

# Community Understanding of the Concept of Blue Economy and its Socio-Economic Impact on Livelihood in the Niger Delta Region of Nigeria

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## ABSTRACT

This study examines the level of Community understanding of Blue Economy Concept and the opportunities and risks posed by blue economy development in the Niger Delta region. The study aims at assessing the understanding of the barriers and enablers shaping communities engagement in blue economy and the risks of unsustainable blue growth in the Niger Delta region. Qualitative data generated from Focus Group Discussion, interview of key informants collected using unstructured interviews, oral testimonies and questionnaires was employed for the study. The data was subject to transcriptions, rewriting and coding and the responses analyzed descriptively. Results showed that the conceptualization of Blue economy concepts are not currently shaped by communities' visions for development, nor are they clearly aligned to Agenda 2030. It further revealed that the communities have limited capacity to effectively engage in the emerging economic and governance transitions offered by blue economy which makes many of the Blue Economy change processes to be perceived by the communities as external risks and barriers. This understanding limits the community's full engagement in unlocking the myriads of opportunities offered by Blue Economy growth to improve their livelihoods choices as majority of the communities' limit their exploitation of the Blue Economy to prevailing traditional sectors such as marine fishing/aquaculture, maritime transportation, seabed mining and the extraction of sea weed for medicinal purposes'. The need for government strategies to build capacity to not only focus on the community level awareness in terms of financial literacy, business skills and leadership but also target supporting agencies such as the private sector is suggested.

**Keywords:** Community Understanding, Blue Economy, Socio-economic, Livelihoods and Niger Delta Region.

## INTRODUCTION

A recent dimension of policy and research direction on the ocean has been brought into the public discourse by the UN Decade of Ocean Science for Sustainable Development (2021–2030). The UN Decade of Science for Sustainable Development provides a crucial opportunity to advance a more socially just and sustainable blue economy in order to globally improve the wellbeing and life of millions of people living in coastal communities whose livelihoods, cultures and identities depend exclusively on healthy marine ecosystems (WWF, 2015a; FAO, 2022). This global attention on Blue Ocean is based on WWF (2015b) and OECD (2016) projections that the blue economy is worth USD1.5 billion and is estimated to grow to USD 2.5–3 trillion by 2030. This accounts for the growing interest in the potential of the blue economy to alleviate poverty in Least Developed Countries (LDCs) and Small Island Developing States (SIDS), and to support a blue recouping from the aftermath of the COVID-19 pandemic (OECD, 2021). Corroborating this, Okafor-Yarwood et al., (2020) and UNECA, (2016) in the African Union's Agenda 2063 affirmed that blue economy is "the next frontier" for livelihood improvement and Economic growth. Nigeria is a maritime state where nine (9) of its thirty-six (36) states of the federation have a coastline in the Atlantic Ocean. The coastal states of Nigeria are

Ogun, Lagos, Ondo, Edo, Delta, Bayelsa, Rivers, Akwa Ibom, and Cross Rivers States, located in the southern part of the country. The country is gifted with water resources and reasonably rich blue economy potentials in view of its locational advantage, which makes blue resources potentially important sector in the nation's economic growth.

The significance of the blue economy sector to individuals and the economy of many developed and developing countries cannot be emphasized as the blue economy sector generates over 60% of the world's supply of protein, mostly in developing countries asides employment opportunities. FAO (2020) reported that employment in the marine fisheries and aquaculture sector production alone in Nigeria is estimated at 59.5 million in 2018. This is because over 820 million people throughout the world particularly those along the coastal communities are valued to depend on fish for all or part of their income (FAO, 2022). A recent analysis shows increasing growth across diverse marine sectors with the seafood sector adjudged as the fastest growing food industry and coastal tourism as the fastest growing tourism sector (Esin, 2024; Esin and Nse, 2024; Esin and Zelibe, 2024). The shipping sector accounts for 80% of global trade while 70% of new oil and gas discoveries are offshore; and the seabed in Areas Beyond National Jurisdiction (ABNJ) is over 1.3 million km<sup>2</sup> and currently licensed for Deep-Sea Mining (DSM) exploration. This so-called "blue acceleration" as opined by Jouffray et al., (2020) is taking place under climate change and swiftly shifting geopolitics, and are concentrating activities where conditions are favorable as well as crafting new opportunities and risks for coastal communities.

Oceans have been an essential part of the coastal populations as it provides their livelihoods through small-scale fishing and periodic tourism (Soi, 2018). In line with the African Union's 2050 Africa's Integrated Maritime Strategy, the AU Africa Blue Economy Strategy (2019), and other related continental and regional frameworks, policymakers and decision-makers at the continental and national level recognizes the opportunities to accommodate the Blue Economy as a core economic driver. Notably, African Union estimates that the Blue Economy currently generates nearly \$300 billion for the continent, creating 49 million jobs in the process, informing that these and other crucial benefits, especially food security, livelihoods, and biodiversity, are entirely dependent on the ocean's health. Nigeria's vast ocean, lake and other marine resources at offers the country huge blue economy potentials with sufficient opportunity to diversify its economies and address the risks of relying on one specific economic sector which limits her chances to promote sustained economic growth and development. Such economic diversification, if planned and managed in an equitable and sustainable way will mitigate marine pollution, proffer enormous opportunity for Nigeria youths to create employment for themselves by taking the opportunities presented by the blue economy sectors, particularly in the Niger Delta region that is characterized with protracted youth restiveness and violent conflicts. More so, such diversity will aid to manage the increased vulnerability of external shocks from the global economic system that can inhibit longer-term economic affluence in the country.

