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Diagnostic Study Of The Impact Of Blue Economy On The Sustainability Of Revenue Growth In Nigeria

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Abstract

This paper examined the impact of blue economy on the sustainability of Nigeria's economic growth with a view to determining the relationship between the development of the blue economy sectors and revenue viability in Nigeria. Through the use of structured questionnaires complemented by data obtained from secondary sources, 120 officials of the Federal Ministry of Marine and Blue Economy, Nigeria Maritime Administration and Safety Agency, Nigeria Port Authority and Nigeria Inland Waterway Agency were selected for the study while the logit regression model was employed in the data analysis. The results of the logit regression shows that asides the oil and gas sector which the country had relied upon as major sources of her foreign exchange earnings, the development of marine fisheries/aquaculture, maritime shipping and coastal tourism sectors of Nigeria's blue economy could significantly boost the revenue generating potentials of the country, as their resultant coefficients were significant at 1% and 5% levels respectively, while the coefficients of other sectors of the blue economy (seabed mining, ocean renewable energy, marine biotechnology, ship building, offshore wind energy development, high tech marine services) and income realization were not statistically significant at all levels of significance; meaning that these sectors at present have no significant impact on revenue generation in Nigeria. This is because the sectors have not been given attention and fully harnessed by the government of Nigeria. The study concludes that investing in these sectors could help the country diversify and generates far larger revenues than currently exists and reduce the absolute reliance on oil and gas for its socio-economic development.

Keywords: Diagnostic, Blue Economy, Impact, Sustainability, Revenue Growth, Nigeria.

1.1 Introduction

The Blue Economy has a greater potential to contribute to higher and faster Gross Domestic Product (GDP) growth in the Nigerian economy. But reality shows that attention to harnessing the potentials in the blue economy in Nigeria has not been sufficiently exploited considering the practical implications of paradigm shift from land base resource utilization to ocean based. This situation denies Nigeria's economy potential revenues, at a time when many countries in the world are looking for alternative revenue streams for funding their economic growth agenda. The Blue Economy offers a suite of opportunities for the country for her sustainable,

economic growth. Nigeria as a nation enjoys vast maritime resources which include ocean, lakes and rivers which have potential in fisheries/aquaculture, tourism, maritime transport, and off-shore mining amongst others. Nigerian Government acknowledges the potentials of marine ecosystems as its natural capital; this informs the basis for the establishment of the Ministry of Maritime and Blue Economy following the inauguration of President Ahmed Bola Tinubu in May, 2023. Nigeria has a coastline of about 420 nautical miles with an exclusive economic zone (EEZ) of 200 nautical miles which translates to a maritime area of 84,000 square nautical miles. Nigeria is situated in the Gulf of Guinea with a maritime space of 290Kms; which is about one third of the nation's land area of 924Kms. This implies that Nigeria's maritime space is the sum of the land areas of six of its states [Abuja, the Federal Capital Territory (7,315 sq km); Niger (76,363 sq km); Borno (70,898 sq km); Taraba (54,473 sq km); Kaduna (46,053 sq km) and Lagos (3,343 sq km)].

In spite of these locational advantages, available data indicates that Nigeria has not fully harnessed its blue economic potential with attendant effects on its national economic development. Evidence abound that the oil and gas sector has been and is still the major source of revenue for Nigeria's economic development in spite of the enormous potential offered by other sectors of the blue economy which can be developed to enhance the economic development of the country (Ahmed and Thompson, 2019; Alongi and Carbon, 2018; Amusan and Akinyemi, 2019; Esin, 2024; Esin and Nse, 2024;; Phelan, 2020 and Voyer, Farmery, Kajlich, Vachette, and Quirk, 2020).

One of the primary objectives of the Economic Recovery and Growth Plan (ERGP) launched by the federal government three years ago was aimed at diversifying the economy. With the disturbing escalation in the price of oil in the global market, it is imperative for the government of Nigeria to diversify her resources to the non-oil sector in the face of declining government revenue. The 2024 national budget titled "Budget of Renewed Hope" shows a proposed expenditure of NGN27.5 trillion and estimated revenue of NGN18.32 trillion for the 2024 fiscal year and assumed an average oil price at $76.53 per barrel with production range between 1.7 million and 2 million barrels per day. This projection though very sparkling looked unrealistic in view of diminishing oil prices in the world market. With the distraction fashioned upon global markets by COVID-19 and multiple limiting factors, oil price gone down below $20 at one point with far reaching consequences for the Nigerian economy. With the declining demand for Nigerian oil which accounts for 90% of export revenue, Zainab Ahmed, Minister for Finance, Budget and National Planning, has declared modifications to the budget. She has further asked everyone to brace up for the inevitable economic recession that would follow.

