Seas Of Opportunity:
Understanding the Blue Economy Landscape in the MENA Region

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ABSTRACT

This paper aims to investigate the emerging blue economy landscape in the Middle East and North Africa (MENA) region. Furthermore, this paper seeks to explore various dimensions of sustainable marine resource management and initiatives undertaken by MENA countries to exploit blue economy opportunities. As the MENA region advances in developing its blue economy, this study seeks to offer comprehensive insights into marine resource utilization, sustainable development principles, and increased regional collaboration in fostering a strong blue economy framework. By analyzing current practices, this research seeks to contribute to a deeper understanding of how the MENA region can effectively integrate blue economy principles into national policies, improve marine infrastructure, and build cooperative frameworks for environmental protection and economic growth.

Keywords: Blue Economy, MENA Region, Regional Security Complex.

A. INTRODUCTION

In recent times, the blue economy has gained attention as a development approach emphasizing sustainability and the optimal utilization of marine resources. Gunter Pauli (2010), an economist known for pioneering this concept, describes the blue economy as an economic approach focused on using innovation to sustainably and efficiently utilize marine resources without damaging the marine environment. Furthermore, Pauli (2010) highlights that the ocean and its resources hold great potential for job creation, economic growth, and providing essential resources for human life, while preserving marine ecosystems. Pauli (2010) emphasizes that the exploitation of marine resources should be conducted in a way that does not harm the environment and ensures long-term sustainability, including protecting marine habitats, managing sustainable fisheries, and reducing pollution and the impacts of climate change on marine ecosystems. Around the world, the blue economy has become a key focus in addressing global challenges such as resource scarcity, climate change, and economic inequality. With the global population continuously growing and increasing pressure on terrestrial resources, the ocean offers potential solutions to meet the expanding needs for foods, energy, and raw materials (Sungkawati, 2024).

One region recognizing significant opportunities in this concept is the Middle East and North Africa (MENA) region. The MENA region, encompassing countries with extensive coastlines along the Mediterranean Sea, Red Sea, and the Atlantic Ocean, holds vast potential in various economic sectors such as fisheries, marine tourism, renewable ocean energy, and other maritime industries. Barry Buzan and Ole Waever (2003) in this case explain that the MENA region is divided into three main sub-regions with socio-economic and geopolitical dynamics that are different from each other. three sub-regional areas namely: The Gulf, The

Maghreb, and The Levant. The Gulf sub-region includes countries such as Saudi Arabia, the United Arab Emirates (UAE), Oman, Bahrain, Qatar, Kuwait, Yemen, Iraq and Iran. This area is known for its abundant oil and gas resources, but also has significant fisheries and marine tourism potential (Lučić and Bosworth, 2019). The Maghreb, which consists of Morocco, Algeria, Tunisia and Libya, has a long coastline along the Mediterranean Sea and Atlantic Ocean. The blue economy potential in this region includes fisheries wealth, renewable marine energy prospects. Sustainable management of marine resources in this region can improve the welfare of coastal communities and support inclusive economic growth (Heger et al, 2022).

The Levant, which includes Lebanon, Syria, Jordan, Palestine, and Israel, has access to the Mediterranean Sea. Although the region faces significant security and political stability challenges, the potential for the blue economy remains, particularly in the areas of fisheries and port development. However, despite its great potential, the MENA region also faces serious challenges such as marine environmental degradation, climate change, pollution and political conflicts that hinder sustainable economic development. In this context, the concept of the blue economy emerges as a paradigm that not only encourages economic growth but also protects and restores marine ecosystems that are important for human survival and biodiversity.

This research is focused on answering an important question: how is the blue economy in the MENA region? To explore this question, this study will identify underutilized blue economy sectors in each MENA sub-region. In addition, it is hoped that this research can formulate policy recommendations aimed at increasing sustainable development in the blue economy in the region. Through this comprehensive approach, this research seeks to provide deep insights into integrating blue economy principles across MENA countries, exploring the full potential of the blue economy, addressing diverse challenges, and paving the way towards a more prosperous and sustainable future across the MENA region.