Experience has shown that inhabitants of coastal areas have not adequately engaged in the blue economy activities as fewer jobs have been created, which contributes to limited job opportunities resulting in large scale unemployment with obvious challenges, which limits their capabilities in providing for themselves and the economy. While unemployment causes hindrances to access opportunities for productivity, coastal populations have a crucial asset, which is the ocean. The Blue economy as a concept should benefits the coastal populations in various forms. Experience has also shown that the issue of knowledge by local residents about the blue economy concept has not been emphasized thereby making the residents less enthusiastic on the opportunities it can provide (Esin, 2024). The way in which the Blue Economy is conceived and understood differs significantly across different sets of actors. A particular area of arguments exists around which ocean based industries or sectors can be considered to be 'Blue'. This highlights the possibility of the Blue Economy becoming a forum through which the legitimacy of different private uses of ocean resources is contested and debated.

Understanding the coastal communities' knowledge of blue concept and its potentials and the barriers and enablers shaping coastal communities engagement in blue ocean exploitation as well their understanding of the risks of unsustainable blue growth in coastal areas is very germane because their knowledge of the concept necessitates anticipating the adverse effects of unsustainable exploitation of the ocean resources which further enables them take appropriate action to prevent or lessen the damage they can cause, or taking advantage of

opportunities that may arise from the development of the blue resources (Esin and Mercy, 2022a). Studies have shown that Blue economy has either directly or indirectly positively affected the wellbeing of coastal communities and the development sectors of other countries that have oceans and seas (Esin and Nse, 2024 and Esin and Zelibe, 2024b; Campbell, Boucquey, Stoll, Coppola, and Smith, 2014; Campbell, Fairbanks, Murray, Stoll and D'Anna, 2021; Bennett, Blythe, White and Campero, 2021 and Evans, Buchan, Fortnam, Honig and Heaps 2023). While several studies on the impact of blue economy on economic development have been carried out elsewhere and in Nigeria, studies that have explored the extent of community understanding of the concept of blue economy, the prevailing opportunities it offers for the livelihoods of coastal communities together with the risks associated with unsustainable blue growth and the barriers and enablers shaping community engagement in blue economy development is at present very scanty and in most cases negligible particularly in a developing country like Nigeria. This study is designed to fill this gap of knowledge. The study aimed at determining the extent of understanding of the concept of blue economy by coastal communities in the Niger Delta region and how the coastal communities are impacted by and are engaging in blue economy activities. Specifically, the objectives of the study are to assess the coastal communities understanding of the blue economy concept and the opportunities and risks posed by blue economy development, determine the coastal communities understanding of the barriers and enablers shaping the coastal community engagement in blue economy and the risks of unsustainable blue growth in the Niger Delta region.

## Conceptual Clarification/Literature Review

### Blue Economy and Coastal Communities

The concept of the Blue Economy was first introduced in a book published for the Club of Rome, which coined the blue economy as innovation, technology and entrepreneurship for a greening of the ocean economy (Pauli, 2004). Since 2010/2011, there has been burgeoning of literatures on the subject and the concept has taken hold in international policy circles (The Economist, 2015). The blue economy agenda is mostly centered on improving ocean health and the sustainability of ocean uses. Several definitions of the blue economy point to it having three pillars viz-a-viz: environment, economy and society (Louey, 2022). As the concept of blue economy gained grip in both academic and policy discourse, it has fragmented and drifted from its central proposition as a parallel to the green economy. Varied components of the discourse highlight different pillars and explicit problems, solutions and participants. Silver et al. (2015) identify four elements: oceans as natural capital; oceans as good business; oceans as integral to (Pacific) Small Island Developing States (SIDS), and oceans as small-scale fisheries livelihoods while social justice and equity invention have been accorded high-level attention in recent time, as exemplified by reports released by the High Level Panel for a Sustainable Ocean Economy (Toward Ocean Equity and A Sustainable and Equitable Blue Recovery to the COVID-19 Crises ).

Further attempts to re-establish the blue economy paradigm have been by UNDP, (2018); Bradford et al., (2020); and Phelan et al., (2020) that re-conceived it as community-based blue economies; and community-supported fisheries by Campbell et al., (2014); as well as Blue Communities by Campbell et al., (2021); and Blue de-growth by Ertor and Hadjimichael, (2020).

However, the social pillar of the blue economy has gained insignificant attention with the economic pillar given wider consideration. This is why the need to accord social and equity issues together with the environment in deliberations about ocean futures (Bennett et al., 2021) is significant. The experiences of coastal communities who depend on healthy oceans and are highly impacted by transitions in ocean governance should be placed at the center of policy discourse as a way of centralizing social justice and advance the social pillar of a sustainable blue economy.

An understanding of the knowledge of coastal populations of blue economy concept has become fundamental for effective blue economy policy formulation and promotion. Developing these policies for increased exploitation of the ocean resources requires knowledge of the general understanding of factors that influence the value placed on blue resources by the coastal populations which determines their ability to take advantage of the myriads opportunities offered by blue economy and harnessed blue economy resources either as

business-as-usual or otherwise in a Sustainable dimension. This understanding further determines how the coastal communities relate with the ocean resources in terms of their knowledge of the need to protect, restore, and maintain diverse, productive and resilient marine ecosystems based on the utilization of clean technologies to exploit the ocean resources in order to enhance circular material flows, and provide social and economic benefits for current and future generations.

