



## Blue Economy in Nigeria: Focus Areas, Potentials and Challenges

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### Abstract

*This article explores the concept and potential of the blue economy within the context of Nigeria, focusing on leveraging marine and coastal resources for sustainable economic growth and development. It delves into the various sectors of the blue economy, including fisheries, aquaculture, tourism, renewable energy, and maritime transportation, highlighting their significance in job creation, food security, and GDP growth. Challenges such as overfishing, governance regulation, maritime security, climate change, and environmental mismanagement are also addressed, alongside recommendations for the future advancement of the blue economy. By examining the nexus between the blue economy and national development goals, the article underscores the importance of fostering policies and investments to realize the full potential of Nigeria's maritime sector. Ultimately, it advocates for a holistic approach to harnessing marine resources for inclusive economic growth and sustainable development in Nigeria.*

**Keywords:** Blue Economy, sustainable, economy, growth

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### Introduction

The blue economy often refers to the concept of utilizing the ocean resources in a responsible manner in order to improve the livelihoods, economies and the general wellbeing of the marine ecosystem (World Bank, 2017). According to the United Nations Economic Commission for Africa (2016), the blue economy is a revolutionary method for profitably harnessing the resources of lakes, oceans, rivers and other water bodies. It is a green economy in a blue world. The blue economy of Nigeria which includes its marine and coastal resources offer a route for long term, sustainable economic growth the country hopes to capitalize on, industries including offshore exploration, tourism, marine trade, aquaculture, and fisheries because of its extensive coastline along the Gulf of Guinea. The goal is to promote economic expansion while maintaining environmental preservation and prudent resources management in order to fully realize its potential and create job

opportunities, economic diversification and improved living standard (Adjei, 2023). In other context, according to Wairimu & Khainga (2017), blue economy can also be defined as distinguishing socioeconomic development and activity from environmental deterioration and the optimizing of the advantages derived from marine resources. In addition to preserving or improving lives, the blue economy idea aims to increase social inclusion, economic processes, and environmental qualities of coastal areas and the ocean (Odey, 2023). Thus, the idea is a well-thought-out plan for concurrent development that aims to include the ocean into all spheres of the economy, starting from regional to national architecture. Despite the fact that the oceans are used for commercial purposes, their reliability is constantly stressed. Among the economic activities in the traditional sector are shipping (maritime transportation), offshore oil and gas, shipbuilding, fishing, coastal leisure and tourism, and seawater desalination. However, in the last few years, new sectors

have appeared in the fields of biotechnology; aquaculture, deep sea mining, offshore renewable energy, seabed extraction and blue carbon sequestration. Nigeria, with its multitude states of littoral components and lengthy waterways, hasn't been unnoticed in this endeavor. Hence the establishment of a Nigerian blue economy is necessary for the advantage and use of the nation. Nigeria has been categorized as a developing country since gaining independence due to its inability to capitalize on the richness that nature has bestowed upon it (Abiodun, 2021). It is imperative that maritime resources be fully utilized for their manifold advantages, since they offer a pathway to economic growth and the mitigation of poverty. The African Development Bank (AfDB) (2018) report expressed a similar opinion, arguing that to significantly lower the continent's poverty rate, GDP growth on the continent should average 7%. This can be achieved by maintaining international trade and making effective use of the continent's seas and oceans (Adetona, 2020).

Nigeria is home to 3,000 kilometers of inland rivers and 870 kilometers of coastline. She has also joined other countries in the world to optimize the full potentials of the blue economy by boasting a wide variety of natural resources, including mineral ores, natural gas,

hydrocarbons, zinc, copper, bauxite, lead and gypsum, in addition to other basic materials. (Jacob *et al.*, 2022). Marine economic activities are widely recognized as being essential in reducing extreme poverty and hunger because they create jobs and other economic possibilities. For instance, it covers ship ownership and management, building and repair, port services, and the supply of seafaring personnel and ship recycling. Up until the late 1960s, Nigeria's economy was based primarily on agriculture and a few mineral product (Otekenari, 2019). However, in the 1970s, when abundant oil was discovered and the petroleum industry grew as a result, previously important sectors of the economy—agriculture in particular, or the "blue economy"—were neglected (Adeyemi & Abiodun, 2013). Since all of Nigeria's income comes from oil and gas, the country is vulnerable to fluctuations in the price of these resources globally as well as the underdevelopment of other industries. Considering the aforementioned, despite the nation's abundance of resources, insecurity, poverty, and illiteracy issues have not been successfully eradicated. In light of this, the Blue Economy has been proposed as a viable route towards a sustainable future and Table 1 summarizes what the blue economy stands for.