B.   THEORY CONCEPT AND METHODE
### Regional Security Complex Theory
The Regional Security Complex (RSC) Theory, pioneered by Barry Buzan and Ole Wæver (2003), describes the interconnected security dynamics among units within a specific geographical area. These units, which include both state and non-state actors, face interrelated security challenges that cannot be addressed independently. This theory emphasizes the shift from a state-centric security focus to recognizing the role of various actors in regional security dynamics. Within the RSC framework, traditional security issues like military competition remain central, but non-traditional issues such as economic security also gain significant attention (Juma, 2020). Non-traditional security, such as economic security, plays a crucial role in RSC. Economic integration among countries within the complex can create interdependence and economic stability. Conversely, economic instability or intense economic competition can become sources of tension and conflict among actors within the RSC (Farzayee, 2023).

Therefore, non-traditional security factors, such as the economy, have become crucial in shaping the complex security landscape in the RSC. The pattern of relationships among actors within the RSC can vary, ranging from amity, characterized by cooperation and mutual support, to enmity, marked by rivalry and tension that have the potential to trigger conflict. Consequently, a holistic understanding of non-traditional security dynamics is required to manage tensions and enhance stability at the regional level.

Blue Economy Concept

The blue economy is an economic concept that focuses on the sustainable utilization of marine and coastal resources to drive economic growth, create jobs, and improve community well-being while maintaining the health of marine and coastal ecosystems. This concept emphasizes the integration of economic development with marine environmental conservation and the equitable and responsible management of natural resources (Pauli, 2010). In conducting data analysis related to this research, the researcher uses the blue economy concept developed by McKinley et al (2019). According to McKinley et al (2019), the blue economy is defined as a strategic, integrated, and participatory approach to coastal and marine development and protection. It combines the principles of a low-carbon economy, ecosystem-based approaches, and human well-being. This concept aims to go beyond extractive and exploitative activities and align more closely with marine conservation and effective marine spatial planning. Furthermore, McKinley et al (2019) offer a model of blue economy components that aims to examine how the blue economy is implemented by a given actor.

Figure 1. Model Components of The Blue Economy
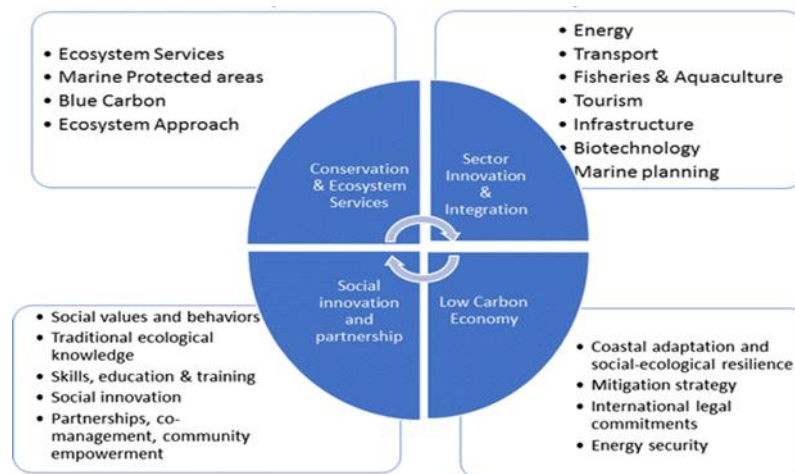
Source: (McKinley et al, 2019)

The blue economy is a relevant concept in the RSC context, because it combines a strategic, integrated and participatory approach to the development and protection of coastal and marine areas. In the context of regional security, the blue economy can also influence the pattern of relations between actors in the RSC. For example, cooperation in managing marine resources and developing sustainable tourism can create a pattern of interaction called Amity, where the relationship between actors is complementary, supportive and protective. On the other hand, competition for limited marine resources can give rise to an interaction pattern called Hostility, which is characterized by hostility, suspicion, and concern about threats from nearby parties. Therefore, integrating the blue economy concept into the RSC framework provides insight into how non-traditional security issues such as the economy are interconnected and influence security dynamics at the regional level. A thorough understanding of these dynamics is critical to managing tensions and promoting stability at the regional level, especially in resource-rich coastal and marine areas.