In the light of the foregoing challenges facing the nation together with the scourging poverty levels, it is imperative for a major revenue alternative to oil to be sought for, which in this case is the blue economy. Blue economy is an evolving maritime ecological concept aimed at the sustainable exploitation of ocean resources for economic growth, citizenry well-being and national development. Nigeria stands to gain immensely if she adopts and implement a credible strategy for harnessing the resources of the blue economy considering that the country is strategically located within the resource-rich Gulf of Guinea." At the last International Maritime Week which held at Oriental Hotel in Lagos (September, 2018), it was agreed that Nigeria has what it takes to operationalize the blue economy and make it work for enhanced revenue generation and economic growth. It is evident that the absence of a strategic maritime economic blue print, flawed institutional framework, maritime insecurity, lack of data as well as withheld Cabotage Vessel Financing Fund (CVFF) are the bane of the maritime economy.

Jon Axworthy, a writer for Raconteur magazine, itemized five African countries with blue economy potential as follows: Madagascar, Somalia, Kenya, South Africa and Nigeria. Maritime transportation, deep sea ports, fishing, aquaculture and ship yards appeared to be common features in all the countries. It is crystal clear that marine activities will boost Nigeria's revenue, a position canvassed by Olisa Agbakoba, senior advocate of Nigeria (SAN) who estimated that Nigeria's maritime economy has the capacity to create over 40 million jobs and generate N7 trillion revenue annually (Agbakoba, O., "Strategic Action Plan for Nigeria's Maritime Sector", Law Blog, 26 May 2015). It is therefore very germane that Nigeria should be deeply concerned about dwindling land-based resources and rising global population. It is projected that the global population would be in the region of 9 – 10 billion people by 2050, and Nigeria is expected to have a population of about N400 million people. In this direction, there is need for the country to seek for an alternative source of revenue for meeting the increasing economic challenges posed by high population growth rate with particular focus on the wealth of the deep sea to be sought as the oceans have immerse capacities to provide the shock absorbers that the global population needs to survive; because of its resource endowment, the oceans can provide a means of livelihood for over three billion people of the world. Specifically, the study aims at:

i) Identifying the sectors of the blue economy that could boost revenue to the government of Nigeria.
ii) Assessing the revenue generating potentials of the blue economy sectors of Nigeria.
iii) Determine the challenges of generating revenue from the blue economy sectors of Nigeria.

2.0 Materials and Methods

2.1 Location of Study Area

Nigeria is located on latitude 9.0820° N and longitude 8.6753° E, in West Africa along the Atlantic Ocean's Gulf of Guinea. It is located at the extreme of the Gulf of Guinea on the west coast of Africa. Nigeria occupies an area of 923,768 sq. km (356,669 Km^2), extending 1,127 km (700 mi) E-W and 1,046 km (650 mi) N-S (Folami, 2017). It is borders by Benin to the west, Cameroon and Chad to the east, and Niger to the north. Nigeria is the most populous country in Africa and the 6th in the world; with a population of about 216 million people (United Nations Department of Economic and Social Affairs in Olatunji and Adejoro, 2022). According to Folami (2017), Nigeria has a maritime area of 46,500 km^2 and an exclusive economic zone of 210,900 km^2. Nigeria is strategically located to benefit maximally from blue economy trade along the coast of West Africa and within the Gulf of Guinea region (Lloyd, Onyeabor, Nwafor, Alozie, Nwafor, Mahakweabba and Adibe, 2020; Ateme, 2020). The coastal states in Nigeria are Akwa-Ibom, Bayelsa, Cross-Rivers, Delta, Edo, Lagos, Ogun, Ondo and Rivers. The Niger Delta comprises nine states of Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and River States (Ringim, Muhammad and Lyakurwa, 2016) (Fig. 1).