Asides improving the livelihoods of coastal community through job creation, income generation, poverty reduction and improved well-being, community understanding of blue economy concepts would enhanced food security, better natural resources management and increased the resilience of the coastal population to climate change. Study by the Intergovernmental Panel on Climate Change (IPCC) revealed that communities with robust understanding of the Blue Economy were better equipped to adapt to impacts of climate change while a United Nations Development Programme (UNDP) study shows that communities with a good understanding of the Blue Economy were more likely to engage in sustainable natural resource management practices. Recent study by FAO (2019) showed that communities with strong understanding of the Blue Economy concept were well equipped to manage fisheries and aquaculture resulting to enhanced food security.

**Opportunities and Risks of Blue Economy for Coastal Communities**

Several studies (Esin, 2024; Esin and Nse, 2024; Esin and Zelibe, 2024a, Evans, Buchan, Fortnam, Honig and Heaps, 2023; Northrop et al., 2020; Farmery, Allison, Andrew, Troell, Voyer and Campbell (2021) have shown the direct and indirect opportunities offered by blue economy to coastal communities. Study by Esin, (2024) shows that blue economy has enormous potential to generate over one million jobs to the coastal population, through their engagement in fishing and aquaculture sector while Esin and Nse, (2024) and Esin and Zelibe, (2024a) revealed that blue economy serves as a source of food and medicine for households’ in the coastal areas; as the entire nation are clearly fed with the various reservoirs of fishes in the oceans asides providing foundation for tourism and recreation, the blue economy accelerates trade and commerce in the coastal population. Specifically, Evans, Buchan, Fortnam, Honig and Heaps, (2023) summarized the indirect and direct opportunities offered to coastal communities by blue economy engagement and the risks posed by blue ocean when exploited as business-as-usual as presented in Table 1.

Table 1: Summary of the Key Opportunities Offered by Sustainable Blue Economy for Coastal Communities and the Risks Posed by Business-as-Usual

S/N	Opportunities	Risks
Indirect	<ul style="list-style-type: none"> <li>-Jobs and new financial opportunities</li> <li>-Rents, investment, subsidies</li> <li>- Innovation, infrastructure, new technology</li> <li>- Co-location and co-benefits</li> <li>-Enhanced protection and restoration of ecosystem services</li> <li>-National sovereignty and security</li> <li>-Leverage COVID-19 recovery plans and funds</li> </ul>	<ul style="list-style-type: none"> <li>-Economy prioritized over sustainability and equity</li> <li>-Acceleration of unsustainable resource use</li> <li>-Sectorial trade-offs and increased ocean conflict</li> <li>-Elite capture and inequality</li> <li>-Marginalized communities</li> </ul>
Direct	<ul style="list-style-type: none"> <li>-Livelihoods and new markets</li> <li>-Food and nutritional security</li> <li>-Payments for ecosystem services</li> </ul>	<ul style="list-style-type: none"> <li>-Dispossession and displacement</li> <li>-High dependence on vulnerable livelihoods</li> </ul>

	<ul style="list-style-type: none"> <li>-Capacity development and education</li> <li>-Improved governance, equity, rights</li> </ul>	<ul style="list-style-type: none"> <li>-Risks to food security</li> <li>-Rights violations</li> <li>-Inequitable distribution of costs and benefits</li> </ul>
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Source: Evans, Buchan, Fortnam, Honig and Heaps, (2023)

Northrop et al., (2020) shows how self-sufficiency at local and national levels became vital during COVID-19 pandemic highlighting the importance of sectors such as small-scale fisheries, community-based aquaculture and other local enterprises. The OECD (2021) identifies particular opportunities for SIDS to use support for a blue recovery through addressing debt, creating and seizing new investment opportunities, and building resilience and sustainability of critical sectors (greening ports, sustainable tourism, ocean health).

Farmery, Allison, Andrew, Troell, Voyer and Campbell (2021) shows the potential to improve the availability and access to nutritious aquatic foods locally and globally through better managed capture fisheries and sustainable mariculture and aquaculture under a Sustainable Blue Economy, with sustainable mariculture production of a diversity of seafood such as shellfish and seaweed underscored as a source of sustainable and healthy food that can be accessed by poor communities through the Blue Economy engagement.

Several studies (Österblom, Wabnitz, and Tladi, 2020; and Crona, Wassénus, Lillepold, Watson, Selig, Hicks, 2021) have presented opportunities for capacity development and community empowerment relating to improved ocean and financial literacy, technological capacity, and entrepreneurship. The studies further pinpoint improvements in governance, equity and rights as direct opportunities for communities as well as key enablers of an inclusive Sustainable Blue Economy. For example, Österblom, Wabnitz, and Tladi, (2020) noted that coaching for gender equity in the blue economy can lead to improvements in self-confidence, negotiating-skills and assertiveness for women more broadly while equity in particular is seen as important as a means (enabler) and as an end (opportunity). It can represent a virtuous cycle: improved experiences of equitable treatment and outcomes in some areas can lead to expectations about a minimum standard of socially just practice in other areas and across scales.