Research Method

This study employs a qualitative approach with an interpretive research design. According to Umar S. Bakry (2016), interpretive research seeks to understand phenomena in international relations by analyzing social realities and their construction. Data collection for this research was conducted using internet-based methods, involving structured and comprehensive online searches (Benfield & Szlemko, 2006). To ensure data quality and validity, the study limits its sources to the period from January 2023 to December 2023, focusing on the development of the blue economy in the region during that time. Data management utilized the MAXQDA software for initial processing, followed by network visualization using Gephi. MAXQDA and Gephi were employed to analyze aspects of the blue economy in the MENA region.

C. RESULT AND DISCUSSION

Blue Economy Analysis in the MENA Region

McKinley et al. (2019) proposed a model for blue economy analysis consisting of four main aspects. First, Conservation and Ecosystem Service (CES) focuses on the preservation of natural resources and ecosystem services to support environmental sustainability. Meanwhile, Sector Innovation and Integration (SII) highlights innovation in integrated economic sectors to enhance efficiency and added value. On the other hand, Social Innovation and Partnership (SIP) emphasizes social innovation and partnerships to improve community welfare and social justice within the context of the blue economy. Lastly, Low Carbon Economy (LCE) focuses on the transition towards a low-carbon economy to reduce carbon footprint and secure a sustainable energy future. Overall, McKinley et al. (2019)'s model offers a comprehensive approach to understanding the blue economy by considering key interconnected aspects to achieve economic and environmental sustainability.

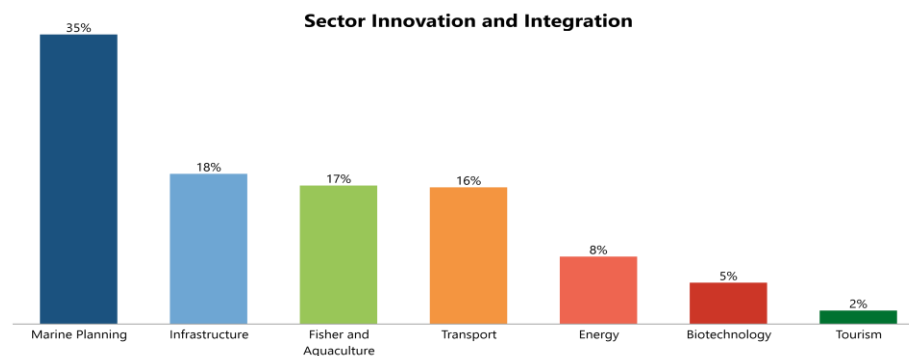**Figure 2.** Aspects of The Blue Economy In The MENA Region
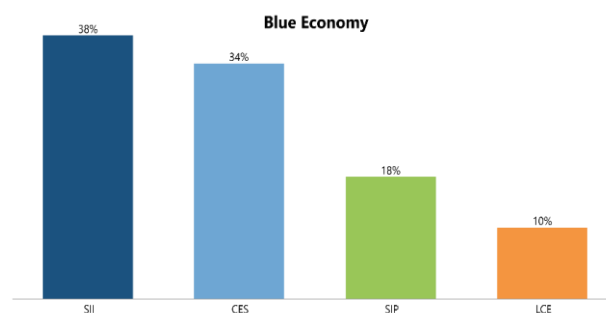
Source: processed by researchers

The analysis of the blue economy in the MENA region shows that the main focus in this area is on the aspect of Sector Innovation and Integration (SII) with a percentage of 38%. The aspect of Conservation and Ecosystem Services (CES) follows with 34%, then Social Innovation and Partnership (SIP) with 18%, and Low Carbon Economy (LCE) with 10%. The greater focus on SII in the MENA region reflects efforts to encourage innovation in integrated blue economy sectors, aimed at improving efficiency and added value in economic activities. This may include investments in new technologies, infrastructure development, and enhancements to

more efficient and environmentally friendly production processes. The second-place ranking of the CES aspect indicates ongoing efforts in the preservation of natural resources and ecosystem services in the region. Meanwhile, the lower percentage of SIP suggests that social innovation and partnerships to improve community welfare and social justice in blue economy areas, such as coastal regions, are still not receiving sufficient attention. This could be an opportunity to increase community participation and public-private partnerships in blue economy projects, which can bring greater social benefits. Lastly, the relatively small focus on LCE shows that the transition towards a low-carbon economy is still in its early stages in the MENA region. Nevertheless, this also indicates a significant potential for further development in efforts to reduce carbon footprints and transition to cleaner and more sustainable energy sources.