**Table 1: A Complete Ideal of the Blue Economy**

<b>Extraction of non-living resources</b>	<b>Harvesting of living resources</b>	<b>Commerce and trade in and around the ocean</b>	<b>Ecosystem protection and Management</b>
• Seabed/deep seabed mining	• Fisheries	• Shipping (marine transportation)	• Surveillance and maritime security
• Oil and gas	• Aquaculture	• Ship building and repair	• Habitat protection/restoration
• Water (desalinization)	• Marine biotechnology	• Marine construction/ Port infrastructure e.g. jetties	• Blue carbon
• Dredging	• Recreational fishing	• Marine and coastal tourism/defense	• Hazard protection
• Energy/renewables (tidal/wave energy, coastal/offshore wind)	• Seafood processing	• Marine services (maritime insurance, consulting, mapping, etc)	• Waste treatment and disposal



- Marine education, research and development
- Ecological /ecosystem research

Source: Voyer *et al.*, 2018

### **The Oceanic Blue World**

As Nigeria join various nations throughout the world in prioritizing the blue economy's concept, with its primary focus as the ocean, it has been estimated that almost 70% of the surface of the earth is made up of oceans (Hamisu, 2019). The ocean helps humans with submerged natural and mineral riches, regulates the climate, and provides salt, among other things. Bulky products may be transported across continents at the lowest cost by using the oceans and seas. Oceans and seas are centers of appeal and recreation (Abdullahel, 2017) It has even been said in the past and now that spiritual healing and sparring can occur in the sea or along the shore. There is nowhere for our lives and livelihoods if the ocean is not healthy (Silver *et al.*, 2015). The blue economy primarily emphasises on recognizing and utilizing the potential resources of the ocean without endangering the sustainability and well-being of the ocean (Potgieter, 2018). The 2030 Agenda for Property Development acknowledges the possible connection among the economic growth, sustainable development, and blue economy. The goal of SDG target 14.7 is to improve the economic standing of less developed countries, water-enclosed areas, and small island developing states, similar to the Niger Delta, utilizing fisheries management that is sustainable, agriculture, business ventures and tourism. (UNCTAD, 2014). The Niger Delta is leading the way in the development of the blue economy because it understands the importance of oceans to humankind's future and that the blue economy offers a sustainable development strategy more suited to their needs. An inventive strategy for the profitable exploitation of the resources found in lakes, rivers, seas, and other bodies of water is integrated into the blue economy. Promoted at the same time as ensuring environmental sustainability is economic growth, social inclusion, and the maintenance or enhancement of livelihoods. In

essence, it is the process of separating environmental and ecosystem degradation from economic development via ocean-related industries and activities. This background serves as the foundation for this study's exploration of the blue economy and the national economy, as it introduces the concept and looks into how countries like Nigeria and the Niger Delta region can profit from it. In doing so, it also looks into the employment and personal growth of those who live along coastlines and islands.

### **Focus of Nigeria's Blue Economy**

#### **Managing the Waste Disposal**

According to estimates from the UN Industrial Development Organization, every year, Nigeria generates more than 2.5 million tonnes of plastic waste (Okediya, 2023). Nigeria is one of the top 20 countries that contributes 83% of the entire amount of plastic garbage from land that ends up in the oceans. Over 200,000 metric tons of plastic garbage are estimated to exist (VOA, 2019). However, an enhanced waste disposal system is essential to make a positive shift in the blue economy because the primary sources of pollution in marine and coastal environments are plastics, wastewater and other marine litters. Marine contamination results from the wastes produced by several sectors, including offshore oil prospecting. Given the economic value of the ocean and the livelihoods that depend on it, the government should make waste disposal management a major priority and issue guidelines for the proper use and treatment of plastic waste, which accounts for a sizable portion of ocean debris.

