanian Peoples Defence Forces, Ministry of Tourism, Kenya Marine Police Unit, Ministry of Foreign Affairs, Africa Union Representatives group, Fisheries department, UN Office on Drugs and Crime, Sea fearers, Dock Workers Union and Ministry of Devolution and Planning and the fisher folk community, represented through the Beach Management Units (BMU) officials. According to the questionnaires, the target group in the sectors mentioned here was 228 (KMA, 2018). The target population is shown in Table 3.1.

**Table 3.1: Target Population Distribution**

No.	Targeted Population	No. of Respondents
1.	Kenya National Intelligence Service	10
2.	Kenya Maritime Authority	6
3.	Kenya Navy	12
4.	Kenya Defence Forces	20
5.	Kenya Ports Authority	10
6.	Tanzanian Peoples Defense Forces	8
7.	Ministry of Tourism	12
8.	Kenya Marine Police Unit	10
9.	Ministry of Foreign Affairs	12
10.	Africa Union Representatives	6
11.	Fisheries department	10
12.	UN Office on Drugs and Crime (UNODC)	8
13.	Sea fearers	10
14.	Dock Workers Union	4
15.	Ministry of Devolution and Planning	6
16.	Fisher folk community BMU Officials	84
	<b>TOTAL</b>	228

Source: Researcher, 2023

### 3.5 Sampling Design

Purposive sampling was employed to identify key respondents who possessed specific knowledge and insights pertinent to the study. This approach allowed the researcher to select individuals most likely to provide precise information on the existing threats facing the targeted population. Respondents were identified based on their roles,

expertise, and involvement in the maritime sector within the Kenyan Coast. The researcher got 114 respondents as the sample size as denoted in the table 4.12.

**Table 3.2: Sampling Distribution**

	<b>Targeted Population</b>	<b>Sampled Respondents</b>
<b>1.</b>	Kenya National Intelligence Service	<b>5</b>
<b>2.</b>	Kenya Maritime Authority	<b>3</b>
<b>3.</b>	Kenya Navy	<b>6</b>
<b>4.</b>	Kenya Defence Forces	<b>10</b>
<b>5.</b>	Kenya Ports Authority	<b>5</b>
<b>6.</b>	Tanzanian Peoples Defense Forces	<b>4</b>
<b>7.</b>	Ministry of Tourism	<b>6</b>
<b>8.</b>	Kenya Marine Police Unit	<b>5</b>
<b>9.</b>	Ministry of Foreign Affairs	<b>6</b>
<b>10.</b>	Africa Union Representatives	<b>3</b>
<b>11.</b>	Fisheries department	<b>5</b>
<b>12.</b>	UN Office on Drugs and Crime (UNODC)	<b>4</b>
<b>13.</b>	Sea fearers	<b>5</b>
<b>14.</b>	Dock Workers Union	<b>2</b>
<b>15.</b>	Ministry of Devolution and Planning	<b>3</b>
<b>16.</b>	Fisher folk community BMU Officials	<b>42</b>
	<b>TOTAL</b>	<b>114</b>

Source: Researcher, 2023

### **3.6 Data Collection Instruments**

The standard questionnaire with Linkert scale/ranking was used to collect qualitative data from primary sources. The secondary data, on the other hand, was collected by evaluating and reviewing documents on the main topic from various online databases. Qualitative research approaches were used to collect the primary data. Specifically, the secondary data was collected from sources such as journals, magazine articles, books, published academic dissertations, magazines, the Internet, United Nations (UN) reports and United Nations Security Council Resolutions (UNSCR) in the collection of secondary data. Secondary sources enabled the researcher to understand issues and impacts related to maritime security that arise at national, local, global and even regional levels and further aid in building deeper ownership of maritime security and diplomatic issues.

#### **3.6.1 Validity**

The researcher ensured content validity through a thorough process that included key discussions and consultations with the supervisor, who is an expert in maritime security research and studies. To improve the accuracy and relevance of the research instrument, the researcher sought and considered feedback from the supervisor and other subject matter experts. This collaborative approach aimed to refine the research tools and ensure that they effectively capture the required data before actual data collection begins. This methodological validation process helped ensure that the research instrument was both comprehensive and aligned with the objectives of the study.

### 3.6.2 Reliability

According to Creswell (2014), there is a positive relationship between reliability and the ability of the instrument to repeatedly determine the same thing and produce the same results. Thus, through such measurements, the researcher achieves data reliability by conducting a pilot study using the right group of people with similar instruments. Therefore, to achieve reliability, the researcher standardized the questionnaires and asked relevant questions to the participants. To ensure efficient results, the researcher implemented Cronbach's Alpha Index tool to measure internal consistency and highlight whether the specified objects or items in the specific scale represent a comparable research construct. O'Dwyer and Bernauer (2014) suggested that at least 0.7 in the Cronbach alpha index is a good indicator of the within-question reliability quality of the questionnaire. The outcome of the reliability test is shown in Table 3.3.

**Table 3.3 Reliability Test Results**

<b>Variable</b>	<b>Cronbach's Alpha</b>	<b>Remarks</b>
Nature of Integration of Maritime Security	0.754	Reliable
Maritime Governance Structure	0.766	Reliable
Strategies used to improve Integration of Maritime security	0.701	Reliable
Blue Economy Development	0.722	Reliable
<b>Overall Coefficient</b>	<b>0.736</b>	<b>Reliable</b>

Source: Researcher, 2023

From the results in Table 3.3, it is apparent that the instrument was reliable based on the overall alpha coefficient of 0.736 since it was above the recommended 0.70.

### **3.7 Data Analysis and Presentation**

The study collected the primary data which was mostly qualitative since quantitative data was known to be more challenging in understanding maritime security. Also, the data comprised of feelings, experiences, knowledge, as well as anticipations of the participants thus it could not be quantitatively analyzed. In this regard, the participants' ratings on a Likert scale were expressed in percentages to determine the overall position of the participants in regard to specific questions asked. Thus, a thematic and deductive approach to analysis was utilized.

The data for this study was selected and analyzed by the use of both document and thematic analysis methods which was determined by the issues that are developed within the study. Thematic analysis was handy in identification, and analysis, along with reporting the themes or patterns presented in the data (Braun s& Clarke, 2006). Document analysis as a qualitative analytic method was necessary for the interpretation of documents by the researcher to provide meaning and voice to the topic under assessment. The results were provided through bar or pie charts graphs, frequency tables, and narratives.

### **3.8 Ethical Considerations**

To uphold ethical considerations, the researcher implemented several key practices. First, research approval was sought from the Kenyatta University Graduate School and the National Commission for Science, Technology and Innovation (NACOSTI) Permit. Further, voluntary participation was ensured by clearly informing all potential

interviewees that their involvement in the study was entirely optional. Detailed information about the research purpose, procedures, and potential impacts was provided, allowing participants to make informed decisions. Consent was obtained through written agreements, ensuring that each participant fully understood their rights and the nature of their involvement.