Evans, Buchan, Fortnam, Honig and Heaps, (2023) noted that business-as-usual and blue growth trajectories approach to blue ocean development can pose indirect and direct risks to coastal communities, stating that prioritizing economic over environmental and social objectives can accelerate unsustainable use of marine resources, increase sectorial and user conflict, lead to elite capture and exacerbate inequities. Studies by Crona, Wassénus, Lillepold, Watson, Selig, Hicks, (2021) reveal the links between sectorial interactions and indirect conflict within and between marine sectors. The authors identify military operations, shipping, and drilling as three sectors most commonly associated with conflicts while Jouffray et al., (2020) noted that aside issues relating to climate change and pollution, oil and gas operations, in particular, are detrimental to capture fisheries, aquaculture, tourism and shipping. Crona, Wassénus, Lillepold, Watson, Selig, Hicks, (2021) identify fisheries and tourism as sectors most vulnerable to conflicts with other marine uses.

## MATERIALS AND METHODS

### Location of the Study

The Niger Delta area in Nigeria is located in the Gulf of Guinea between longitude 5<sup>0</sup> 05<sup>1</sup>E-7<sup>0</sup> 17<sup>1</sup>E and latitude 4<sup>0</sup> 15<sup>1</sup>N- 7<sup>0</sup> 17<sup>1</sup>N. It is the largest wetland in Africa and the third largest in the world consisting of flat low lying swampy terrain that is criss-crossed by streams, rivers and creeks. It covers 20,000 km<sup>2</sup> within the wetlands of 70,000km<sup>2</sup> which is majorly formed by the depositions of sediments. It has an average annual rainfall of 2400-4000mm and greatly influenced by the localized convection of the West African monsoon with fewer contribution from the mesoscale and synoptic system of the Sahel. The rainy (wet) season in the region begins in May, in line with the seasonal northward movement of the Intertropical Convergence Zone (ITCZ), with its cessation in October. Niger Delta region has an equatorial monsoon climate controlled by the south west

monsoonal winds (maritime tropical) air masses which originate from the South Atlantic Ocean. It is home to 20 million people with over 40 different ethnic groups spread across nine states of the federation (Abia, Akwa-Ibom, Bayelsa, Cross-River, Delta, Edo, Imo, Ondo and Rivers states). Four of these ethnic groups namely; the Andonis', Ijos', Ilajes', Ibibios' and Urhobos' have long standing traditions as fisher folk, although the Ijos' and Ilajes' are more renowned for their fishing tradition than the others.

The Niger Delta is made up of three broad ecological zones; the freshwater zone, the marine or salt water zone in the coastal area, and the brackish water or estuarine zone, where fresh and salt water meet. The brackish and salt water zones have large amounts of fish stock and sustains Nigeria's fishing industry. Almost 37% of the entire Niger Delta area is made up of fresh water. Estuaries, beach ridges, more rivers and mangrove swamps make up the brackish water zone which takes up about 449 square kilometers' in area. These estuaries and rivers along with the continental shelf constitute the locations for the bulk of the variety of fish reserves in the area and are earmarked as prime grounds for situating fishing camps. Fishing camps are scattered around most of the coastline and inshore waters of the region.

## Methods of Data Collection

### Sources of Data

Data for the study was obtained majorly from primary sources. The primary data was obtained through direct field observation, interview guided by the use of unstructured questionnaire, focus group discussions and in-depth interviews. Focus group discussions (FGDs) were employed to bring together all the coastal households in the selected communities. Each focus group consisted of 8 heads' of households. Attempt was made to ensure that the focus group discussions were as representative as possible, with specific attention paid to gender representation and age differential. Focus group discussions (FGDs) were undertaken to validate the information obtained from individual respondents. A total of two (2) separate FGDs (One for men and another for women) were conducted in each of the coastal communities with 5-8 household heads.

### Study Population

The study population covers all the households in the twenty (20) coastal communities selected for the study in five out of the eight Niger Delta States. A population sample of 660 respondents was drawn from twenty communities in ten (10) LGAs of the five (5) Niger Delta States (Akwa, Ibom, Bayelsa, Cross Rivers, Delta and Rivers) that were purposively selected for the study. Sixty six (66) heads of households were randomly selected in each of the coastal communities for the study thereby bringing the total number of sampled respondents to 660. The ten Local Government Areas drawn from five out of the nine Niger Delta States were selected to accommodate diverse locations in order to give a comprehensive understanding of the coastal communities' knowledge of blue concept, its potentials and the barriers /enablers shaping their engagement in blue ocean exploitation. The interview was designed to capture key information relating to information on the research aim and objectives.

### Sampling Technique

Multi-stage sampling technique was adopted in selecting the representative respondents. The first stage was the selection of five (5) states from the nine Niger Delta States. The second stage involved the selection of two (2) Local Government Areas from each of the selected five (5) Niger Delta States while the third stage involved the random selection of two (2) coastal communities in each of the five (5) LGAs thereby bringing the total number of the coastal communities selected for the study to ten (10). The coastal communities in each of the LGAs of the selected Niger Delta States were strategically selected based on (1) their dependence on the ocean and proximity to the coast; (2) accessibility and availability of other blue economy-related economic activities (3) the availability of robust information on blue economy activities.