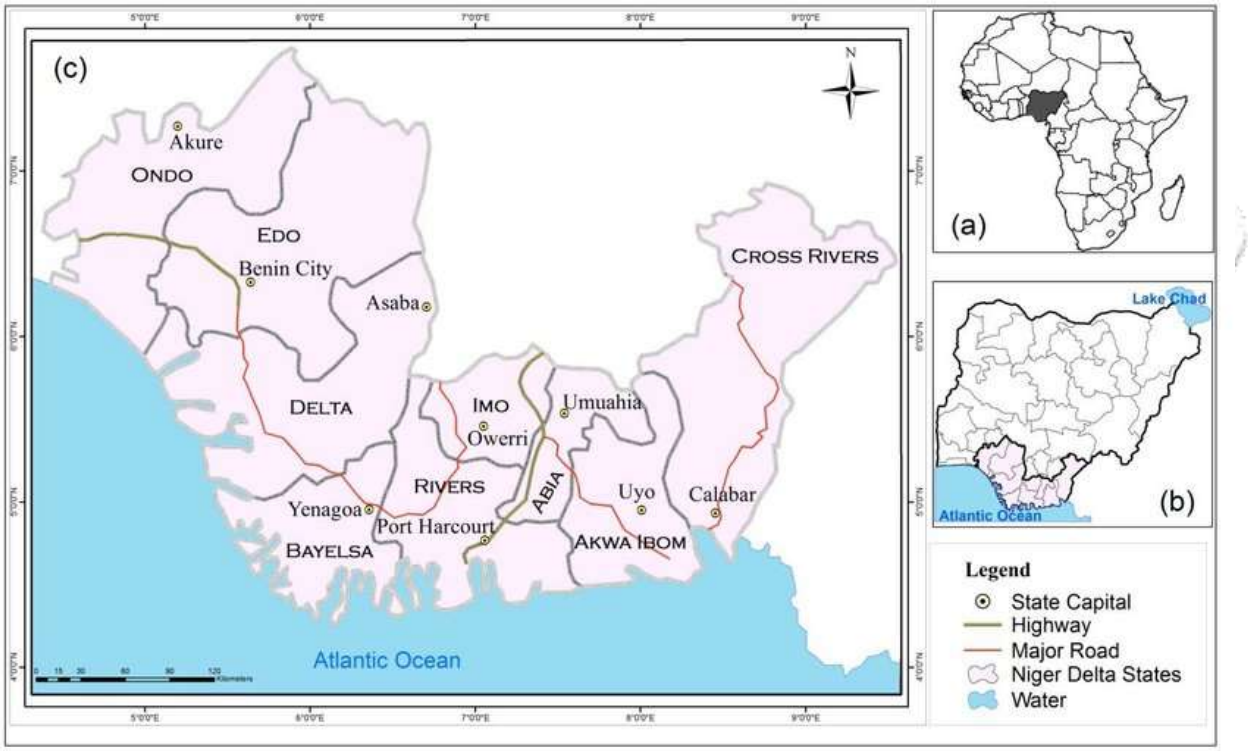

Fig. 1: (a) Nigeria in Relation to Africa, (b) Nigeria showing coastal areas of the Niger Delta, (c) Niger Delta States

The geographically advantageous location assures a myriad of economic benefits to the states and the country in particular, with the Niger Delta states being blessed with an abundance of natural resources. The Nigerian Blue economy sectors can be described as an all-encompassing embracing all maritime-related business activities that take place within the country's maritime environment. It ranges from offshore economic activities such as the harvesting of living resources (marine fisheries/aquaculture and marine biotechnology for pharmaceutical and chemicals), extraction of non-living resources such as minerals (seabed mining), energy such as (oil and gas exploration and renewables) and commerce and transport such as maritime transport (shipping) and tourism/recreation to on-shore economic activities such as port activities, ship construction, repairs, and maintenance activities as well as the enterprises involved in carrying out these activities.

2.2 Methods of Data Collection

2.2.1 Research Design

The study adopts a combination of ex-post factor and survey research designs. This method of utilizing multiple research techniques is referred to as triangulation. Four methods of research techniques including literature review, structured questionnaires, unstructured interviews and observation were utilized to collect data.

2.2.2 Population of the Study:

The targeted population consists of 120 respondents' drawn from speed boat drivers, fishermen operating along Nigeria coastal waterways, trade union members resident and operating within Nigeria waterways, staff of the Nigeria Port Authority (NPA), Nigeria Maritime Administration and Safety Agency (NIMASA), Nigeria Inland Waterways Agency (NIWA), and the Ministry of Marine and Blue Economy.

2.2.3 Sample/Sampling Technique

The study adopts purposively sampling technique in the selection of the sampled respondents'. The sample size of 120 respondents' drawn from speed boat drivers, traders and fishermen operating along Nigeria coastal waterways, trade union members resident and operating within Nigeria waterways, staff of the Nigeria Port Authority and the Ministry of Marine and Blue Economy. The 120 respondents were selected using multi-stage random sampling technique. The first stage of the sampling involves the identification of the respondents, while the second stage involved the purposive selection of the 120 respondents from the sample population.

Table 1: List of Sampled Respondents

Sampled Respondents'	Total
NIMASA Staff	20
Nigeria Port Authority Staff	20
Traders	20
Fishermen	20
Nigeria Inland Waterways Staff	20
Federal Ministry of Marine & Blue Economy staff	20
Total	**120**

2.2.5 Sources of Data

The researcher relied heavily on two types of data viz-a-viz: primary and secondary data. The primary data are made up of information generated specifically from the field. These data were gathered from the sampled respondents through the use of oral interview, and structured questionnaire as well as direct field observation. The researcher visited the Nigeria Port Authority (NPA), Nigeria Maritime Administration and Safety Agency (NIMASA), Nigeria Inland Waterways (NIWA), Federal Ministry of Marine and Blue Economy, traders along the coastal waterways, fishermen operating along the waterways, Trade Union members resident and operating within Nigeria waterways during field studies for the purpose of data collection.

Structured questionnaire was used for the collection of the data administered to 120 randomly sampled respondents. The questionnaire contains series of structured questions reflecting the different and emerging sectors of blue economy in Nigeria, the potentials of the blue economy in revenue generation and the challenges of the exploitation of blue economy resources in Nigeria.

The sampled respondents were interviewed face-to-face on relevant questions pertaining to the research objectives in order to elicit useful information to complement information obtained from the questionnaire administration.

In this exercise, 5 participants were randomly selected from each of the Nigeria Port Authority (NPA), Nigeria Maritime Administration and Safety Agency (NIMASA), Nigeria Inland Waterways (NIWA), while 10 participants was drawn from the Federal Ministry of Marine and Blue Economy thereby bringing the total number of participants interviewed to 20. 10 participants were drawn from the Federal Ministry of Marine and Blue Economy because the Ministry is the main organ of government charged with the coordination and management of Blue Economy activities in the country. Their responses were used to complement those generated through the structured questionnaires. Interview as a data collection instrument for the study was preferred due to its ability to provide opportunity for clarification as well as encouraging respondents to provide deeper responses to the unstructured questions. This was in consideration that the participants have vast

knowledge of blue economy. Further, the interviews provided immediate feedback during discussions which was both convenient for the busy respondents as well as the researcher.