#### **Tourism Sector**

The recreational activities that take place near the water, including beach-based tourism, coastal walks and



wildlife viewing, as well as those that take place in the maritime area, like nautical sports, are included in the coastal tourism sector (e.g. sailing, scuba diving, cruise, etc (Papageorgiou, 2016). The industry of tourism has emerged as one of Nigeria's most important economic sectors, one that may boost foreign exchange profits As a component of the blue economy, sustainable tourism supports the preservation and wise use of marine ecosystems and species while bringing in money for the surrounding communities. When properly handled, coastal tourism may make a significant contribution to the nation's sustainable growth. Nigeria is significantly impacted by climate change, especially in light of rising sea levels. Thus, it is important to correct weaknesses and build resilience by utilizing coastal adaptation (Okediya, 2023).

### **Financial Bond**

In order to hasten the sustainable shift to a blue economy, investment and financing are crucial (Okediya, 2023). An emphasis on the promotion of blue projects and the sustainable use of maritime resources is the main goal of blue bonds, which are bond instruments. In order to get climate money for both adaptation and mitigation, it is imperative that we make our blue economy appealing. The benefits of issuing blue bonds include opening doors for larger and longer-term financing and giving the issuer access to the unrealized financial potential of the blue economy (Okediya, 2023).

### **Marine Transportation**

Since seaborne trade is the main means of transportation for the delivery of goods, energy and raw materials, it dominates international trade. As a result, the maritime industry promotes employment and national economic growth while also facilitating international trade. To enable shipping, significant investments in the transportation infrastructure are needed. Despite being the most energy-efficient method of transportation, maritime transportation contributes between 2 and 3% of all CO<sub>2</sub> emissions connected to energy worldwide. This component needs to be implemented in a way that

avoids polluting the atmosphere and oceans in order for it to be sustainable. Long-term cost reductions and improved fuel efficiency depend on this. Since ports are accountable for a range of direct and indirect carbon emissions within the logistics industry, this is closely related to port operations (Okediya, 2023).

### **Potentials of Blue Economy to National Development**

Approximately one-third of the Nigerian's land area, or 924 square kilometers is made up of its coastline, which equates to a maritime area of 290 square kilometers (Braimah, 2023). Beyond its strategic importance, the oil- and biodiversity-rich Niger Delta covers 80% of Nigeria's coastline. Nigeria boasts as one of the world's largest wetlands, with 70,000 square kilometers of marine and coastal ecosystems in Niger and Benue (World Bank, 1995) and is ranked among the world's ten most significant wetlands and marine ecosystems (Uluocha and Okeke, 2004). Seasonal rainforests, sandy coastal ridges, freshwater swamp forests, and salty mangroves are just a few of the distinctive biological zones found in this area (Ogbe, 2005; Olomukoro, 2005). There is also a wide range of diversified flora and animals, fish, woods, aquatic plants, aquatic birds and coral reefs. The country is bordered to the South by the Atlantic Ocean and to the Northeast by Lake Chad. It is traversed by several major rivers, including the Niger, Benue, Gongola and Sokoto (Odhiambo & Metcho, 2018). Given that Nigeria is one of the world's leading producers and exporters of oil, its economy is classified as mixed, with the maritime sector playing a significant role. Nigeria's unrealized blue economy potential is estimated by the Africa Blue Economy Alliance (ABEA) to be worth a staggering \$296 billion (Vanguard, 2023) based on statistics from the Nigerian Maritime Administration and Safety Agency (NIMASA). When appropriately harnessed through enabling policy frameworks, both existing and emergent blue economy's sectors and industries can aid the development of infrastructure, tourism, green energy, smart cities and ports, enhanced food stability, and jobs. Table 2 shows already existing and evolving blue economic activities in Nigeria.



**Table 2: Established and Evolving Blue Economy Activities in Nigeria**

ESTABLISHED	EVOLVING
<ul style="list-style-type: none"> <li>• Fisheries</li> <li>• Shipping</li> <li>• Seafood processing</li> <li>• Ports</li> <li>• Shipbuilding and repair</li> <li>• Offshore oil and gas</li> <li>• Marine manufacturing and construction</li> <li>• Maritime and coastal tourism</li> <li>• Marine business services</li> <li>• Marine research, development, and education dredging</li> </ul>	<ul style="list-style-type: none"> <li>• Marine aquaculture</li> <li>• Deep and ultra-deepwater oil and gas</li> <li>• Offshore wind energy</li> <li>• Ocean renewable energy</li> <li>• Marine and seabed mining</li> <li>• Maritime safety and surveillance</li> <li>• Marine biotechnology</li> <li>• High technical marine products and services</li> </ul>

Source: Attri, 2016

**Food stability:** Global hunger eradication and the achievement of food and organic process security are the two main objectives of the UN's Sustainable Development Goal 2 (FAO, 2016). Mariculture and sustainable fishing methods have a great opportunity to contribute significantly to the accomplishment of this objective, by sharing cutting-edge concepts, innovations and technology, and forming alliances to draw in capital and increase agricultural and fishery productivity. The nation can help achieve these objectives, but these possibilities and potentials may be made a reality by exchanging ideas, applying best practices for developing legal frameworks and implementing steps to increase food security.