Confidentiality was strictly maintained to protect the privacy of the respondents. Personal identifiers were removed or anonymized in all data records, and access to sensitive information was restricted to authorized research personnel only. This approach guaranteed that individual responses could not be traced back to specific participants, thereby safeguarding their personal information.

Additionally, the researcher was acutely aware of and responsive to the self-esteem and dignity of the respondents throughout the study. This involved creating a respectful and supportive interview environment, where participants felt valued and comfortable sharing their insights. Efforts were made to ensure that questions were posed in a non-threatening manner, and the researcher remained sensitive to any signs of discomfort or distress, promptly addressing any concerns raised by the respondents.

## CHAPTER FOUR

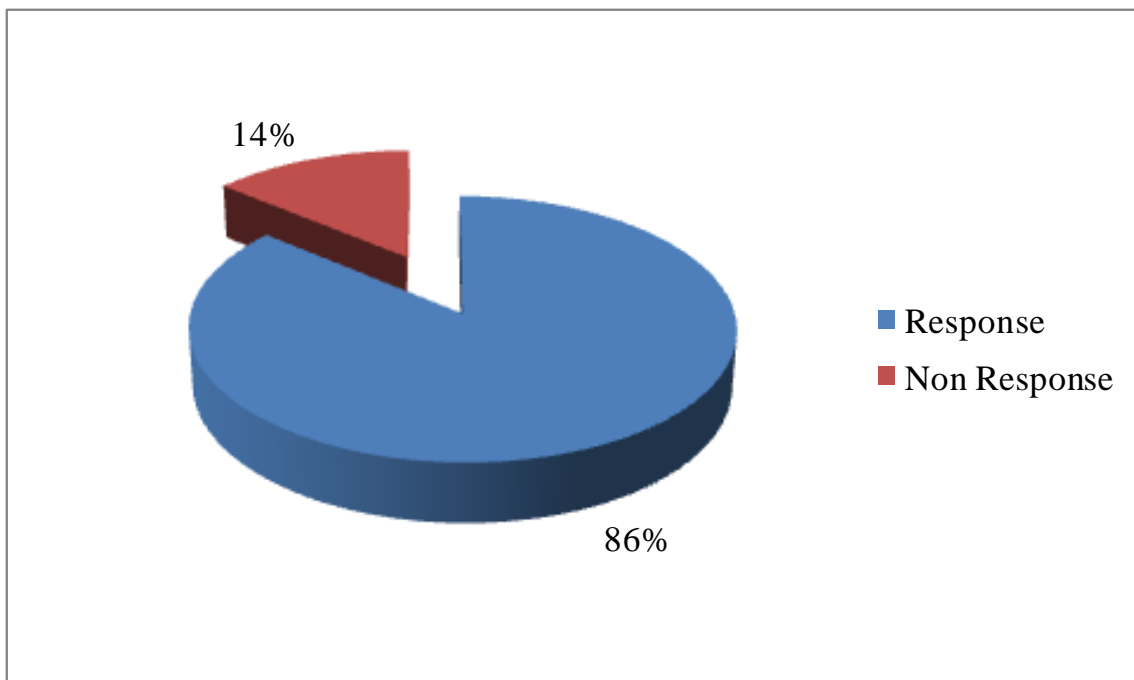
### PRESENTATION OF DATA, ANALYSIS AND DISCUSSION

#### 4.1 Introduction

This chapter examines the research findings based on the objectives of the study. The chapter examines the study results, the presentation of the results and their discussion in relation to the existing literature. The first section analyzes the response rate, the second section analyzes demographic data, and the following three sections present the objectives and conclusions of the study.

#### 4.2. Response Rate

The study targeted 114 respondents drawn from different security institutions involved in the fight against port and maritime threats in Kenya and the neighboring borders with Tanzania and Somalia. The figure below summarizes the response rate for the interviews administered.



**Figure 4.1: Response Rate**

From the figure above, it can be seen that the study response rate was 86%, meaning that of the 114 questionnaires sent out, only 14% were not returned or not completed. Mugenda and Mugenda (2003) stated that a response rate must be above 60% to be considered sufficient for analysis. Therefore, the response rate of this study was sufficient for analysis.

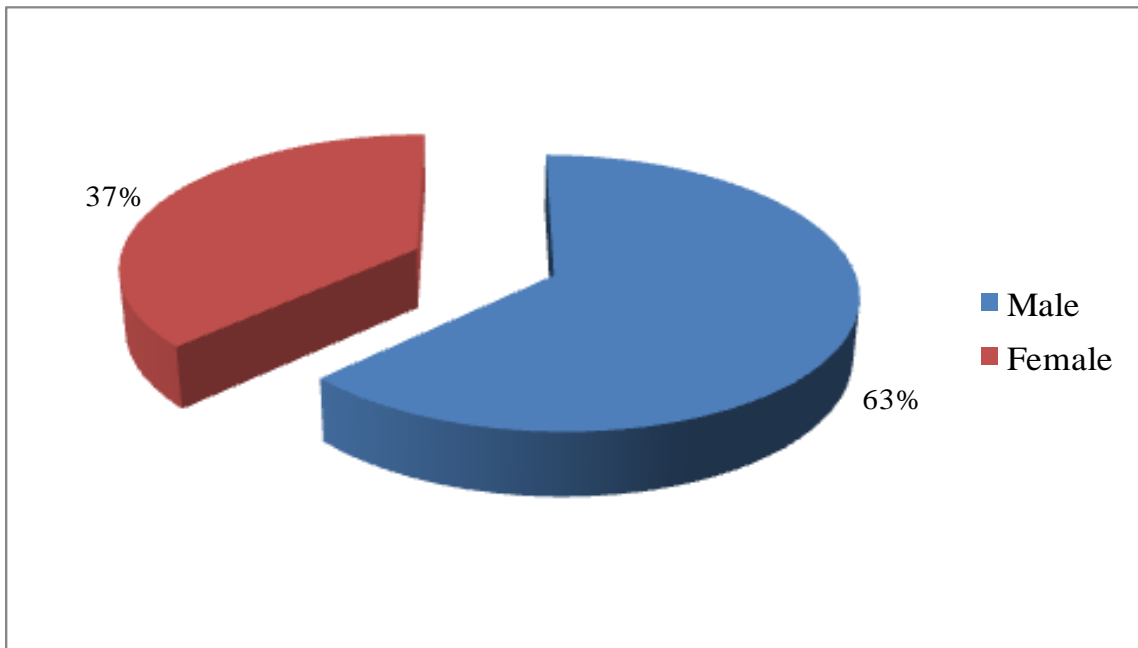
### **4.3. Demographic Information of Respondents**

The study on integrating maritime security into the development of the Blue Economy required an examination of respondents' gender, age, education level and years of service in order to gain a nuanced understanding of the diverse perspectives, experiences and expertise in the field of maritime security. Gender dynamics in the industry are critical as they reveal inequalities in representation and opportunities, which impact the effectiveness of safety measures. Age influences the adoption of new policies and technologies, while education level reflects the ability to think strategically and formulate policies.