The secondary data were obtained from published and unpublished materials such as periodicals, journals, government bulletin, quarterly reports of relevant organizations and internet resources. The secondary data were relied upon for the literature review while much reliance was on the primary sources for the generation of information pertaining to the study objectives.

2.3 Methods of Data Analysis

Both descriptive and inferential statistical techniques were employed in the data analysis. The descriptive statistics such as frequency table, mean, and simple percentages were used to analyze the socio-economic characteristics of the respondents while regression analysis was run to determine the effect of the exploitation of blue economy resources on revenue generation. The regression model was implicitly specified as:

$AR= \beta +\alpha\sum x + e$

Where,

AR= Revenue; X_1= Seafood (Fisheries/aquaculture); X_2= Oil & gas; X_3= Shipping/passenger transportation; X_4 = Tourism/recreation; X5= Seabed mining; X_6= Ocean renewable energy; X_7= Marine biotechnology; X_8 = Ship building; X_{10} = Offshore wind energy; X_{11}= High tech marine services; X_{12} = Income realization and; Ue = Error term.

3.0 Results and Discussions

3.1 Blue Economy Sectors and Revenue Generation in Nigeria

The contributions of the Blue economy to the Gross Domestic Product (GDP) with subsequent revenue generation in Nigeria and consequently economic development have been well acknowledged in literatures (Lloyd et al, 2020; Ikpechukwu, Olowolagba and Yomi, 2020; Oyeduntan, 2022). The sector of blue economy with revenue generating potentials in Nigeria is presented in Table 2.

Table 1: Blue Economy Sectors with Revenue Generating Potentials in Nigeria

S/N	Type of Activity	Response	%
A	**Harvesting of Living Resources**		
	i) Seafood (Marine Fisheries/Aquaculture)	87	72.5
	ii) Marine biotechnology (Pharmaceuticals/Chemicals)	33	27.5
	Total	**120**	**100**
B	**Extraction of Non-living Resources**		
	i) Minerals (Seabed Mining)	17	14.2
	Energy		
	i) Oil and Gas	93	77.5
	ii) Renewables	10	8.3
	Total	**120**	**100**
C	**Commerce and Transport**		
	i) Transportation (Shipping)	98	81.7
	ii) Tourism & Recreation	22	18.3
	Total	**120**	**100**

Source: Fieldwork (2024)

With respect to the harvesting of living resources, Table 1 shows that majority (72.5%) of the sampled respondents are of the opinion that marine fisheries/aquaculture exploitation is the blue economy sector with optimal revenue potentials. The position by the sampled respondents' is a reflection of reality because marine biotechnology has not been fully exploited in Nigeria, probably due to the lack of requisite technology required for the exploration. On the other hand, with respect to the extraction of living resources, majority (77.7%) of the sampled respondents agreed that oil and gas exploration has the greatest returns to revenue generation. With respect to commerce and transportation, a greater percentage (81.7%) of the sampled respondents agreed that maritime transportation (shipping) sector of the blue economy yields more revenue than the tourism and recreation sector of the Nigeria blue economy. Data in Table 2 corroborates the respondents' assertion.

Table 2: Maritime Revenue and GDP in N Billion Converted to Have $ and $Billion Respectively

Year	**GDP US Billion $**	
2010	0.168417	369.06
2011	0.1917	414.10
2012	0.226683	460.95
2013	0.262183	514.97
2014	0.288	568.5
2015	0.295333	492.44
2016	0.304033	404.65
2017	0.442667	375.74
2018	0.450933	421.74
2019	0.4628	448.12
2020	0.528333	429.42
2021	0.548333	441.42
2022	0.601667	477.38

Source: Statista (2022); NPA (2022); NBS (2021)

Table 2 shows the revenue in the maritime sector in comparison with the GDP of Nigeria. It is observed that there is a sharp rise in the GDP of the country between 2012 and 2016, the GDP however declined in 2019 possibly because of economic recession and COVID 19 witnessed between 2016 and 2019 with a considerable increase in 2020 but maintain a slowly steady growth till 2022. The maritime industry of Nigerian blue economy sector has over the years under review witnessed progressive but slow rate of increase in revenue and these revenues are derived majorly from maritime shipping and oil and gas exploration sectors of the blue economy while other sectors of the blue economy (the non-oil sectors) have not been fully harnessed. Available evidence led credence to the fact that the maritime shipping has contributed significantly to the revenue base of the country. Data from the National Bureau of Statistic (NBS) in Table 3 and 4 shows that total transport revenue from maritime activities in the last 3 years has been roughly equivalent to the average size of the Nigerian annual budget. Import and Export values of maritime shipping transactions have been around N8trn in 2018 and 2019, but increased from N6trn in Q4 2017 to 7trn in Q1 2018. In Q1 and Q2 2019, the value of shipping transportation for both import and export was N8.5trn, while export alone was N4.5trn.