Figure 3. Sector Innovation And Integration In The Blue Economy
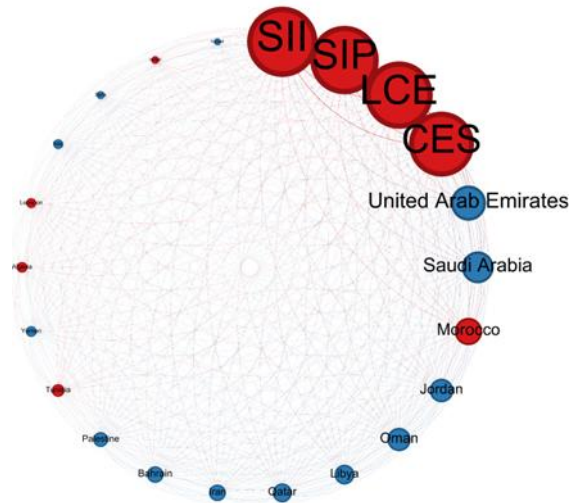In The MENA Region

Source: processed by researchers

Furthermore, the analysis of the blue economy in the MENA region reveals that within SII aspect, marine planning holds the largest percentage at 35%. Infrastructure follows with 18%, fisheries and aquaculture at 17%, transportation at 16%, energy at 8%, biotechnology at 5%, and tourism at 2%. This analysis indicates that marine planning plays a crucial role in the blue economy of the MENA region, reflecting the need for effective and integrated management of marine resources. The significant investment in infrastructure demonstrates substantial investments in physical facilities supporting the blue economy, such as ports and bridges. The fisheries and aquaculture sector, contributing 17%, highlights the importance of this sector in providing food resources and livelihoods for coastal communities. Transportation, accounting for 16%, underscores the importance of logistics and transportation networks in supporting blue economy activities, including the transport of marine products and tourism. Energy, though only 8%, shows efforts to develop renewable and sustainable energy sources, aligning with the goals of the Low Carbon Economy. Biotechnology, at 5%, reflects innovation in utilizing marine resources for developing new products, such as pharmaceuticals and food. Lastly, the tourism sector, at only 2%, may indicate untapped potential in leveraging the natural beauty of marine environments to attract tourists.

Blue Economy Network Analysis in the MENA Region

  The MENA region's vast coastlines and marine resources offer significant potential for a thriving blue economy. This analysis examines stakeholders, policies, and economic activities in the sector, aiming to guide sustainable growth and collaboration.

Figure 4. Blue Economy Network In The MENA Region

Source: processed by researchers

  From the network analysis, it is evident that every country in the MENA region has aspects related to the blue economy. However, there are three main actors in the blue economy network in this region: the UAE with a weighted degree of 1112, Saudi Arabia with a weighted degree of 1002, and Morocco with a weighted degree of 854. The UAE, with the highest weighted degree, demonstrates its dominant role in driving and developing the blue economy in the MENA region. This country focuses on SII and transitioning to an LCE, with various projects supporting environmental sustainability and economic efficiency. Additionally, the UAE is active in international partnerships and SIP, which help improve local community welfare and promote social justice. Saudi Arabia, as the second actor with a high weighted degree, also plays a crucial role in the blue economy network in the MENA region. This country has a strong focus on CES, with various initiatives aimed at protecting and sustainably utilizing marine resources. Furthermore, Saudi Arabia continues to promote SII to enhance added value and efficiency in various economic sectors, while also striving to reduce its carbon footprint through a transition to an LCE. Morocco, as the third actor with a weighted degree of 854, demonstrates its commitment to developing the blue economy with a focus on SIP. Morocco aims to improve the welfare of coastal communities through projects that support social inclusion and economic empowerment. Additionally, the country is committed to CES, as well as sector integration to create sustainable added value. Overall, this analysis shows that while all countries in the MENA region have aspects of the blue economy, the UAE, Saudi Arabia, and Morocco play key roles in driving and developing the blue economy in the region.