Additionally, years of service offer insights into the practical experience and institutional knowledge of respondents, crucial factors in evaluating the adaptability and effectiveness of existing maritime security frameworks. Analyzing these demographic factors ensures a comprehensive exploration of the human element within maritime security, informing more inclusive and targeted policy recommendations for the sustainable integration of maritime security measures in Blue Economy development. The demographic information of the respondents encompassed their gender, age, level of education, years worked, and position held in the organization. The results are shown in Table 4.1.

### 4.3.1. Respondents' Gender

Gender composition of the study participants was assessed. The following figure summarizes the gender participation rate in the study.



**Figure 4.2: Gender participation Rate**

From the figure above, it emerges, that the male participation rate was 63%, while female was 37% of the total participants. Gender bias in a study could be detrimental to the generalizability of the findings therein, since responses relevant to men maybe irrelevant to women (Cislak, Formanowicz & Saguy, 2018). The overall implication is that both genders were significantly represented, thereby averting potential bias associated with single-gender sampling.

### 4.3.2. Respondents' Age

The age brackets for the study participants were categorized as follows; 21-30 years, 31-40 years, 41-50 years, and above 50 years. The participation rate by age brackets identified was as in the following table;

**Table 4.1: Respondents' Age**

<b>Age Bracket</b>	<b>Frequency</b>	<b>Percent</b>
21-30 years	24	24.2
31-40 years	33	33.9
41-50 years	25	25.8
Above 50 years	16	16.1
<b>Total</b>	<b>98</b>	<b>100.0</b>

From the table above, the majority of respondents were between the ages of 31 and 40, accounting for 33.9% of all participants. The 41–50-year-old age group followed closely behind. Older citizens in the age group over 50 were the least represented, with a participation rate of only 16.1%. In this study, the age of the participants was a crucial factor in leveraging the real-time maritime security data for the development of the blue economy. In addition, according to relevant studies, an appropriate mix of age groups contributes to altruism and generativity (Leahy, Thurber & Calvert Jr, 2005). The general conclusion is that the primary data contained herein was industry relevant as the participants were largely working population in the blue economy sector. Likewise, all age groups were well represented to avoid age-related bias.

#### **4.3.3. Respondents' Education**

The study incorporated the education aspect of all the participants, in this case constituting certificate, and diploma, undergraduate and post-graduate qualifications. The following table summarizes the participation rate by academic qualification;

**Table 4.2: Respondents' Participation Rate by Education qualification**

<b>Education</b>	<b>Frequency</b>	<b>Percent</b>
Certificate	8	8.1
Diploma	30	30.6
Undergraduate	46	46.8
Postgraduate	14	14.5
<b>Total</b>	<b>98</b>	<b>100.0</b>

Informed by table 4.2, it is evident that the majority of study participants had undergraduate academic qualifications, with a participation rate of 46.8%; those with certificates were the fewest representing only 8.1% of the total respondents. Overall implications are that, while the questionnaire was free from ambiguity, the majority of participants were well acquainted with the pertinent issues, thereby offering the desired responses to aid the study. Similarly, the participants offered reliable propositions in aid of the study.

#### **4.3.4. Respondents' Years of Service and Institutions**

Among the key participant inclusion criteria in answering the questionnaire was the degree of conversant with the maritime security issues, as determined by their duration of service in the organizations they represented. The number of years working in the sector was categorized into 2 years, between 2-5 years, between 6-10 years, and above 10 years. The table below summarizes the participation rate by the number of years of service in the blue economy sector;

**Table 4.3: Respondents' Years of Service**

<b>Years of service</b>	<b>Frequency</b>	<b>Percent</b>
Below 2 years	10	9.7
2-5 years	22	22.6
6-10 years	36	37.1
Above 10 years	30	30.6
<b>Total</b>	<b>98</b>	<b>100.0</b>

Overall, from the above table, the majority of participants had worked in the sector for 6-10 years, which is sufficient for such staff to offer insights helpful in this study. The quality of the study findings is influenced by the quality of information given by the study participants largely informed by their knowledge depth of the study concept (Jeong & Frye, 2018). The dangers of participants new in the sector would be a lack of in-depth understanding of pertinent issues related to maritime security.

On the other hand, a wide array of institutions involved in maritime security, and blue economy development were involved in the study. The table below summarizes the number of study participants from each institution.

**Table 4.4: Respondents' Institution of Service**

<b>Security Institution</b>	<b>Frequency</b>	<b>Percentage</b>
Kenya National Intelligence Service	5	5
Kenya Maritime Authority	3	3
Kenya Navy	5	4.5
Kenya Defence Forces	8	7
Kenya Ports Authority	5	5
Tanzanian Peoples Defense Forces	2	2
Ministry of Tourism	6	5.5
Kenya Marine Police Unit	4	4
Ministry of Foreign Affairs	6	5.5
Africa Union Representatives	3	3
Fisheries department	3	3
UN Office on Drugs and Crime (UNODC)	2	2
Sea fearers	5	4.5
Dock Workers Union	2	2
Ministry of Devolution and Planning	3	3
	42	41
<b>TOTAL</b>	<b>98</b>	<b>100.0</b>

It emerges from table 4.4 that all the institutions from which the study participants were drawn are directly involved with maritime security and blue economy development. Notably, the appropriate mix of the pertinent institutions contributed to a well-balanced data gathering to accurately inform the study.

#### 4.4 Nature of Integration of Maritime Security in Blue Economy Development

The study examined the nature of integration of the maritime security in Kenya’s blue economy development. The participants were asked to rate on a scale of 1-5 how much they agree with the statements therein, in which 1-disagree, 2-strongly disagree, 3-neutral, 4-agree, and 5-strongly agree. The table 4.5 summarizes the findings therein in percentage (%);

**Table 4.1: Nature of Integration of Maritime Security in Blue Economy Development**

Statement	1	2	3	4	5
There is cooperation between KCGS and neighboring countries on maritime security for the blue economy	96	1	2	1	0
During a crisis, the regional maritime security agencies cooperate in delving into a solution	5	5	0	10	80
The protection of the Ocean and the coastline is the role of navies and KCGs and not any other party	0	0	0	5	95
Kenyan coast communities are critical components in blue economy development through maritime security-related roles	85	5	5	2	3
The livelihoods, health, and interests of the individuals in the coastal area are well protected by the government	7	10	3	75	5
Marine research and education is institutionalized in the public along the direct coastal region	95	2	0	1	0
There are programs for maritime security capacity building and technical support especially in shipping and port development.	80	10	6	2	2

Table 4.5 shows that there is no cooperation between the KCGS and neighbouring countries in maritime security management and the subsequent development of the blue economy. This is confirmed by 96% of study participants in the survey who disagree that such collaboration ever existed. The KCGS is separate from the Kenya Navy and is overseen by the Coast Guard Service Council under the Cabinet Secretary for Home Affairs. The very composition of the KCGS as a locally represented institution hinders its effective cooperation with foreign entities on maritime security issues (Christine, 2022). Overall, from its inception, KCGS was designed to collaborate with other national bodies in the management of territorial waters to improve maritime security and support the development of the blue economy. However, KCGS has sought cooperation in the form of training and financial support from foreign institutions such as the Danish National Police, the United Nations Office on Drugs and Crime (UNODC) and the Global Maritime Crime Program.

