

## ‘Mini Review’ on the Nigeria’s Blue Economic Sector: An Alternative for Economic Diversification

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### ABSTRACT

The concept of blue economy encourages the preservation of the marine ecosystem while promoting the sustainable use of ocean resources for economic growth and development. The relevance of the blue economy and its impact on Nigeria's economy are emphasized in this article. It talked about the potential for the blue economy in the nation, which, if properly developed, could completely change the country by lowering imports and supplying new sources of income. Nigeria has a plethora of opportunities in the blue economy, but the country hasn't been able to fully realize its enormous potential due to a lack of proper attention to the sector from public and private organizations, weak technology, and an inadequate legal and institutional framework. It is concluded that making the best use of Nigeria's blue economy resources could assist solve a number of the nation's socioeconomic issues in addition to creating a path for diversification.

**Keywords:** Blue Economy, Economic Sector, Diversification, Alternative, Nigeria

### 1.0 INTRODUCTION

The World Bank described the "blue economy" as the sustainable use of ocean resources to support employment, economic expansion, and better livelihoods while maintaining the health of the ocean ecosystem (Oyedele, 2023). The United Nations, defined blue economy as range of activities which encompasses a variety of economic pursuits associated with oceans, seas, and coastal regions, regardless of whether these pursuits are socially and sustainably equitable (Odey, 2023). According to United Nations Economic Commission for Africa, blue economy is a green economy in a blue world that employs an innovative approach to profitably utilize the resources of lakes, rivers, seas, and other bodies of water (UNECA, 2016). The concept of the blue economy has gained traction recently in various regions of the world, mostly because it emphasizes the sustainability of using the ocean to improve national and societal well-being (Osuji and Agbakwuru, 2024). The idea behind it is to preserve and improve livelihoods, promote social inclusion and economic processes, and safeguard the environmental qualities of coastal areas and the oceans (Quirici, 2023).

As a different economic model for sustainable development, the blue economy concept has grown and developed, highlighting the importance of oceans to nations (UNECA, 2016). Oceans, seas, and coastlines are essential ecosystems that support billions of people worldwide in terms of their ability to live comfortably, access food, and advance economically (DESA, 2017). As an essential component of biodiversity, ecosystems, food chains, livelihoods, and climate regulation, the blue

economy offers a novel approach to sustainable development for an increasing global population, (Abdullahel, 2017). Blue economy is one of the most important sources of human sustenance and makes up around 70% of the earth's surface, which includes the ocean, seas, rivers, streams, and lakes (Allison, Kurien, Ota, Adhuri, Bavinck, and Cisneros-Montemayor, 2020). The different components of blue economy particularly, ocean contributes to world economy by providing food, clean water, jobs, and clean air, regulating climate, treating waste, supporting biodiversity, and keeping coastal and marine ecosystems healthy (Sandifer and Sutton-Grier, 2014). According to Teh and Sumaila (2011), the ocean food industry generates over 260 million jobs worldwide and supplies protein to more than one-third of the world's population. The ocean component alone is estimated to have an asset value of \$24 trillion and to contribute \$1.5 trillion to the global economy each year. Furthermore, ocean resources are essential to the survival of around three billion people. The African Union estimates that the blue economy contributes \$300 billion to the continent's GDP and employs 49 million people (Hoegh- Guldberg, Beal, Chaudhry, Elhaj, Abdullat, Etesy, and Smits, 2015). Thirty percent of the ten nations on McAlpine's list that are integrating the blue economy into their development plans are in Africa; and Kenya, Tunisia, and the Gambia have already made significant moves to capitalize on the blue economy's promise (McAlpine, 2023). Benson (2023), noted that, there is potential for blue economies in several African nations, including Nigeria, Madagascar, Kenya, South Africa, and Somalia.

Therefore, this article reviewed the potentials of blue economy of Nigeria from relevant literature and highlights how these potentials can be harnessed for economic development and as alternative for economic diversification in the country.

## 2.0 BLUE ECONOMY POTENTIALS AND OPPORTUNITIES IN NIGERIA

Given Nigeria's position as a prominent player in the global production and export of oil and gas, the marine industry plays a significant role in the country's economy. Nigeria's untapped blue economy potential is estimated by the Africa Blue Economy Alliance Projects to be worth \$296 billion; and When appropriately exploited through enabling policy frameworks, both established and emergent blue economy industries can contribute to increased food security, employment generation, tourism, infrastructure development, green energy, smart cities, and ports, among other benefits (Hammed, 2018). The Gulf of Guinea is one of Sub-Saharan Africa's most economically vibrant coastal route and essential for the continent's sustainable growth. Nigeria accounts for around 853km of Africa's total estimated 47,000km coastline. This shoreline and a 200 nautical mile exclusive economic zone make up Nigeria's coastline in the Gulf of Guinea; and oil- and biodiversity-rich Niger Delta makes up 80% of Nigeria's coastline (Osuji & Agbakwuru, 2024). Nigeria boasts some of the world's largest wetlands, with 70,000 square kilometers of marine and coastal ecosystems. Nigeria's ocean area is roughly 290 square kilometers, or one-third of its land area (924 square kilometers) (Agha, 2023). In addition to a variety of diverse flora and fauna, these ecosystems are rich in fish, woods, aquatic plants, coral reefs, and aquatic birds (Okunomo, 2023). With more than half of Nigeria's population under 20, if provided with access to modern technology, capital, and market access, they have the potential to develop a multibillion dollar blue economy that would aid in the eradication of poverty (Elisha, 2019).