Table 3: Maritime Transportation Import/Export 2017-2019

Year	Exports	Imports
Q4 2017	3896925.37	2000000.05
Q1 2018	4672358.80	2532000.18
Q2 2018	4426677.43	1973210.00
Q3 2018	4824078.80	4268152,02
Q4 2018	4989624.09	3512747.00
Q1 2019	4494656.18	368625.12
Q2 2019	4551837.49	387241.43

Source: National Bureau of Statistic (NBS)

Table 4: Total Quarterly Maritime Transportation Value 2017-2019 (N'bn)

Year	Imports	Exports	Total
Q4 2017	2112311.51	3896925.37	6009236.88
Q1 2018	2518261.14	4672358.86	7190620.00
Q2 2018	2106689.90	4426677.43	6533367.33
Q3 2018	4172348.71	4824078.80	8996427.51
Q4 2018	3582296.20	4989624.09	8571920.33
Q1 2019	3703711.70	4494656.18	8198367.60
Q2 2019	4007394.20	4551837.49	8559231.69

Source: National Bureau of Statistic (NBS)

The decline in the revenue generated from the maritime shipping sector of the blue economy can be ascribed to the relative high cost of Nigerian ports which is evident in reduced port activities with considerably reduction in potential employment and decreased tax revenues thereby adversely impacting on the revenue base of the country. The high explicit and implicit cost of using Nigerian ports in recent time has stunted the growth of maritime activities and held down the expansion of Nigerian coastal economies. The dwindling port patronage is apparent from the reduction in ships that have berthed in Nigeria between 2012 and 2017. Service boat numbers have dropped from 21,726 vessels in 2012 to12,243 in 2017, a reduction of 271%. Ocean going ships declined from 6,369 in 2013to 4,175 in 2017, a drop of 52.6% (Tables 5 and 6) and figures 1 and 2.

Table 5: Number of Ocean-GoingVessels Berthed in Nigeria 2012-2017

Year	Numbers of Ocean-Going Vessels
2012	4837
2013	6369
2014	5333
2015	5014
2016	4622
2017	4175

Source: National Bureau of Statistic (NBS)

Table 6: Number of Service Boats Moored in Nigeria 2012-2017

Year	Numbers of Service Boats Moored
2012	21726
2013	19334
2014	14245
2015	8814
2016	9418
2017	12243

Source: National Bureau of Statistic (NBS)

Figure 2 shows a 15-years trend on Nigeria's vessel traffic as reported by NPA (2022). The chart showed that the there was a steady decline in the volume of vessels calling Nigerian ports beginning from 2013 to 2018. In 2019, an increase was recorded perhaps due to the launch of the Deep Blue project. The covid-19 pandemic may have accounted for the decline recorded in 2020, after which a sharp increase was again registered in 2021 when the traffic grew from 3972 in 2020 to 4640.

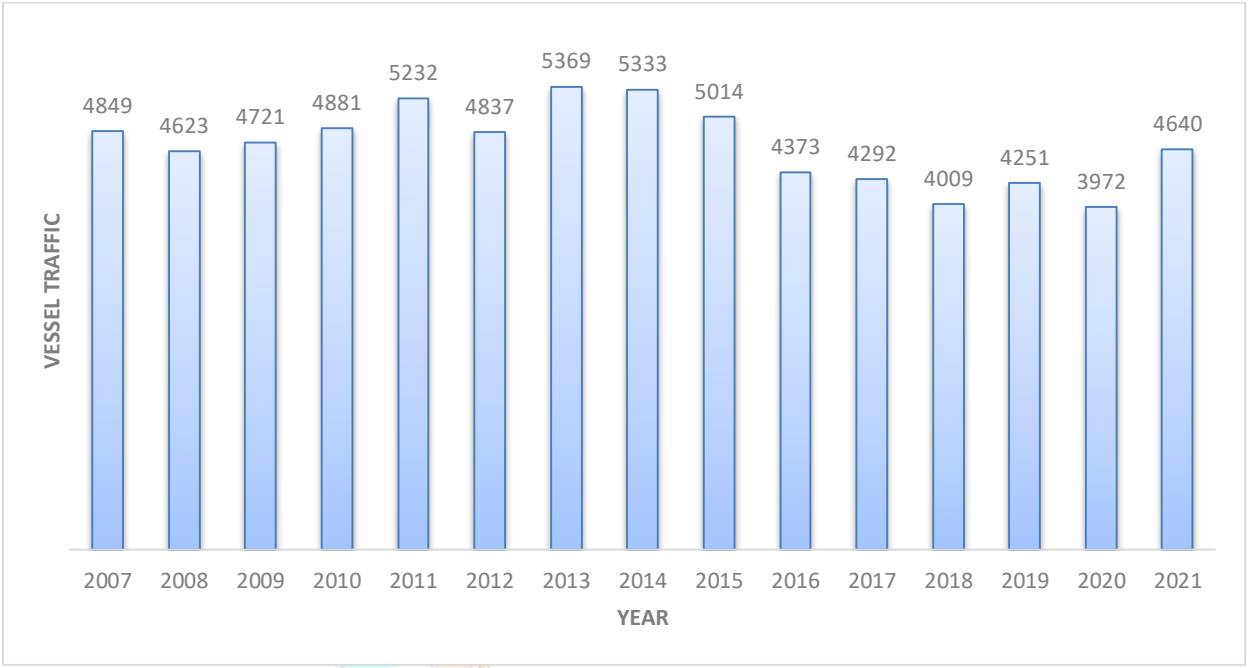

Fig. 1: Vessel Traffic in Nigeria 2007-2021

Figure 2 indicates a 10-years full year GDP growth of Nigeria, according to World Bank (2022).