Interview questions were structured for all the selected communities to provide relevant information on the concept of Blue economy in Niger Delta region. Responses were recorded for easy translation and data analysis. Key informants included village/community leaders, speed boat drivers, Elders, fuel wood

harvesters/lumbermen, traders and fishers operating in the coastal areas. Generally, the questions range from the coastal communities' understanding of the blue economy concept and the opportunities and risks posed by blue economy development, their understanding of the barriers and enablers shaping the coastal community engagement in blue economy and the risks of unsustainable blue growth in the Niger Delta region. The data generated from the study was analyzed qualitatively. Respondents who had lived in the communities for the past 15 years and preferably older than 30 years were mainly targeted. Interviews of the selected respondents were conducted in their homes using open-ended questionnaires; this gave them the opportunity to provide information germane to the study objectives.

## RESULTS AND DISCUSSION

People's knowledge, experiences, culture and other social factors are reflected in their understanding of a particular situation. Given that scientific study on blue economy could be too sophisticated for the understanding of coastal people and their livelihoods, their local knowledge is germane as it gives insights on the significance of community-based blue economy and how local practices of blue economy can effectively address the livelihood needs of the coastal population with respect to sustainable utilization of blue resources and how it could be employed to ameliorate their poverty-environmental issues. Besides, community knowledge plays a crucial role in the blue economy, as local communities have traditional knowledge and practices that can inform sustainable management of ocean resources. In this connection, the responses generated across the selected littoral communities were qualitatively analyzed in line with the objectives of the study. Specifically each of the four discussants across the selected littoral communities responded to questions as follows:

### **Ibaka in Mbo (Akwa Ibom)**

Results of the survey of the coastal communities' understanding of the blue economy concept in Ibaka indicate that majority (85%) of the discussants do not understand any concept called "blue Economy" though they are very much aware of the ocean with only 25% being fully aware of the concept. As stated by one discussant:

*"In this our community, there is water everywhere and this water has been the foundation of our livelihoods and socio-economic development but when you now call our water that name (Blue Economy) that you called it is what we don't understand. Our water is white, it is not blue. Everything in this our life depends on the water in our community which has been spoiled (polluted) by oil exploration by big companies that remove oil (multinational companies)". We fish in this water, we also carry out aquaculture, sand mining, extract herbs for traditional medicines and also travel to other coastal communities through our water" (P01)*

Another participant in the focus group stated inter-alia:

*"We know of water not blue economy as you called it. Commonly, everywhere you see water is very useful (potentials) to us- for example we can fish, travel to nearby village (coastal communities), and remove sand (seabed mining) in our water etc. as we have here. Some people (oil companies) even remove (explore) oil in this our water". Indeed if the water (blue economy) is about marine resources exploitation, we have been doing that, even though it has effect on our water and environment because of oil spillage, we no longer have enough fishes in this our water as our people over catch fish and cray-fish even periwinkle is now scarce" (P02)*

The participants acknowledge that they all have traditional knowledge of the ocean but not as blue economy- a concept synonymous to the ocean economy – and the associated use of these marine resources as fuel wood exploitation and traditional medicines is still prevalent among the coastal communities. This demonstrates that traditional knowledge of the ocean has played a significant contribution towards the coastal communities' understanding of the blue economy concept.

Regarding an understanding of the opportunities offered by the blue economy, the coastal communities believe that marine resources are a source of income for their livelihood activities and economic wellbeing. This is encapsulated through the following response:

*“We derive our income and earnings from marine resources especially artisanal fishing and through allied activities related to fishing such as boat making, repair and maintenance, Sea and coastal passenger water transport, fish processing, storage and preservation and renting and leasing of water transport equipment. We also make traditional medicines from marine resources which are sold to the public obtain from sea cucumber medicine”. (P003).*

The participants agreed that the fish (finfish) is their main source of earnings (100%), followed by shellfish (84%), crustacean (shrimps, crabs), mollusk fisheries (squid and octopus)(80%), crabs (73.1%), and eels (26.9%), which we normally sold fresh from the ocean, processed into seafood processed food or processed into traditional medicine. As noted by Sudayasa, Susanty, Eso, and Yuniar (2016), the development of marine resources deserves to be a mainstay in economic and health sustainability prospects and is also able to improve the livelihood of the coastal communities. As stated by participants:

*“Fishing is the main stay of our local economy. Even fishing related activities like boat making has greatly supported our wellbeing, this is followed by the income we generate from water transportation and sharp sand mining (Seabed mining) which are sold to construction companies and builders”. (P004)*

As noted by Childs and Hicks, (2019), there are worries that blue economy agenda ranks economic growth above sustainability and equity, with oceans viewed “as a source of wealth and prosperity . . . whose economic potential needs unlocking”. The blue economy agenda has been described as similar to a blue frontier or a blue rush. Importantly, in spite of continued fame in some blue economy accounts, available fact suggests that the ‘trickledown’ of benefits from ocean-based economic growth to communities is unlikely (Wieland et al., 2016; Akinci, 2018), and prioritization of economic over environmental and social objectives can accelerate unsustainable use of marine resources, increase sectorial and user conflict, lead to elite capture and exacerbate inequities. Such business-as-usual and blue growth trajectories could constitute indirect and direct risks to coastal communities (Evans, Buchan, Fortnam, Honig and Heaps, 2023).