Ports are critical to any blue economy as they serve as entry points for trade and business. Nigeria is considered a maritime powerhouse due to its location in the Gulf of Guinea, where it has a wide coastline reaching over 420 nautical miles and an Exclusive Economic Zone (EEZ) spanning 200 nautical miles. Data from NIMASA shows that between 2015 and 2022 maritime sector has generated a total of 1,873,173,000,000.00 into the federal government account (Osuji and Agbakwuru, 2024). The government's dedication to modernizing marine infrastructure was evident in its attempts to create and renovate deep seaports in Lagos, Ondo, Ibom, Bonny, and Benin River Ports. When these projects are finished, they could shorten vessels turnaround time, ease

traffic, and attract a sizable amount of foreign direct investment. The Badagry \$2.59 billion Deep Seaport alone is expected to bring in \$53.6 billion in income over the course of a 45-year concession and produce 500 million jobs (Ekong, 2014). To seize control of maritime industry, Nigeria passed the Coastal and Inland Shipping (Cabotage) Act in 2003 to take control of the marine sector. The purpose of the law was to grant Nigerian ship owners the sole authority to control domestically produced seaborne commerce. This strategic approach would empower ship owners in Nigeria by strengthening employment possibilities and preserving local engagement (Ekong, 2014).

Foreign vessels engaging in illegal, unreported, and unregulated fishing have siphoned revenue and job opportunities from the Nation. Nigeria's fishing industry contributed 2,978.6 (trillion) to the GDP between 2015-2022; and continues to be a key source of foreign exchange and the primary source of sustenance for millions of people, with over 1,477,651 persons exploring the fishing industry (Odioko and Becer 2022). Its enormous coastline and inland water and domestic fish output is estimated at around 800,000 metric tons per annum, but fish shortage is still being experienced. The deficit could be overturned through the application of offshore aquaculture considering the enormous coastline in Nigeria (Akinsorotan, 2019).

The Nigeria coastal zone is composed of tidal channels, beach, ridges, sandbars, lagoons, marshes, freshwater and mangrove swamps. The Lagos coastal line, Niger Delta coastal line and Coastal line of Ondo state are the most potential for coastal tourism that can contribute greatly to Nigerian economy if properly harnessed (Osuji and Agbakwuru, 2022). Also, the inland waters in different parts of Nigeria are capable of boasting the economy when properly harnessed. Nigeria tourism potentials are underutilized, with much tourism potentials yet to be tapped and opened to tourists in contribution to blue economy (Oladele, Digun-Aweto, VanDer Merwe, 2018). Another area with promising return that Nigeria would tap from in the coastal areas is ship repair industry. A thriving ship industry that will initially concentrates on tugboats, smaller ships, and marine crafts can generate employment and conserve valuable capital. Currently, ship owners are forced to look for repair services elsewhere, which cause a significant capital flight. Localized ship repair activities would help create jobs and save money, which would eventually improve the country's overall economic self-sufficiency (Ekong, 2014).

### 3.0 UTILIZATION OF BLUE ECONOMY AND ITS CONTRIBUTION TO NIGERIA'S ECONOMY

Nigeria is home to all sectors of blue economy but the level of exploration and utilization of the blue resources differs, with some sectors receiving more attention than

others. And this, invariably explained the huge difference in their contribution to Nigeria's economy and gross domestic product (OECD, 2023). Figure 1 shows some of the sectors of blue economy available in Nigeria.