Regional Security Complex Analysis in MENA Blue Economy

The integration of blue economy with RSC Theory provides deep insights into how economic activities in the maritime sector influence regional security dynamics in three main sub-regions of MENA: Gulf, Levant, and Maghreb. RSC, developed by Barry Buzan and Ole Wæver (2003), emphasizes the interconnectedness between traditional security issues like militarization and non-traditional security issues such as economic stability and environmental sustainability. In the Gulf region, countries like the United Arab Emirates UAE, Saudi Arabia, and Qatar play a major role in the blue economy. The UAE, focusing on SII and LCE, not only promotes economic stability but also contributes to mitigating environmental threats like marine habitat degradation and pollution. This is crucial for maintaining stability in a region often involved in resource competition. By developing marine tourism, renewable energy from the sea, and sustainable fisheries management, Gulf countries can reduce dependence on oil and gas, thereby reducing potential resource-related conflicts.

In the Maghreb region, including Morocco, Algeria, Libya, and Tunisia, the blue economy plays a crucial role in addressing migration challenges, economic vulnerabilities, and regional tensions. Morocco, with strategies focusing on CES and SIP, demonstrates commitment to sustainable blue economy development. These efforts not only help manage marine resources sustainably but also enhance coastal community welfare. Thus, Morocco is capable of reducing social tensions and strengthening regional stability in Maghreb. Initiatives such as marine tourism development, sustainable fisheries management, and utilization of renewable energy from the sea can serve as models for other countries in this region. The Levant region, which includes countries such as Syria, Lebanon, Jordan, Israel and Palestine, has complex security challenges including armed conflict, political tensions and humanitarian crises. Developing a blue economy in the country has the potential to ease some of these tensions. For example, marine conservation efforts and sustainable resource management can reduce environmental stress, which is often a source of conflict. Initiatives to improve the welfare of coastal communities and encourage social inclusion can help reduce social and political tensions. Countries in the Levant can learn from Morocco's approach to sustainable ecosystem management and social partnership, adapted to their local contex.

In the context of RSC Theory, regional security cannot be understood only through a military lens but must consider various dimensions such as economic and environmental factors. Economic activities in the maritime sector, such as the development of tourism, fisheries and renewable energy from the sea, have a broad impact on regional economic stability and security. Overall, integrating blue economy principles with RSC theory helps identify the complex relationships between economic activities, environmental sustainability, and regional security in the Gulf, Levant, and Maghreb. By encouraging greater economic interdependence through resource diversification and improving social welfare through economic inclusion, MENA countries can reduce the potential for conflict and build stronger regional stability. Cross-border collaboration and policy integration are needed to maximize the potential of the blue economy while promoting sustainable regional stability and security in each sub-region in the unique MENA context.

D. CONCLUSION

This research has analyzed the emerging blue economy landscape in the MENA region, focusing on the integration of blue economy principles into national policies, the enhancement of marine infrastructure, and regional cooperation for environmental protection and economic growth. The analysis reveals that the SII aspect holds a primary role in the blue economy in the MENA region, reflecting efforts to promote innovation in integrated economic sectors to enhance efficiency and added value. The significant focus on CES indicates ongoing efforts to preserve natural resources and ecosystem services in the region. However, the aspects of SIP and LCE still require more attention, particularly in improving community welfare and transitioning to a cleaner and more sustainable economy.The network analysis of the blue economy shows that the UAE, Saudi Arabia, and Morocco play key roles in the development of the blue economy in this region. Integrating the RSC theory provides deep insights into how economic activities in the maritime sector influence regional security dynamics in the sub-regions of the Gulf, Levant, and Maghreb.

Overall, this study suggests that integrating blue economy principles with regional security policies can help identify the complex relationships between economic activities, environmental sustainability, and regional stability. Encouraging greater economic interdependence through resource diversification and improving social welfare through economic inclusion can reduce the potential for conflict and build stronger regional stability. Cross-border collaboration and policy integration are needed to maximize the potential of the blue economy while promoting sustainable regional stability and security in each sub-region within the unique MENA context.

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