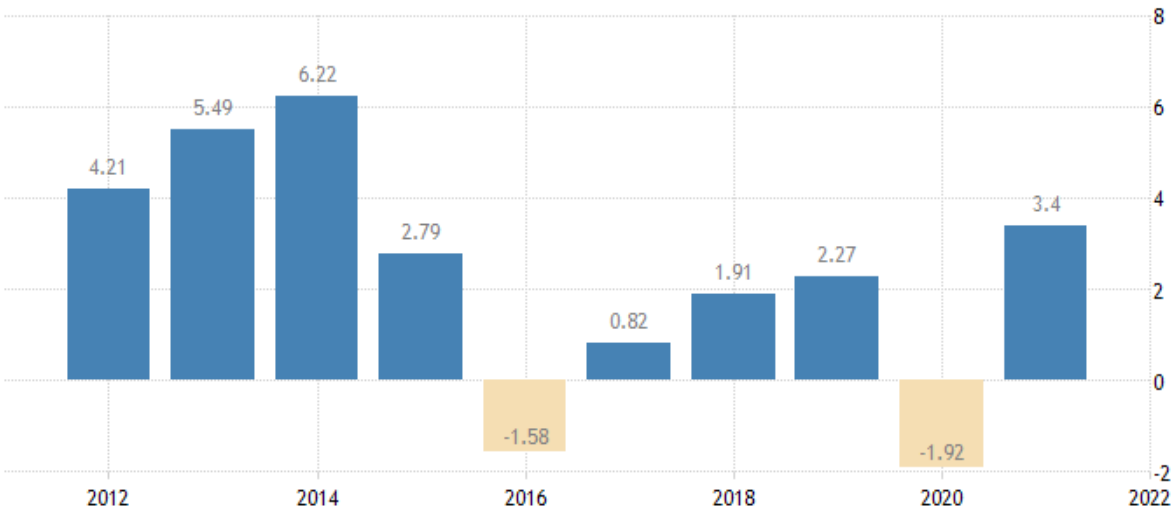

Fig.2: 10-years full year GDP growth of Nigeria

When data on tables 5 and 6 are compared with Figures 1 and 2, a similar trend in the declined vessel traffic and resultant effects on revenue and GDP in Nigeria could be deduced. It is revealed in the figures that GDP grew with increase in port vessel traffic and vice versa. The years 2016, 2017, 2018 and 2020 in Fig. 1 were marked with relatively low vessel traffic, which coincided with same periods in Fig. 2 where poor GDP growths recorded. This is a clear indicator to the fact that maritime trade affects economic growth with corresponding effects on the revenue base of the nation.

It has been revealed that the revenues received by Littoral states (that provide buffer to 8,000kilometers of navigable inland and coastal channels) come mainly from onshore oil wells as offshore wells are considered to belong exclusively to the federal government. The contributions of these states (minus Lagos State) to national revenue further declined in 2015 to 17.92% before increasing to 18.75% in 2016 and 56.08% in 2017 (Fig.3).