The unsustainable use of the oceans by the coastal communities can adversely affect the communities through loss of valued ecosystem services especially fisheries which are very sensitive to negative impacts from other sectors mediated by marine ecosystems. Significantly, the potential for cumulative impacts driven by sectors such as oil exploration, sand mining, shipping/marine transportation, and aquaculture could impact the blue ecosystem considerably thereby posing severe risks on the ocean services. As stated by a participant:

*“To me, oil drilling, deep sea mining, military operations, maritime transportation and industrial fishing are the major dangers (risk) we face in this our community from the use of our big water. All these activities negatively affect our coastal water and our source of livelihood” (P005).*

The above assertion portends that community livelihoods that depend solely on marine ecosystems can be badly impacted by environmental degradation, dispossession, displacement, and direct conflict with other sectors, all of which are aggravated by ostracism from top-down planning regarding blue economy decision-making. This upholds the argument by Bennett, Cisneros-Montemayor, Blythe, Silver, Singh, Andrews, (2019); Phelan, Ruhanen, and Mair (2020) that a blue economy that fails to address or intensifies unsustainable use, sector conflicts and sidelining communities presents a number of significant direct risks to coastal communities’ wellbeing, livelihoods, food security and rights. As competition for ocean space increases, less politically powerful local communities and traditional resource users could be displaced or dispossessed of the ocean resources they depend upon.

With respect to understanding the barriers (conditions) which influence the ability of the coastal community to engage in the blue economy agenda, cushion its risks and take up the opportunities it offered, a discussant stated as follows:

*“You can see that even the fish that we are all harvesting, it is not in large scale because we are still using traditional boats for fishing along the coastal waters except few rich fishers in the community that use motorized boats; even with that, they cannot go to the high waters (Exclusive Economic Zone) for fishing due to plenty money (huge capital) it requires”. Asides, many of us did no go to higher school and we do not have*



*access to credit facilities''.* (P006)

The above suggests that the major barrier to community engagement in the blue economy in Ibaka is a lack of capacity, particularly financial capital to unlock the vast opportunities offered by the blue economy. This is confirmed by earlier study by UNDP, (2018) and UNEP, (2021) that identified a lack of capacity particularly financial capital, education and skills, time and interest as a barrier to community involvement in the blue economy as the investments required to catalyze development of a sustainable blue economy, particularly at the community level, are substantial. Esin (2024) noted that most fishers in the Niger Delta region use traditional fishing gear and vessels, which limits their ability to reach Exclusive Economic Zone (EEZ) resources with attendant impact on the fish catch. Investment on these existing methods (motorized and traditional boats) cannot allow the fishers to access deep water resources in the EEZ and improve the value of their fishery products.

### **Forokpa fish town in Brass (Bayelsa)**

Following the direction of the questions, 3 discussants among the selected four in Bayelsa State do not have fore knowledge of Blue economy concept (90%). According to the discussants, Blue economy is just a concept to mislead people and misappropriate funds. It is widely held by the discussants that what should be explored from oceans and rivers have been known long ago our fore-fathers and us. They seem not to think that any difference can be made. One discussant noted that:

*“This community is blessed by God with too much water. You can see it everywhere. We don’t know why you call it blue economy. What has economy to do with water? We fish in this water, travel to nearby communities through this water, we get wood (logs) that we use for building and road construction from this our water. We even get sand and gravel (seabed mining) from our water that we use for building and construction from this water. What else have we not got from our water? Some government’s company (multi-national companies) even remove (explore) oil and gas from our water which they sell to other countries and derive huge money from our water, but we the owner of the oil are suffering”.* (P007&8)

It is evident from the above narration that majority of the discussants do not have an understanding of the use of the blue economy concept to capture the ocean economy even though they are fully aware of the immense benefits derived from the blue economy. It could be adduced from the narration that the coastal communities have limited understanding of the opportunities offered by the blue economy sectors. For instance, their understanding of the blue economy sectors is limited to fishing which is the major source of livelihood of the coastal population, followed by maritime shipping/transportation, oil and gas exploration and seabed mining (explore at a very minimal level due to crude technology). The sectors that come up consistently from the discussants responses with very serious concerns for the coastal community are mining, oil and gas, coastal development (port development and land reclamation), and industrial fishing which they believed adversely affect their livelihood choices due to large scale pollution of the coastal ecosystem. As highlighted by Evans, Buchan, Fortnam, Honig and Heaps, (2023), poor environmental records could adversely impact communities in a number of significant ways, yet, they deliver very few to no benefits for communities. With respect to understanding the barriers (conditions) which influence the ability of the coastal community to engage or otherwise in the blue economy agenda, mitigate its risks and take up the opportunities it offered, a discussant narrated as follows:

*“Although we’ve been engage in fishing for over the decade, we still don’t have enough to meet our daily needs and to actively get involve in decision making in our community because it is only those who are well schooled that speak on our behalf. I cannot say that we are not making money from fishing but the money is not adequate for us to give our children good education and also save for the future. Because of inadequate money, our fishers cannot afford to buy modern fishing vessel that would have made us fish afar (EEZ). The sand and gravel miners use local method to extract it from the sea”*(Participant 009).