Feldt, Roell & Thiele (2013) affirmed that maritime security is no longer the prerogative of the Navy. Other institutions should be involved directly or indirectly. Similar results were found in this study, with 80% of participants reporting the existence of interagency collaboration during a crisis. Interoperability of KCGS and other security agencies such as KDF, National Police Service (NPS), Directorate of Criminal Investigation (DCI), National Intelligence Service (NIS), Kenya Forest Service (KFS), Kenya Revenue Authority (KRA), Kenya Wildlife Service (KWS ) and Kenya Prisons Services are critical to integrating maritime security to leverage the blue economy. Furthermore, the Kenya Navy is no exception to this internal cooperation as it may collect intelligence to avert some disasters.

In the survey, it also emerged, that during a crisis, the regional maritime security institutions do cooperate in delving a solution, with 80% of the study participants agreeing with the statement. The KCGS and Navies have a collective responsibility to boost maritime security by engaging diverse stakeholders as denoted by 95% of study participants. Bradford (2005) delved that, with regional states sharing a common agenda of economic development, they ought to sustain cooperation in maritime security. SLOCs present vital national security interests to both the regional states and the external states (Bradford, 2005).

SLOCs lie at the confluence of Indian Ocean and Pacific Ocean trade routes hence the great essence of regional maritime security cooperation for sustainable blue economy development and growth. Similarly, the National Academic Press (2008), demonstrated the centrality of maritime security partnerships, information sharing, and management of pertinent crises. In addition, the KDF, through the Kenya Maritime Authority, sought cooperation with regional states to apprehend piracy at the Kenya coast with Somalia via the Contact Group on Piracy off the Coast of Somalia (CGPCS) framework (Swarttouw & Hopkins, 2014; Tardy, 2014). However, the cooperation with the regional states on maritime security has been reactive, not proactive.

The findings from the survey established that the Kenyan coast communities are not stakeholders in Kenya's maritime security for blue economy development as stipulated by 85% of the study participants. Overall, the informants demonstrated, that they are not comprehensively engaged in maritime security matters by the pertinent agencies, however, they pursue an active role in the blue economy. Busiega, (2016) delved that, maritime insecurity undermines the freedom of the seas and hence the

regional trade activities. The implications are that partakers of the blue economic activities are critical components in the maritime security agenda and ought to be engaged comprehensively. Similarly, 75% of the study respondents in the survey agreed that their interests, rights, and lives were well protected by the government, while 17% disagreed. Overall, there is a correlation between the failures to engage communities in maritime security, and the level at which their lives, interests, and rights are protected. Bueger, (2015) underpinned that, the Kenya Maritime security system should boost interoperability with agencies within and outside Kenya for optimal maritime security prospects.

Further, 95% of the respondents in the survey denoted marine research and education is not institutionalized along the Kenyan coast. In addition, 80% of informants denoted, that there are no maritime technical support and maritime security capacity-building programs within the Kenyan coast. Germond, (2015) denoted, that maritime security as a geopolitical concept, requires a comprehensive legislative framework to guide the integration process for optimal maritime security endeavors thereby denoting the essence of research and education. Kenya Marine and Fisheries Research Institute (KMFRI) instituted in 1979, has largely not impacted the coastal community in advancing the interests of the Kenyan Coastal communities.

Notably, KMFRI's core mandate are provision of scientific data and information for the sustainability of the blue economy (KMFRI, 2023). Bueger, Edmunds & McCabe, (2020) underpinned the essence of maritime security capacity building through regional cooperation, and research. Regional cooperation serves as an engine of innovation hence capacity building, which ought to be institutionalized at local and regional levels. Research and education on maritime security are fundamental

endeavors in maritime capacity building integrating both the regional agencies and local communities.

The findings from the study on the integration of maritime security in Kenya's blue economy development reveal several noteworthy insights. Firstly, the lack of cooperation between the KCGS and neighboring countries in maritime security management stands out prominently, with a significant 96% of respondents disagreeing with the existence of such cooperation. The separation of KCGS from the Kenyan Navy, coupled with its local focus, hampers its effectiveness in collaborating with foreign entities on maritime security matters. Despite KCGS seeking cooperation in the form of training and financial support from foreign institutions, there is a clear need for enhanced regional collaboration to optimize maritime security efforts for blue economy development.

Secondly, the study highlights positive aspects of collaboration within Kenya's internal security apparatus during crises. Approximately 80% of participants agreed that there is inter-agency cooperation, particularly between the KCGS and various other security agencies such as the KDF, National Police Service, and others. This internal collaboration is crucial for addressing crises efficiently and underscores the significance of interoperability among different security entities. The findings also emphasize the need for proactive engagement with regional states on maritime security, rather than reactive responses, to better address emerging challenges in the maritime domain.

Furthermore, the study reveals a disconnect between maritime security efforts and the involvement of coastal communities in Kenya's blue economy development. A significant portion (85%) of participants indicated that these communities are not

adequately engaged in maritime security matters, despite their active role in the broader blue economy. This underscores the importance of integrating coastal communities as stakeholders in maritime security initiatives, aligning with global perspectives on the centrality of local engagement in ensuring sustainable and effective maritime security. Additionally, the findings highlight the lack of institutionalization of marine research, education, and capacity-building programs along the Kenyan coast, suggesting a need for comprehensive legislative frameworks and regional cooperation to address these gaps and promote optimal maritime security prospects.

#### **4.5 Maritime Governance Structure and Blue Economy Development**

The study respondents were asked questions about governance structure on the blue economy development and maritime security along coastal Kenya. The respondents rated on a scale of 1-5 how much they agreed with the statements, with 1-disagree, 2-strongly disagree, 3-neutral, 4-agree, and 5-strongly agree. The results per statement in percentage (%) were as follows;

**Table 4.2. Maritime Governance Structure and Blue Economy Development**

<b>Maritime Governance Structure</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
There are sufficient laws and regulations governing Kenyan coast maritime security endeavors and the blue economy	15	50	10	20	5
There are effective institutions for formulation, implementation, and review of maritime security laws and blue economy devt on the Kenyan coast	15	70	5	10	0
Contemporary maritime security laws and blue economy development policies promote cooperation and collaboration with foreign entities	90	5	3	2	0
The blue economy policies & maritime security laws reflect Kenya's foreign policies & interests in transboundary water integrity endeavors	5	10	5	75	5
Diverse stakeholders in the coastal Kenya, are comprehensively engaged in maritime security & blue economy development matters.	65	15	5	10	5
Maritime security and blue economy policy developers and implementers exercise transparency and accountability	5	10	10	60	15
The local communities in coastal Kenya, work in collaboration with the pertinent administrative agencies on maritime security and blue economy development matters, & their interests are safeguarded	10	50	15	20	5
There are sufficient enforcement agencies and personnel on maritime security, in support of safety in the blue economy especially fisheries, and tourism	80	5	5	10	0
KCCGS and Kenya Navy have standalone institutional capacity to develop and sustain Kenya's Maritime security, and blue economy development agenda	90	3	0	5	2
The Parliament of Kenya has paid sufficient attention to the maritime security issues, and the blue economy development agenda	10	70	5	5	10

The study established, that there are insufficient laws and policies governing the maritime security and blue economy along the Kenyan coast, with a supportive response rate of 65% overall on the presence of insufficient laws and policies. Pesjova (2016), underpinned, ineffective social security apparatus and ineffective governance in the coastal areas have resulted in criminal activities that disrupt social harmony. The legal framework plays a pivotal role in establishing a stable, all-inclusive governance structure for optimal maritime security and sustainability of the blue economy.