**Figure 1: Components of Blue Economy in Nigeria**  
Source: OECD (2023)

#### 3.1 Seafood/Marine Fishing

Nigeria's fishing industry is primary source of sustenance for millions of people, with over 1,477,651 persons exploring the fishing industry (Odioko and Becer 2022). Nigeria's coastline and inland water and domestic fish output is estimated at around 800,000 metric tons per annum (Akinsorotan 2019). Between 2015 and 2022 fishery contributed 2,978.6 trillion to Nigeria's GDP (Odioko and Becer 2022). Marine fishing has the potential to significantly contribute to Nigeria's economy by promoting economic diversification, enhancing food security and creating jobs (Osuji & Agbakwuru, 2024). Offshore tuna fishing, coastal demersal fish fishing, and coastal shrimp fishing are the three categories of marine fishing. Technical limitations have prevented Nigeria from actively participating in the exploration of the offshore tuna resources. The Nigerian Trawler Owners' Association (NITOA) oversees the well-established and structured trawling business within the coastal demersal fisheries. There are forty trawling enterprises in Nigeria, the most of which are owned by Nigerians. Some of the enterprises have fleet sizes of fewer than four, whereas larger trawling companies with fleet sizes of four or more are jointly controlled by foreign investors. Nigeria's

shrimp industry is run on the continental shelf up to five nautical miles out using vessels registered in compliance with fisheries laws and regulations (FAO, 2007).

#### 3.2 Maritime transport and Shipping

Shipping and inland water transports in Nigeria has created huge employment for the local Nigerian populace especially the riverine communities and generate revenue for government (Osadume and Uzoma 2020). Over 150,000 people are employed in the maritime transport industry as crew members, seamen, etc., and this industry accounts for more than 80% of the nation's foreign trade. Between 2016 and 2020, the industry contributed only 1.6% on average to the GDP of the nation (Paul, 2022). The low GDP contribution was attributed to capital flight repatriated overseas by the owners and investors of the foreign fleets as they are the ones controlling and benefitting from the largesse in the maritime transport industry of Nigeria (Lloyd, Onyeabor, and Nwafor, 2020). Between 2015 and 2021, Nigerian ports received a total of 27, 301 vessels, generated a total of N1,873,173,000,000.00; and remitted N277,227,000,000.00 into the Federation account (Osuji & Agbakwuru, 2024).

**Table 1: Nigeria Ports Authority (NPA) operation, revenue generation and remittance**

S/N	Year	Total Revenue Generated	Amount Remitted to the (CFR)	Vessels Traffic	Gross Registered Tonnage (GRT)	Cargo Throughout	Container Traffic
1	2015	180,050,000,000	18,043,000,000	4,254	104,446,052	77,387,638	1,567,898
2	2016	162,020,000,000	23,087,000,000	3,897	101,685,820	70,365,036	810,000
3	2017	299,056,000,000	30,031,000,000	3,878	95,190,097	71,535,636	1,289,576
4	2018	282,042,000,000	33,000,000,000	3,859	126,683,956	74,677,507	1,000,976
5	2019	300,000,000,000	31,000,000,000	3,259	108,923,118	81,264,169	1,032,253

<b>6</b>	2020	317,000,000,000	80,000,000,000	4,054	127,923,118	80,826,672	1,073,807
<b>7</b>	2021	333,005,000,000	62,066,000,000	4,100	127,562,514	79,915,877	2,029,823
<b>Total</b>		<b>1,873,173,000,000</b>	<b>277,227,000,000</b>	<b>27,301</b>	<b>792,414,675</b>	<b>535,972,535</b>	<b>8,804,333</b>

Source: Adopted from Osuji &amp; Agbakwuru, 2024

### 3.3 Shipbuilding and Repair

Shipbuilding and repair contribute about 5.6 per cent to Nigeria's GDP. Few numbers of shipyards, low capacity and poor state of facilities are responsible for the poor performance of the shipbuilding and repair industry within the economy. There are no shipbuilding companies in Nigeria, but shipyards which provide repairs and maintenance services. However, small number of shipyards specialized in building small boats for local inland water transportation such as Modant Marine Limited and Almarine in Port Harcourt, Rivers state. The shipyards are located in southern Nigeria where 50% are in Rivers state, 30% in Lagos and 20% in Delta state; and most of them were established in the early 1970s (Abiodun, 1996). In Nigeria, there are roughly ten ship repair yards and dockyards, but only six of them are now in use. Among these are Nigerian Naval Dockyard Victoria Island Lagos, Nigerian Naval Shipyard Port Harcourt, Niger dock Nigeria Plc. Snake Island Lagos, West Atlantic Shipyard Nigeria Onne Oil and Gas free Zone, Starz Marine and Engineering Limited, Continental Shipyard Limited Apapa Lagos, Technitrade Warri, Niger Benue Transport Company Limited Warri, Shipside Dry-dock (Nestoil) Port Harcourt, and West African Dockyard Onne, Rivers State. The graven dock of Niger Dock Plc, situated in Lagos State, has a maximum capacity of 25,000 tons, which is the maximum available capacity for ship repairs in Nigeria. The Nigerian Naval graven dock which is situated in Lagos State and has the second largest capacity of 10,000 ton; however, the capacity of other shipyards in the nation is less than 8,000 (Anthony and Patrick, 2022).