**Sustainable / Renewable energy:** Through insights into renewable energy sources, sustainable resource extraction, and the utilization of the blue economy to fulfill the need for mineral resources and produce reasonable, sustainable and reliable energy. Investing in

technology to support the search for renewable energy sources, including wind, tides, waves, biomass sources, and salinity gradients, is made possible by the Blue Economy. For these energy sources to be harvested sustainably, technology is needed.

**Maritime transportation:** Maritime transportation makes a significant contribution to the global economy through smart cities, shipping and ports. Nigeria's economic development has depended heavily on maritime trade. Roughly 95% of Nigeria's international trade is conducted by automobiles (Igbozurike & Kennedy, 2020). It is anticipated that globalization would boost maritime trade volume worldwide. An efficient design can lead to more cargo, which would draw large ships to Nigerian ports. Similarly, it is crucial for suppliers, ports and shipping companies to work together and communicate in order to enable trade and advance economic development.

## **Nigerian's Blue Economy Challenges and Limitations**

**Overfishing:** Overfishing brought on by advances in technology, poorly controlled access to fish sources and increased demand. Approximately 57% of fish populations are fully exploited, according to FAO estimates, and the remaining 30% are overexploited, depleted or recovering (FAO, 2012). Unreported, uncontrolled, and illegal fishing contributes to the overexploitation of fish stocks, yielding approximately 11–26 million tons of fish captures each year, or US\$10–22 billion in illicit or unreported revenue.

**Governance Regulation and Law:** An estimated ₦7 trillion might be made annually from Nigeria's maritime sector. To achieve the sector's benefits, however, legislation, regulation, institutional restructuring and stakeholder (national and international) engagement are required. Some have suggested that the way policies are executed is crucial to their effectiveness and that merely proposing policies for the establishment of a sustainable blue economy is not the answer to all of Nigeria's economic problems. Nigeria's coastal states and its neighbors in the region should have common frameworks and coordinated strategies to achieve the potential of the blue economy, since many of its activities cut over national boundaries. A disjointed framework and approach to governance would be detrimental to the industry and its stakeholders.

**Maritime security:** Secure and safe maritime environment is essential for global trade, generation of wealth and jobs, and the sustainable use of resources for the blue economy. Uncertainty in the Gulf of Guinea has been one of the biggest obstacles to Nigeria's and West Africa's blue economy. More immediate security upgrades are still needed, despite the fact that Nigeria's

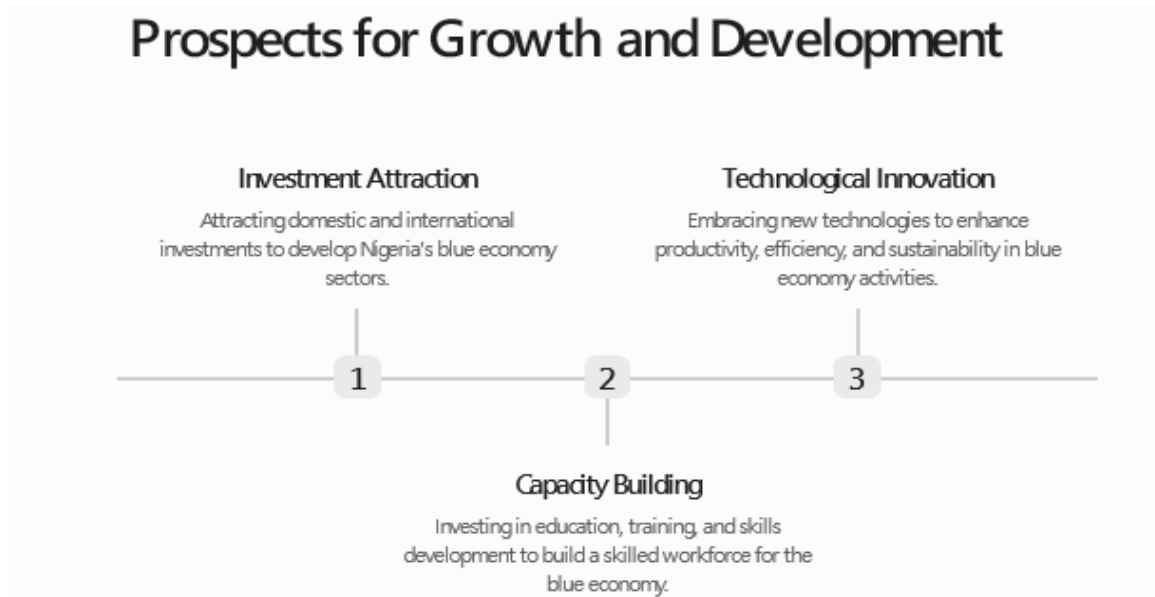
maritime environment has grown safer and more secure throughout time. Reducing maritime crimes has been made possible, according to NIMASA, in large part by the Deep Blue Project (Integrated National Security and Waterways Protection Infrastructure) which was implemented in 2021 (Samuel, 2023)