Unfortunately, parliament which is tasked with policy development has paid little attention to maritime security laws and the subsequent blue economy development agenda as stipulated by 70% of study respondents. KCGS was established on 22 October 2018, with mandates as defined by the Act of Parliament (Njue, 2020). There are numerous loopholes in the Act of Parliament establishing KCGS, especially on cooperation and integration framework with other agencies. On the same note, there are not sufficient institutions for policy formulations on Kenya's maritime security and blue economy development as denoted by 85% of study respondents. Overall, it is the role of the Kenyan parliament to formulate, policies on maritime security and the blue economy (Njue, 2020). The parliament has paid less attention to the plight of Kenya's blue economy. Similarly, the Act establishing KCGS suffered numerous setbacks, especially in its mandate and operationalization.

Through the survey, the study, also established, that Kenya's maritime security policies and laws merely allow for effective cooperation and collaboration with foreign agencies in the enhancement of maritime security. A 90% of the study respondents cited low interoperability of the Kenyan maritime laws and policies as a major impediment to transboundary collaboration and cooperation. Such weaknesses explain the frequent arrest of Kenyan fishermen by the Tanzanian authorities over the fishing boundaries. Further, Uganda and Kenya have frequent crises in regard to the exploitation of water resources in Lake Victoria, leading to the arrest of the fishermen (Kassim, 2023). The implications are that there are no appropriate transboundary laws and policies workable among the Kenya Tanzania and Uganda maritime security organs to facilitate non-hostile relationships. Engel, (2014) reported similar findings citing part II of the KCGS parliamentary Act which does not define the institutions' cooperation and collaboration framework.

Piracy in the Western Indian Ocean off the Kenyan coast by Somali militias in 2005 highlighted weaknesses in Kenya's policy and legal framework in managing the blue economy. Capacity building activities following the 2005 piracy incident focused on improving Kenya's maritime security capacity, building coastal patrol capacity, and improving the legal capacity of institutions to prosecute and detain suspects (Safe Seas, 2017). There was also training and the provision of special equipment to increase awareness of maritime security. Likewise, the Kenya Maritime Police Unit was established. Unfortunately, none of the laws and policies enacted focused on improving interoperability of Kenya's maritime security across the East African region. For the same reason, respondents to the study indicated that local communities in Kenya's coastal region are not working closely with maritime safety authorities to stimulate the blue economy. According to this view, 50% of respondents supported it. Overall, the poor collaboration between Kenya's maritime securities authorities and local communities may be due to the lack of a legal framework that clearly defines how to engage them in due process.

Poor enforcement of the existing maritime security laws and policies, informs the institutional failures, especially on the development of efficient and effective guiding policies. Overall 80% of the study respondents strongly supported the existence of poor institutional capacity to enforce the existing maritime security laws. Woldeyes (2015), on the other hand, established a maritime governance system that encompasses a wide array of public organizations as stakeholders to aid in reliable regulations, legislations; establishment of significant institutions, and implementation of efficient oversight and monitoring. In this regard, the study established, that maritime security at the Kenyan coast is not the responsibility of Kenya's navy and

KCGS alone, but a responsibility that cuts across diverse institutions as supported by 90% of the study respondents.

On the other hand, Van Wyk (2015), denoted, that prevailing political, economic, and security circumstances among the coastal communities of the Indian Ocean have been adversely impacted by poor governance within the maritime by promoting insurgency and militancy. The implications are that, while the existing maritime security laws may have loopholes, they are also poorly implemented rendering the coastal communities widespread suffering in the harnessing of the blue economy.

The study's findings on the governance structure of blue economy development and maritime security in coastal Kenya highlight several challenges. Notably, a significant proportion of respondents, 65%, expressed dissatisfaction with the existing legal framework, stating that there are insufficient laws and policies governing maritime security and blue economy activities along the Kenyan coast. This underscores the crucial role of a robust legal framework in establishing effective governance structures that support optimal maritime security and sustainable blue economy development. The study suggests that the ineffectiveness of social security apparatus and governance in coastal areas may contribute to criminal activities, emphasizing the need for comprehensive legal structures to ensure stability and inclusivity in governance.

Furthermore, the study sheds light on the inadequate attention given by the Kenyan parliament to maritime security laws and the blue economy development agenda, with 70% of respondents indicating a lack of focus on these crucial issues. The establishment of the KCGS in 2018, mandated by an Act of Parliament, is noted to have several loopholes, particularly in defining cooperation and integration

frameworks with other agencies. The study emphasizes the pivotal role of the parliament in formulating policies for maritime security and the blue economy, and the lack of attention suggests a gap in addressing critical issues related to Kenya's maritime domain.

The findings also reveal challenges in transboundary collaboration and cooperation, with 90% of respondents citing low interoperability of Kenyan maritime laws and policies as a major hindrance. The study points to instances of conflicts with neighboring countries, such as frequent arrests of Kenyan fishermen by Tanzanian authorities, underlining the importance of effective transboundary laws and policies to foster non-hostile relationships and ensure the sustainable management of shared water resources. The study further highlights the aftermath of the 2005 piracy incident, which led to capacity-building efforts but fell short in addressing the need for improved interoperability of Kenya's maritime security within the broader East African region. Overall, the findings underscore the importance of a comprehensive and well-enforced legal framework to address the multifaceted challenges in maritime security and blue economy development in coastal Kenya.