The discussant identified factors such acute poverty, non-involvement in decision making relating to ocean governance, poor educational attainment and crude technology as barriers that limit the coastal population from harnessing the potential of the blue economy. This further agrees with Evans, Buchan, Fortnam, Honig

and Heaps, (2023) that beyond knowledge and financial resources, a broad set of capacity and resource issues can limit communities' ability to and interest in engaging with the blue economy, from poverty and lack of social security; to lack of education, literacy and skills; to remoteness and organizational challenges. These present immediate barriers to accessing finance, understanding policy or scientific language (including the language of the blue economy), and navigating bureaucratic processes. To enable effective community engagement in the blue economy, approaches need to accommodate and address capacity issues within communities. Involving the communities in decision making processes at the local scale can ensure that the blue economy development is inclusive, equitable and responsive to local needs besides reducing the risk of over-exploitation and environmental deterioration. The position of the discussant is in line why the assertion by Okafor-Yarwood, Nelly, Nelson, Jacqueline, and Ibukun (2020) that traditional livelihoods and small-scale local operations are often outcompeted by international corporations and government initiatives, with little to no regard for social inclusion and/or environmental sustainability.

### **Okoyong in Odukpani (Cross River State)**

All the discussants (100%) selected in Okoyong expectedly attested to not having knowledge of the 'Blue Economy concept' as employed to describe the ocean or large water-bodies. According to the discussants, 'We do not know that our water-bodies can be called 'blue economy'. All we know is that the oceans in our community which we were born to see and relied on for our livelihoods have enormous potentials and we don't call it blue economy'' (Participant 010). The water bodies provide job opportunities for our old and young ones who did not have formal schooling and those who went to school but could not secure white-collar jobs''. 'We also travel by canoe and motorized boats to fishing settlements and other coastal communities through the large water-bodies and the canoe or motorized boat owners make a lot of money from it. Sometimes, business people from our community travel to Cameroon, Equatorial Guinea and Sao Tome through the oceans for trade and they make a lot of money from such trade. You can see that the ocean that you called 'blue economy' in the English language is more than useful to us as our entire life depends on it''(Participants 011).

The focus group discussants believe that the blue economy sector can actually generate revenue to finance budget if properly harnessed. According to them, "there seems not to be any negative effect if the government can put in place policy to regulate how water and ocean resources can be accessed and explore. It can foster development of tourism, international trade, specializations and ocean resource management. The challenges are in the implementation, security and corrupt practices. It can also be seen in the form of pollution and take a look at how sewage are disposed of on waterways in the country, it is a bane to the development of better ocean economy and the concept of blue economy. Nigeria can only diversify truly by foreign direct investment, export promotion, consumption of local products and earnings in Naira equivalent of dollar currency like some countries in developing nations.

Majority of the discussants (95%) asserted that lack of maritime education and training hinders blue economy growth. This was noted by one of the respondent who commented:

*"The opportunity of onboard training is definitely in short supply for the students who complete the shore side training. Teaching quality of instructors at training institutions is insufficient. Training equipment at training institution is insufficient"* (Participants 012) while (87%) of the discussants professed that insufficient management of natural resources hinders blue economy growth and (75%) asserted that technical challenges hinders blue economy growth. On the interview, one of the respondents declared that;

*"It is imperative to note that there is weak forest governance, deforestation, ecosystem degradation, biodiversity losses, land-use and land-cover changes, issues related to agriculture, food, and livelihood insecurity, weak water governance, less community participation"* (Participants 013)

Majority of the respondents (90%) asserted that inadequate capital and limited information on potentials of offshore fishing hinders blue economy growth. On the interview, respondents commented that; "Efforts toward encouraging our people to venture into offshore fishing have been hampered by limited or very few access by private enterprise to capital which impede their ability to venture into the exclusive economic zone for large

scale fishing thereby limiting them to mostly estuary-related activities”. This affirm Okafor-Yarwood et al. (2020) position that traditional livelihoods and small-scale local operations are often outcompeted by international corporations and government initiatives, with little to no regard for social inclusion and/or environmental sustainability and findings by Roy and Utpal (2012) that limited access to resources, limited access to input and credit, inadequate technical competency, poor participation in decision-making, and limited exposure to mass media as often limiting factors for accessing the ocean economy.

Also, majority of the respondents (53%) claimed that insufficient capacity for management of marine resources hinders blue economy growth. On the interview, one the respondents asserted that; *“We do not have enough staff and researchers for technical research and development. Either, practical technique and experience, which are more production-oriented and business-oriented, are still not sufficient for management of marine resources”* (Participant 014)

The delay in marine aquaculture development was also rated as a challenge hindering blue economy growth in the coastal community. This was indicated by 75% of the key informants. This was affirmed by one respondent who opined that: *“There has been considerable progress in the freshwater aquaculture while marine aquaculture development has generally dawdled. It is due to delay in technical development of hatchery production and grow-out production that are essential for a sustainable aquaculture business. This has seriously affected our livelihood and income generating capacity resulting in untold hardships to those of us that are engaged in marine aquaculture development”*. (Participant 015)

### **Ekemetagbene in Bomadi (Delta)**

Majority of the respondents claimed that they are not aware of the concept of Blue economy (80%) though they all claimed to have good understanding of the opportunities and benefits presented by ocean and water-bodies in their community. A discussant encapsulated thus:

*“We do not know what you mean by blue economy but we all know clearly that our large water bodies have been a source of blessings to everyone in this community. Almost everyone looks up to our God given resources of the sea for our livelihoods choices. We derive our living from the sea which we use for fishing and aquaculture, transportation, sand mining, fuel wood generation and tourism. We have used money generated from the sea to build houses, educate our children and meet other demands of life. There are lots of opportunities offered us by the sea. That is why some of us are boat/ship builder and repairer, some are outboard engine engineers others net menders etc. But our major problem is that we do not have enough capital to invest in the sea asides, investing in the sea could be sometimes risky that is why most people are afraid taking advantage of investing in the sea”* (Participant 016 and 017).