### 3.4 Coastal Tourism

In 2011, the tourist sector made up approximately N1, 232.2 billion, or 3.3%, of Nigeria's GDP. In its report, WTTC estimates that tourism industry will generate 897,500 jobs accounting for 1.4 percent of Nigeria's total workforce in 2012 and in the next 10 years, the amount is expected to grow by 6.5 percent per annum to N483.4 billion in 2022. Considering its contributions to the national economy thus far and its projected growth in the upcoming years, it is evident that coastal tourism is being neglected in Nigeria (Tunde, 2012). Government has not fully explored the potential of this industry, let alone benefit financially from it, hence dearth of information regarding the precise contribution of the coastal and marine subsector to Nigeria's economy. In contrast to

other nations that have developed their coastal and marine tourism industries, Nigeria only offers few services/activities at a select few private resorts situated in the coastal states of Lagos, Edo, Delta, Cross River, Bayelsa, etc. Marine cruises, sailing, scuba diving, surfing, and kayaking are a few examples of these kinds of activities available in the Nigeria's coastal tourist site (Oladele, Digun-Aweto & Van der Merwe, 2018). The rise in youth enthusiasm and involvement in various marine and coastal tourism activities has resulted in a rise in tourism activities along Nigeria's coastlines in recent times (Obinwanne & Okpoko, 2015).

### 3.5 Marine Energy and Biotechnology Research

The blue economy offers immense potentials for energy from oil and gas, wind, tides, waves, biomass sources and salinity gradient; all that is needed is technology to harness sustainably, thus this offers a chance for investment in technology which will support the exploration of these sources of energy (Odey, 2023). Nigeria's National Petroleum Corporation Limited (NNPCL) predicted that by 2022, 'two-thirds of the nation's oil production will stem from offshore production. Deep sea crude oil and natural gas production, as a major source of foreign exchange in the country, contributes 6.21% to GDP in Q1 of 2023 (Bala-Gbogbo, 2018). At the end of 2022, global marine renewable energy capacity was put at 524 megawatts. Nigeria's wave, tidal and ocean thermal energy are yet to be exploited to generate renewable energy. The Ocean renewable energy is yet to contribute to Nigeria's GDP because no investments have been made to tap into that. If Nigeria can develop her marine energy, electricity production in the country will be boosted (Agbakwuru and Arome, 2023).

Blue biotechnology and research focus on ocean exploration to create chemicals, pharmaceuticals, enzymes, and other industrial processes and products. It is essential to the development of biofueling, bioremediation, biomaterials, and medical diagnostics (Youssef, 2023). The abundant biodiversity of Nigeria's marine environment may serve as source for a wide range of novel products. If tapped and developed/commercialized, they can be effective means of generating income, which will advance national growth and improve living conditions of the people (Ebeh, 2017). For example, extracts from invertebrates like sponges, mollusks, bryozoans, tunicates, etc. are

utilized to make food supplements, antimicrobial medications, novel treatments, and diagnostic instruments for human health. Additionally, microbial enzymes and compounds like biosurfactant and biopolymer can be produced using marine organisms (Torger, Catherine, Alan, and Marcel, 2010). In spite of the benefits Nigeria could derive from marine biotechnology, molecular scientists and industry are yet to develop the subsector, hence its low contribution to the country's economy and high dependence on import. The low utilization of marine biotechnology in Nigeria has been attributed to various problems, including inadequate manpower in the field, inadequate infrastructure, outdated equipment, and government financing for research (Ebeh, 2017).

#### 4.0 CHALLENGES OF HARNESSING BLUE ECONOMY IN NIGERIA

Harnessing the potentials of Nigeria's blue economy is not without its challenges. Lack of adequate capacities, ineffective governance institutions, insufficient economic incentives, and insufficient adherence to the provisions of the United Nations Convention on the Law of the Sea and local legal frameworks are some of the broad institutional challenges of the blue economy in the country (Chircop, Dzidzornu, and Oguamanam, 2016). These institutional limitations are further accentuated by specific pressures from human activities on the oceans and marine ecosystems (Iliya, Basiru, and Murat, 2017). While there are several anthropogenic threats, pollution, acidification, overfishing, and port expansion projects have the most negative effects on the achievement of the blue economy's objectives. To maintain the delicate balance, it is imperative to design and implement sustainable management techniques. Additionally, obstacles such as climate change, environmental mismanagement, and marine security demand focused attention (Olusegu, Ogola & Bello, 2023).

#### 5.0 CONCLUSION

There are a lot of opportunities in blue economy for Nigeria to tap from. However, some sectors have not gotten the necessary attention. Harnessing blue economy and maximum utilization of its enormous resources, would not only pave the way for Nigeria's economy to diversify, but it would also aid in solving a number of the nation's socioeconomic problems. The implementation of sustainable and environmentally friendly blue economy exploration, along with the creation and dedication to a complete legal and institutional framework, are prerequisites for the realization of vibrant blue economy.

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