#### **4.6 Strategies to Improve the Integration of Maritime Security Integration in the Blue Economy**

The study examined potential strategies to improve the integration process of maritime security in the Kenyan coastline to enhance blue economy development. In this regard, the respondents were asked to rate on a scale of 1-5 how much they agree with the statements therein, in which 1-disagree, 2-strongly disagree, 3-neutral, 4-agree, and 5-strongly agree. The findings in percentage (%) were as follows;

**Table 4.3. Strategies to Improve Integration of Maritime Security in Blue**

**Economy**

<b>Strategies to improve the integration of maritime security</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Kenya's maritime system is responsible for offshore and coastal operations in regards to security and blue economy development	5	2	3	0	90
Kenya Maritime security agencies should seek cooperation at the national, regional, and international level	0	5	5	10	80
Marine education and research are critical in promoting cross-border collective responsibility in marine security endeavors	10	5	5	75	5
Supranational institutions on maritime security should be established in the Indian Ocean	65	15	10	5	5
Maritime security institutions with transboundary waters should seek collaboration & cooperation in marine security enhancement	5	3	7	5	80
Data sharing across diverse security agencies on maritime security is of the essence for heightened surveillance	6	5	5	14	70
Kenya's navy plays a pivotal role in maritime security development and collaboration with any potential security agency/stakeholder	63	10	7	13	7
The government should formulate pertinent policies to boost collaboration and cooperation of Kenyan forces on marine security	15	45	3	7	30
Maritime security and blue economy development research is critical in prompting successful integration	7	5	0	5	83

Diverse strategies to improve integration in maritime security for sustainable blue economy development were identified from the above table. Some of the key findings were that Kenya's maritime security system spearheaded by the navy is responsible for offshore and coastal operations as supported by 90% of the study respondents. In

this mandate, they should seek local, regional, and international cooperation and collaboration as supported by 80% of the respondents. Fortunately, the findings herein are consistent with those of Bateman and Bergin (2011) who emphasize the essence of international, local, and integration and cooperation of states on maritime security goals.

AU 2063 agenda explains that advancement in the marine economy is critical for the country's development. Further, 2050 Africa's Integrated Maritime Strategy (2050 AIMS) which explains that securing the country's and African maritime is pivotal to blue economy development, also reinforces the essence of regional, and continental cooperation on maritime security operations. The 2050 AIMS which was enacted in January 2014, protects the fishing, production, and disposal of wastes from oil and gas, provides maritime security, fights piracy, safeguards the natural environment hence protecting African biodiversity, protects and transports within African harbors as well as advocates for marine education and establishment of an African ship-construction industry. Overall, 2050 AIMS offers an innovative and sustainable strategic agenda focusing on securing establishing, and achieving effective continental maritime domain.

The study established marine education and research is fundamental to fostering marine security integration and collaboration. Overall 75% of respondents identified the approach as strategic in rendering more efficient integration and collaboration in maritime security. Voyer *et al.*, (2018) ascertained that research, education, and training are vital components in enhancing the convergence between maritime security and blue economy development. Similarly, Bueger & Edmunds, (2017) asserts that education and research contribute to scientific innovation to support

marine security endeavors for optimal international marine security. Overall, research and education are critical components in delving efficient policies and laws to govern maritime security integration processes, and inform the integration protocols for the most efficient international or regional maritime security system.

The study also established that supranational maritime security institutions ought not to be established on the Kenyan coast, with a support base of 65% of the respondents. While transboundary security requires cooperation between states, each state retains its territorial integrity in its waters and only seeks collaboration with others on specific areas like intelligence gathering, technical support, and information sharing (Kusumaningrum, 2013). Other cooperation areas are collective training and research endeavors as well as policy interoperability to boost interaction between marine security agencies (Fauzan, Abdullah & Ahmad, 2019). Notably, matters of marine security are linked with national sovereignty and national interests' conservations. On the same note, over 80% of the study respondents denoted the significance of maritime security institutions in seeking collaboration and cooperation across the states in the transboundary waters. Overall, the strategic approach is seeking avenues for collaboration, not the establishment of foreign entities' operational ground in the neighboring states' coastline.

Data sharing within the national security agencies, and offshore marine security agencies is fundamental in assuring optimal marine security and subsequent blue economy development. In this regard, an appropriate policy framework on data security and sharing should be formulated in partnership with foreign entities. Ebarvina (2016) also observed that the Ocean Strategic Policy should also be advanced to address the necessity of having strategic intelligence control for impending aggressors from crossing the marine jurisdictions. Similarly, Dalaklis

(2012) delved that, proper coordination between the Navy, Coast Guards, Police forces, and all other agencies is also crucial in meeting the challenges associated with maritime and affecting nations in the 21<sup>st</sup> Century and guaranteeing a stable and peaceful maritime ecosystem. Generally, where cooperation and collaboration are not in the form of operational activities, information sharing would foster efficient international/regional marine security cooperation.

The findings from the study on potential strategies to improve the integration of maritime security in the Kenyan coastline for enhanced blue economy development reveal key insights. Firstly, there is a strong consensus among respondents, with 90% in agreement, that Kenya's maritime security system, led by the navy, holds the responsibility for both offshore and coastal operations concerning security and blue economy development. This mandate extends to seeking cooperation at the local, regional, and international levels, as supported by 80% of the respondents. These findings align with international perspectives, such as the AU 2063 agenda and the 2050 (2050 AIMS), emphasizing the importance of regional and continental cooperation in maritime security for sustainable blue economy development. The study underscores the significance of collaborative efforts involving diverse stakeholders, consistent with the recommendations of scholars like Bateman and Bergin (2011), who stress the essence of international, local, and intergovernmental cooperation for effective maritime security goals.

Secondly, the study emphasizes the crucial role of marine education and research in promoting cross-border collective responsibility in marine security endeavors. A significant 75% of respondents recognize the strategic importance of marine education and research for fostering more efficient integration and collaboration in maritime security. This aligns with existing literature, including insights from Voyer

*et al.* (2018) and Bueger & Edmunds (2017), which highlight the vital role of education and research in enhancing convergence between maritime security and blue economy development. The study recognizes these components as critical for scientific innovation, policy development, and the establishment of efficient international or regional maritime security systems. Overall, the findings underscore the need for a comprehensive and strategic approach involving education, research, and cooperation to address the multifaceted challenges of maritime security and ensure sustainable blue economy development in the Kenyan coastline.

The study also delves into the question of establishing supranational maritime security institutions on the Kenyan coast, with a notable 65% of respondents expressing opposition to such an approach. This finding highlights the importance of preserving national sovereignty and territorial integrity in managing maritime security, while still advocating for collaboration and cooperation between states in transboundary waters. The study suggests that matters of marine security are closely tied to national interests, and collaboration should focus on areas like intelligence gathering, technical support, information sharing, collective training, and research endeavors. The distinction is made between strategic collaboration and the establishment of foreign entities' operational presence in neighboring states' coastlines. Additionally, the study emphasizes the critical role of data sharing within national security agencies and offshore marine security agencies, suggesting the formulation of appropriate policy frameworks for data security and sharing in partnership with foreign entities. This aligns with insights from Ebarvina (2016) and Dalaklis (2012), highlighting the necessity of strategic intelligence control, proper coordination, and information sharing for effective international/regional marine security cooperation.

## **4.7 Conclusion**

The findings highlight the critical need for collaboration and cooperation between maritime security agencies, regional partners and local communities to effectively address threats and promote sustainable development of the blue economy. However, significant gaps remain in current governance structures as inadequate laws, policies and institutional frameworks hamper coherent efforts to integrate maritime security. The analysis highlighted the importance of robust marine research and education initiatives in improving knowledge and capacity in the maritime sector. Additionally, strategies to improve maritime security integration, such as improving technical assistance programs and promoting interagency approaches, have been identified as essential to achieving sustainable blue economy goals.