**Climate Change:** Climate change puts at danger the sustainability of the marine and aquatic resources that are the foundation of the blue economy. Wide areas of Nigeria have already felt the effects of climate change, which include increased frequency of extreme weather events like floods and droughts, rising sea levels and coastline erosion. Although these impacts may differ regionally, they are spreading across Nigeria.

**Environmental Mismanagement:** The application of harmful environmental practices resulting from inadequate governing the environment and the commercial economy inability to recognize the price of deterioration are two contributing factors to environmental mismanagement. These actions have resulted in overfishing through unreported, unregulated illicit fishing methods, habitat destruction, hazardous waste disposal in water bodies, oil spills, and sedimentation of water bodies. Odhiambo & Metcho (2018) used overfishing as an example to note that the percentage of fish stocks that are at non-biologically sustainable levels went from 20% in 1974 to 32% in 2013, and that illegal fishing now accounts for 15% (26 metric tons) of all fish catches annually.

### **The future of the blue economy**

The implementation of the Blue Economy offers chances to address developmental issues, make use of existing resources, and investigate prospective growth pathways.



**Figure 1: Showing Prospects for Growth and Development of Blue Economy in Nigeria**

Source: [www.gamma.com](http://www.gamma.com), retrieved on June 12<sup>th</sup>, 2024

Below are the highlighted recommendations for the future of the blue economy

- ❖ Encourage people to learn more about the Blue Economy concept based on pertinent international regulations and new guidance from UN agencies on risk management and maritime cyber security risks.
- ❖ Develop the essential blue infrastructure, make investments in pertinent technologies, fortify the funding sources, enhance human capacity and make use of talent, and promote analysis and creativity to propel the development of novel industries within the blue economy and sustainable energy and natural resource exploration.
- ❖ The creation and implementation of policies for maritime education and skills coaching facilitated through coaching, skill development, and career gap identification.
- ❖ Use Young People as Coast Guards: One strategy to combat maritime piracy is to use young people as coast guards in rivers and deep-ocean areas.
- ❖ Government Focus beyond Oil: Prioritize the blue economy by moving the focus of the Nigerian country and each of the Niger Delta states beyond oil.
- ❖ To promote youth involvement in the blue economy, harness their talents, knowledge, and energy for long-term, sustainable growth. Inspire and include youth in blue economy activities.
- ❖ Invest in a variety of marine initiatives, such as coral protection and value chain cultivation to diversify investments.

### Conclusion

Opportunities for innovation and growth in the coastal, marine, and maritime industries exist under the Blue Economy, and with significant potential to accelerate GDP growth in Nigeria. It is imperative to broaden the scope of attaining the Sustainable Development Goals (SDGs) and to foster inclusive, sustainable economic growth in the national or regional economy beyond the oil, coastal, marine, and maritime sectors. In order to enhance both forward and backward connections with



the oil industry, this review seeks to increase public understanding of the significance of the blue economy in the Nigeria. The brief offers insights into the policies that are essential for fostering and growing the blue economy in order to achieve inclusive economic growth and sustainable development. This document acts as a basis for future creation that promotes the blue economy in Nigeria.

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