Another discussant stated thus:

*“The ocean in our community has massive deposits of crude oil and gas which has been drilled by Multinational Corporation such as Chevron, Nigerian Agip Oil Company, Shell BP, Elf and Esso West Africa making our waters and land vulnerable to colossal degradation. The indigenes of this community are getting poorer as they lose their once fertile agricultural land and fisheries/aquaculture to oil pollution. Air, water, the soil and the vegetation are all enmeshed in the mess of pollution that leaves lives unbearable and in a kind of agony and misery mainly because we do not have the capacity and technical knowledge to harness our sea resources”* (Participant 018)

The discussants position suggest that the coastal populations though not conversant with the recently coined nomenclature termed “Blue Economy”, they however have tremendous understanding of the potential of the blue economy, its challenges and possible impacts on their wellbeing. The respondents’ assertion that the investments required to facilitate the development of a sustainable blue economy, at the community level, are extensive affirms Sumaila et al., (2020) submission that ocean investments are often seen as high risk and there is a perceived lack of high-quality investment opportunities aggravated by widespread under-valuation of marine and community resources (Chen et al., 2020). This underscores UNDP (2018) and Okafor-Yarwood et al., (2020) suggestion that finance can be challenging to access for the countries and communities that need it

most to engage in the opportunities offered by the Blue Economy particularly as most financial institutions are concentrated in the Global North and dominated by large corporations and multinationals (UNEP, 2021). Improving access to sustainable finance, as well as capacity building around business planning and enterprise development are therefore key enablers for coastal community engagement in the blue economy.

The few (20%) respondents' who are conversant with the concept asserted that, Blue economy is a recent word coined to refer to the development of ocean resources. According to this group of interviewee, Blue Economy is a long overdue strategy aimed at diversifying the Nigerian economy. According to them, it can foster the development of hydroelectricity projects which is one of the major problems in Nigeria, export their crayfish and sea foods across the world besides generating jobs to seafarers, boat repairers and allied activities. They suggested opportunities embedded in tourism and recreation which should be accorded urgent attention. The challenges (risks) remain the same as in the maritime environment in terms of security, bunkering, pollution and smuggling and maritime security threats

### **Oyorokoto in Andoni (Rivers State)**

Majority (80%) of the discussants attested to not knowing the ocean/sea as synonymous to 'Blue Economy'. When explained to them, all the discussants however believed that Oyorokoto and its environs have potentials for Blue economy in the areas of hydro-power generation, employment opportunities, deep seaports establishment, marine business and international trade. Challenges noted here cut across political will, finance, community rivalries, and transportation by rail and getting investors. Nigeria can diversify her economy through foreign direct investment, export management and payments in Naira equivalents of Dollar transactions. Majority of the discussants suggested the exploration of ocean resources, fishing, oil and gas exploration, export and petro-chemical industries for the development of the area and the state at large. One of the discussants sum up thus:

*“Our community is endowed with huge water bodies that have been the harnessed mainly for fishing/aquaculture, oil and gas exploration, marine transportation, quarrying and a host of other activities. The government has equally generated massive revenue from our water bodies even though the government seems to have neglected us. However, besides knowledge and financial resources, a broad set of capacity and resource issues have limit our community’s ability to fully engage in the blue economy. Some of these factors range from poverty and lack of social security; to poor education, literacy and skills and most importantly is the remoteness of our community. The remoteness of our community present immediate barriers for us to access finance, understand policy or scientific language (including the language of the blue economy), and traversing administrative processes. To enable effective community engagement in the blue economy, approaches need to accommodate and address capacity issues within our community” (Participant 019 and 020).*

## **CONCLUSION**

The study has shown that coastal communities are increasingly impacted by a rapidly infectious blue acceleration that may or not explicitly driven by the blue economy agenda. The conceptualization of Blue economy transitions are not currently shaped by communities' visions for development, nor are they essentially and overtly aligned to Agenda 2030. This is because communities have limited capacity to effectively engage with the high rising economic and governance transitions offered by blue economy thereby making many of the change processes associated with Blue Economy to be perceived by communities as external risks and barriers. This perception limits the community's full engagement in unlocking the myriads of opportunities offered by the Blue Economy growth. The study has shown that having insights on coastal communities understanding of Blue Economy concept and livelihoods improvement in coastal areas could significantly create enabling environments that would policymakers and stakeholders' to work together in order to create a more sustainable, equitable, and prosperous future for coastal communities.

## **RECOMMENDATIONS**

The study recommends the need for governments and supporting agencies to increase its responsibility of

providing resources, building capacity and enhancing governance of the blue economy. The need for improved access to financial, technical, human and other resources that can encourage adoption of new innovations, enable development of new livelihoods and market opportunities, incentivize changing practices, and improve transparency and accountability in supply chains and governance is also advocated. Also the need for strategies to build capacity to not only focus on the community level in terms of financial literacy, business skills and leadership but also target supporting agencies such as the private sector and government agencies is further suggested.

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