The discussion underlines the urgency of addressing these challenges through policy reforms, capacity building initiatives and improved collaboration mechanisms. By taking a holistic approach that involves all stakeholders and prioritizes proactive measures, Kenya can overcome existing obstacles and unlock the full potential of its Blue Economy while ensuring the security of its maritime domain. This study serves as a basis for informed decision-making and policy formulation aimed at advancing maritime security integration and promoting sustainable development of the Blue Economy along the Kenyan coast. It is hoped that the recommendations resulting from this research will guide future efforts to create a safer, more prosperous and resilient maritime sector in Kenya.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter discusses the study's summary of findings and conclusions based on the objectives of the study. The study also presents the recommendations of the study based on the research findings and finally identifies the areas for further research.

#### **5.2 Summary**

The Kenyan Coast Guard Service (KCGS) lacks a legal framework for cooperation with neighboring states to foster maritime security and support Blue Economy development. However, during maritime security crises, regional maritime security agencies collaborate with navies and KCGS to address solutions. Despite this, communities along Kenya's coast and other stakeholders are not fully integrated into maritime security roles. Consequently, their interests, livelihoods, and health are not adequately protected by maritime security agencies due to frequent insecurity incidents in Blue Economy operations.

Marine research and education are not well institutionalized on the Kenyan coast, hindering proactive public participation. Similarly, maritime security programs for capacity building and technical support to the Blue Economy are insufficient. While Kenya's maritime security is governed by diverse laws and policies, numerous loopholes exist, particularly in promoting regional/global cooperation. Institutional weaknesses in formulating and implementing maritime security laws persist, despite efforts to exercise transparency and accountability.

Kenya's maritime security laws lack sufficient enforcement personnel, especially in sectors like fisheries and shipping. The KCGS and navy lack adequate capacity to coordinate maritime security agendas and Blue Economy operations without engaging other stakeholders. Additionally, cooperation at the national and regional levels on maritime security agendas is lacking, highlighting the need for appropriate policy frameworks to promote such endeavors. Cooperation and collaboration on diverse maritime security and Blue Economy issues are crucial for growth, yet data sharing, such as intelligence among diverse stakeholders, is lacking in Kenyan Coast marine security agencies. Despite the fundamental role played by Kenya's navy and KCGS in enhancing marine security and spurring Blue Economy development, optimal results require effective engagement of all stakeholders at both the national and regional levels.

### **5.3 Conclusion**

Kenya's government has made significant steps towards securing maritime security and fostering blue economy development. Some of the remarkable installations to this end are the establishment of KCGS, Navy patrol bases at the coast, and the Acts of Parliament on maritime security and blue economy development. However, KCGS and other maritime security agencies at the Kenyan coast lack effective cooperation and collaboration with neighbor states in the promotion of regional maritime security framework and hence blue economy development. The regional Maritime security agencies, however, cooperate on an ad hoc basis which is detrimental to the advancement of a secure blue economy.

On the other hand, the Maritime security infrastructure in Kenya does not involve an all-inclusive approach to stakeholder engagement on marine security issues, and blue

economy development. The local communities that ought to play an integral role in marine security for blue economy development are barely engaged in such endeavors, despite the negative influences they get from marine insecurity. In addition, marine research and education institutionalization with the local communities on the Kenyan coast is a fundamental endeavor to drive marine security and blue economy development, which have barely been done. Besides, with the unpredictable events in the blue economy especially fisheries and shipping, the regional marine security framework ought to operationalize capacity building and technical support programs for a safer and more secure sector.

Further, one of the greatest challenges to effective marine security integration and governance appropriateness is the weaknesses founded on the pertinent laws and legislation. The laws and policies by the parliament of Kenya on marine security and the blue economy advance the interest of the nation at the national and regional levels. Unfortunately, the same laws/policies undermine regional maritime security integration on prospects such as intelligence gathering. Poor interoperability of the laws and policies is detrimental to good governance of the marine economy in Kenya and East Africa at large. While KCGS is largely a separate entity from Kenya's navy, the lack of proper laws and policies defining how and when they collaborate undermines efficiency in service delivery. States sharing transboundary waters ought to enshrine laws and foreign policies that promote cooperation and collaboration on maritime security, for the advancements of the collective interests of blue economy development.

## **5.4 Recommendations**

Kenya's maritime security agencies should prioritize collaboration and cooperation with regional counterparts and local communities to enhance maritime security and expedite Blue Economy development. However, the study revealed a lack of cooperation between the Kenyan Coast Guard Service (KCGS), the Navy, and neighboring countries on maritime security and Blue Economy agendas.

Encouraging robust marine research and education initiatives, both public and private, along the Kenyan coast is essential. However, the study found a significant lack of sufficient marine research and education programs, with a 95% participant support rate.

The Kenyan government should establish comprehensive maritime security technical support programs to bolster safety and security in Blue Economy sectors, particularly shipping and fisheries. However, the study highlighted insufficient integration of such programs with existing maritime security infrastructure, with over 80% of participants agreeing to this view.

To address governance issues, the parliament should formulate more laws and policies governing maritime security and promoting collaboration with offshore agencies to stimulate Blue Economy development. Nonetheless, the study revealed that existing laws and policies are inadequate, with over 65% of participants concurring with this assessment.

Embracing a multi-agency, multi-layered approach to maritime security management is crucial, involving all relevant stakeholders, including local communities. However, the study found that KCGS and the navy cannot address all challenges independently

and that some stakeholders are marginally engaged in maritime security and Blue Economy development matters.

Improving Kenya's maritime security integration requires enhancing the interoperability of laws and policies for effective cooperation with agencies sharing transboundary waters, while safeguarding national interests. Nonetheless, the study found a lack of interoperability in Kenyan maritime laws and policies, hindering collaboration with offshore agencies.

Establishing effective maritime security intelligence sharing mechanisms with neighbouring states and other national security agencies is essential. However, the study revealed a lack of proactive data sharing, especially with local communities on the coast and neighbouring states. Investing in proactive maritime security research, education, and training is imperative for robust Blue Economy development and successful integration of maritime security. Nonetheless, the study underscored the pivotal role of such endeavours in prompting successful maritime security integration.

### **Areas for Further Research**

Future research should explore potential laws and policies to aid maritime security agencies' integration for blue economy development, amid diverging national interests of states sharing transboundary waters.

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## APPENDICES

### Appendix I: Questionnaire

#### Part I: Introduction Letter

Dear Respondent,

#### RE: Request to Participate in the Research

I am a Master's student at Kenyatta University, pursuing a Master's in Security and Strategic Studies. I am undertaking research titled, "*Integration of Maritime Security in Blue Economy Development in the Kenyan Coast*". "I therefore seek your kind support and assistance in providing honest reaction to the posed questions as presented below. The information would be critical for academic intention as well as adding value to the literature bank along with its implication to policymakers. Also, the collected data would be handled with significant confidentiality. For confidentiality and integrity of the information collected, kindly do not specify a direct name in the Questionnaire. Your kind assistance in regard to this procedure is greatly appreciated and will be of major value to the advancement of the academic realm in the relevant field.