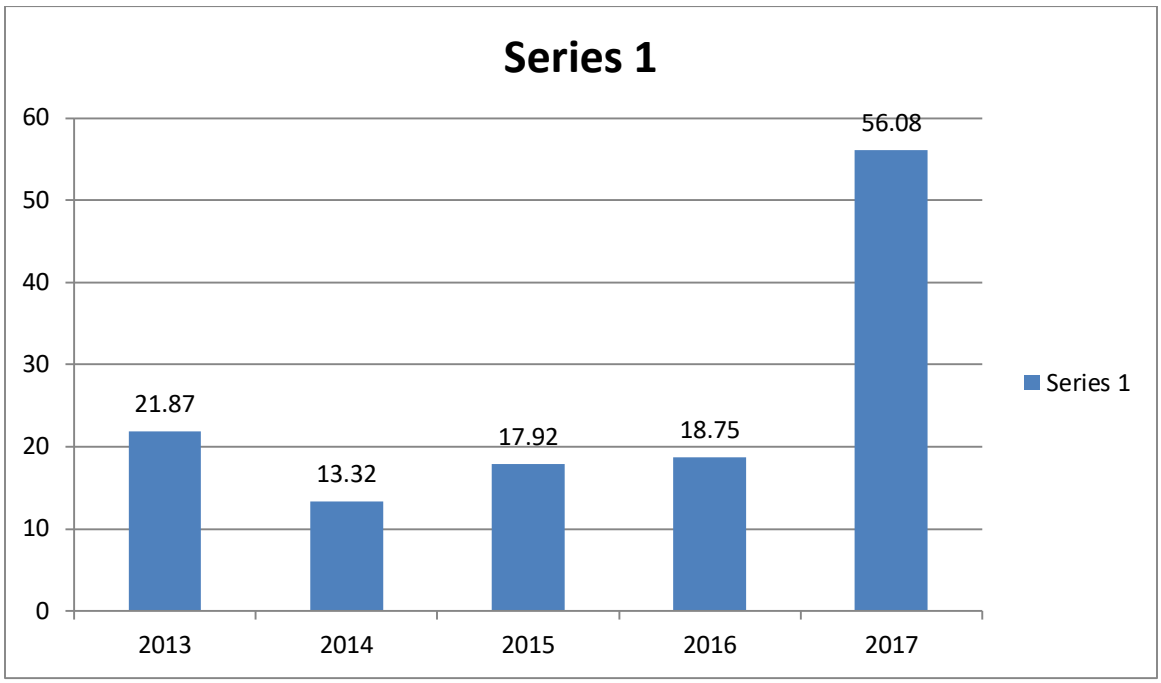

Figure 3: Littoral States GDP/National GDP (%)

Littoral states have been remarkable in terms of their industrial contribution to GDP from 56.92% in 2013 to 61.34% in 2014, but dropped to 43.02% in 2015 when the country begins to experience her first economic recession in 20 years. By 2016 the industrial output contribution of littoral states dropped to 39.41% and sharply rose to 76.5% in 2017 at the summit of the recovery. The service sector also improved as a proportion of GDP since the 2015recession rising from 7.02% in 2015 to 9.94% in 2016 and 47.63% in 2017. In the last 5 years littoral states have seen the proportion of maritime activities such as fishing, water transportation and waste management rise as a proportion of their state GDP (Fig. 4).

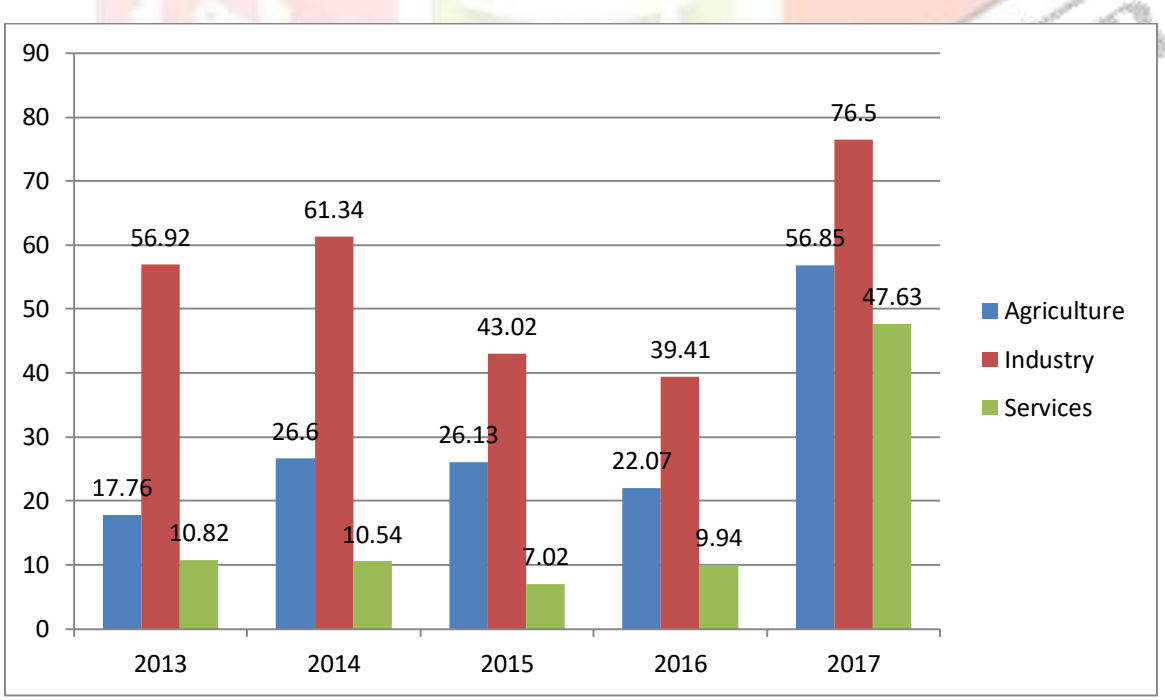

Figure 4: Share of Nigerian Littoral States of GDP by Sector (%)
Source: (National Bureau of Statistics (NBS), *the figures for littoral states do not include Lagos State as Lagos State data is currently unavailable from the statistics bureau).