Yours Faithfully,

**Researcher's Name: Andrew Munyao**

**Supervisor's Name: Dr.**

**Francis Mulu**

Sign \_\_\_\_\_ Date \_\_\_\_\_

Sign \_\_\_\_\_ Date \_\_\_\_\_

## **Part II: Respondent's Demographic Information**

*Instructions:* Kindly provide answers to all the questions presented here correctly, completely, as well as, as honestly as possible to guarantee the purposeful research results. Your opinion and response shall be handled with great confidentiality plus it shall only be used for this research study. Kindly don't indicate your name anywhere within the questionnaire.

1. What is your gender? (Tick One) Male  Female
2. Please indicate your age bracket. (Tick One) 21-30 years  31-40 years  41-50 years  above 50 years
3. What is your highest academic qualification? (Tick One) Certificate  Diploma  Undergraduate  Postgraduate
4. For how long have you worked in the organization? (Tick One) Less than 2 years  2 – 5 years  6 – 10 years  More than 10 years
5. What is your position in the organization? \_\_\_\_\_

## **Part III: Specific Information**

**SECTION A: THE NATURE OF INTEGRATION OF MARITIME SECURITY**

6. On a five-point Likert scale, select a suitable indicator from the following: (1) strongly disagree (2) disagree (3) neutral (4) agree, and (5) strongly agree; state your level of agreement on the nature of integration of maritime security influences harnessing of Blue Ocean Economy development in Kenya.

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
There is cooperation between KCG and neighboring countries on maritime security for the blue economy					
During a crisis, the regional maritime security agencies cooperate in delving into a solution					
The protection of the Ocean and the coastline is the role of navies and KCGs and not any other party					
Kenyan coast communities are critical components in blue economy development through maritime security-related roles					
The livelihoods, health, and interests of the individuals in the coastal area are well protected by the government					
Marine research and education is institutionalized in the public along the direct coastal region					
There are programs for maritime security capacity building and technical support especially in shipping and port development.					

## SECTION B: MARITIME GOVERNANCE STRUCTURE

7. On a five-point Linkert scale, select a suitable indicator from the following: (1) strongly disagree (2) disagree (3) neutral (4) agree and (5) strongly agree; state your level of agreement on maritime governance structure influences harnessing of Blue Ocean Economy development in Kenya.

Maritime Governance Structure	1	2	3	4	5
There are sufficient laws and regulations governing Kenyan coast maritime security endeavors and the blue economy					
There are effective institutions for formulation, implementation, and review of maritime security laws and blue economy devt on the Kenyan coast					
The contemporary maritime security laws and blue economy development policies promote cooperation and collaboration with foreign entities					
The blue economy policies & maritime security laws reflect Kenya's foreign policies & interests in transboundary water integrity endeavors					
Diverse stakeholders in coastal Kenya, are comprehensively engaged by the government in maritime security and blue economy development matters.					
Maritime security and blue economy policy developers and implementers exercise transparency and accountability					
The local communities in coastal Kenya, work in collaboration with the pertinent administrative agencies on					

maritime security and blue economy development matters					
There are sufficient enforcement agencies and personnel on maritime security, in support of safety in the blue economy especially fisheries, and tourism					
KCGS and Kenya Navy have standalone institutional capacity to develop and sustain Kenya's Maritime security, and blue economy development agenda					
The Parliament of Kenya has paid sufficient attention to the maritime security issues, and the blue economy development agenda					

**SECTION C: STRATEGIES TO IMPROVE THE INTEGRATION OF MARITIME SECURITY**

8. On a five-point Linkert scale, select a suitable indicator from the following: (1) strongly disagree (2) disagree (3) neutral (4) agree and (5) strongly agree; state your level of agreement on strategies to improve the integration of maritime security and how it influences harnessing of Blue Ocean Economy development in Kenya.

<b>Strategies to improve the integration of maritime security</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Kenya's maritime system is responsible for offshore and coastal operations in regards to security and blue economy development					
Kenya Maritime security agencies should seek cooperation at the national, regional, and international level					
Marine education is critical in promoting cross-border collective responsibility in marine security endeavors					

Supranational institutions on maritime security should be established in the Indian Ocean				
Existing maritime security institutions with transboundary waters should seek collaboration and cooperation in marine security enhancement				
Data sharing across diverse security agencies on maritime security is of the essence for heightened surveillance				
Kenya's navy plays a pivotal role in maritime security development and collaboration with any potential security agency/stakeholder				
The government should formulate pertinent policies to boost collaboration and cooperation of Kenyan forces on marine security				
Maritime security and blue economy development research is critical in prompting successful integration				


## **Appendix II: Study Population Units**

1. Africa Union Representatives
2. Beach Management Units
3. County Government of Kilifi
4. County Government of Lamu
5. County Government of Mombasa
6. Dock Workers Union
7. International Maritime Organization (IMO)
8. Kenya Defence Forces
9. Kenya Ferry Services
10. Kenya Fisheries Services
11. Kenya Forest Service (KFS)
12. Kenya Maritime Authority
13. Kenya Maritime Court at Shanzu
14. Kenya Marine and Fisheries Research Institute
15. Kenya Marine Police Unit
16. Kenya Maritime Authority
17. Kenya Maritime Police Unit
18. Kenya Navy
19. Kenya National Intelligence Service
20. Kenya Ports Authority
21. Kenya Revenue Authority
22. Kenya Ship Agents Association (KSAA)
23. Kenya Tourist Police
24. Kenya Wildlife Service


25. Local Fishermen
26. Ministry of Devolution and Planning
27. Ministry of Foreign Affairs
28. Ministry of Interior – Department of Immigration
29. Ministry of Tourism
30. National Intelligence Service
31. National Environmental Management Authority (NEMA)
32. Port Management Association of Eastern and Southern Africa (PMAESA)
33. Sea Farers Union of Kenya
34. Shippers Association of Kenya
35. State Department for Shipping and Maritime Affairs
36. Tanzanian Peoples Defense Forces
37. United Nations Office on Drugs and Crime (UNODC)
38. Women in the Maritime Sector in Eastern and Southern Africa (WOMESA)

**Appendix III: NACOSTI**

National Commission for Science, Technology and Innovation




**REPUBLIC OF KENYA**



**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION**

**Date of Issue: 12/November/2021**

**RESEARCH LICENSE**




**This is to Certify that Mr. ANDREW ISOONGO MUNYAO of Kenyatta University, has been licensed to conduct research in Lamu on the topic: INTEGRATION OF MARITIME SECURITY IN BLUE ECONOMY DEVELOPMENT IN THE KENYAN COAST for the period ending : 12/November/2022.**

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