Nigeria has a feeble maritime architecture resulting to the under-performance of the sector far below its revenue-generating potential aside oil export and import which the country is heavily dependent on. Even the oil and gas could not be relied upon due to frequent fluctuations' in oil price. A 2017/2018 study by the Nigerian Ports Authority revealed that Nigeria loses $7bn annually in revenue due to poor ports infrastructure. To offset this, Nigeria generated $840m in revenue in 2017. It also created 10,000 direct new jobs. The ports also recorded increasing volume of 1.3m shipment of non-oil products. These developments led to a 2.1% increase in GDP. Recent studies by other international maritime agencies seem to suggest that a 10% increase in port activities could lead to a 6% to 20% increase in national GDP. What the foregoing portends is that the "Blue Economy" has an enormous potential of dragging the Nigerian economy out of its slow-moving GDP growth rate (GDP growth for Q2 2019 was 1.94% down from 2.38% in Q4 2018).

4.0 Revenue Generating Potentials of the Blue Economy Sectors of Nigeria

The results of the logit regression analysis designed to determine the effect of the exploitation of blue economy resources on revenue generation in Nigeria is employed in determining the revenue generating potentials of the blue economy sectors of Nigeria.

Table 7: Result of Logit Regression Analysis

Variables	Coefficient	Standard Error	T-Ratio	Sig.Level	Mean
Constant	0.878	0.304	17.05	0.000	2.38
Seabed mining	0.017	0.017	0.983	0.309	44.83
Ocean renewable energy	-0.046	0.641	0.955	0.943	0.24
Fisheries/aquaculture	1.465	0.408	4.314	0.000***	11.76
Marine biotechnology	-0.053	0.039	0.943	0.138	2.73
Shipping & maritime transport	1.874	0.574	0.680	0.003*	0.060
Ship building	0.000	0.000	1.000	0.994	0.070
Tourism/recreation	0.100	0.520	0.906	0.075**	1.000
Energy (oil & gas)	0.000	0.000	1.000	0.009*	1.871
Offshore wind energy	-0.000	0.000	1.000	0.165	19031.9
High tech marine services	0.000	0.000	1.000	0.422	52387.1
Income realization	0.35	0.000	1.000	0.891	0.500

Source: Researcher's Data Analysis (2024)

The result of the coefficients of seabed mining, ocean renewable energy, marine biotechnology, ship building, offshore wind energy development, high tech marine services and income realization were not statistically significant at all levels of significance. This implies that the exploitation of these blue economy sectors have no significant impact on revenue generation in Nigeria. This further suggests that most of these variables are not relevant in the model. This is expected to be so because these sectors of blue economy in Nigeria have not been fully harnessed by the government. Contrarily, the coefficients of the exploitation of marine fisheries/aquaculture and that of the energy (oil and gas) development were significant at 10% respectively, while the development of shipping/marine transportation and coastal tourism/recreation were also significant at 1% and 5% levels. This portrays that their inclusion in the model is of importance as they served as the influence variables in the analysis. The results of the analysis suggest that the development of the marine fisheries/aquaculture, shipping/marine transportation and coastal tourism sectors of the blue economy of Nigeria could significantly boost the revenue generating potentials of the country.

4.1 Challenges of Generating Revenue from Blue Economy Sectors in Nigeria

The challenges of revenue generation from blue economy sectors in Nigeria are presented in Table 8.

Table 8: Challenges of Revenue Generation from Blue Economy Sectors in Nigeria

Challenges	Response	%
Governance	9	7.5
Finance	24	20.0
Technology transfer	31	25.0
Maritime security threats	27	24.5
Ineffective institutional framework	21	17.5
Information and competence	6	5.0
Compliance issues	2	1.5
Total	**120**	**100**

Source: Fieldwork (2024)

Table 5 shows that the most important challenges that bedevil the revenue generating ability of the blue economy resources in Nigeria are technology transfer (25%), maritime security threats (24.5%), and inadequate finance (20%) as well as ineffective institutional arrangement (17.5%) amongst others.

5.0 Conclusion

The study has shown that blue economy has the potential to significantly impact the economies of Nigeria due to the country's extensive coastline, access to Gulf of guinea, and rich marine biodiversity. Overall, the blue economy offers opportunities and challenges that require a holistic and integrated approach to balance economic growth with environmental sustainability and social equity. The study further revealed that investing in Nigeria's Blue Economy could help the country diversify and generate far larger revenues than currently exists. Nigeria's blue economy could, if adequately harnessed reduce the absolute reliance on oil and gas for its socio-economic development. The enormous potentials of the nation’s blue economy could help prepare the country for growth without oil, meaning that a lot of the maritime traffic that currently dominates Nigeria’s jetties or wharf will be gradually scaled down to include more non-oil export and import numbers for accurate decision-making. It is trite knowledge that, for Nigeria to achieve lower oil-sector related shipping as a proportion of total maritime ship movement by tonnage and value, the government must be deliberate and focused.

5.1 Recommendations

Based on the foregoing, the study recommends the need for a clear delineation of maritime economic activities across littoral states and creation of littoral maritime activity budget lines at both Federal and State levels. The Ministry of Maritime and Blue Economy must ensures that all activities under the Blue Economy are recorded and brought in a single central data base while marine activities such a transportation, fishing, hydro-energy generation, littoral state beachside revenue generation and activities related to waste management and waterway management must be brought into a broad national plan that details the needed set of activities to achieve clear goals, amounts of finance and timelines based on cash flow expectations/needs, and offices/officers responsible for deliverables.

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