FEDERAL MINISTRY OF MARINE
AND BLUE ECONOMY

National Policy on Marine and Blue Economy

March 2025

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Acronyms

AAMA	Association of African Maritime Administrations
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank Group
AFREXIM	African Export–Import Bank
CECAF	Fishery Committee for the Eastern Central Atlantic
COMHAFAT	Ministerial Conference on Fisheries Cooperation Among African States Bordering the Atlantic
CRFFN	Council for the Regulation of Freight Forwarding in Nigeria
EIA	Environmental Impact Assessment
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zones
FAO	Food and Agriculture Organisation
FCWC-FISH	Fisheries Committee for the West Central Gulf of Guinea
FDFA	Federal Department of Fisheries and Aquaculture
FIATA	International Federation of Freight Forwarders Associations
FGN	Federal Government of Nigeria
FISON	Fisheries Society of Nigeria
FMMBE	Federal Ministry of Marine and Blue Economy
FUAM	Federal University of Agriculture, Makurdi
FUT	Federal University of Science and Technology, Minna
GDP	Gross Domestic Product
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICD	Inland Container Depot
ILO	International Labour Organisation
IMO	International Maritime Organisation
IsDB	Islamic Development Bank
ISPS Code	International Ship and Port Facility Security Code
IUU	Illegal, Unreported and Unregulated
KPIs	Key Performance Indicators
LASADA	Lagos State Agricultural Development Authority

LDCs	Least Developed Countries
MARPOL	Marine Pollution Convention
MAN	Maritime Academy of Nigeria
MCS	Monitoring, Control and surveillance
MDAs	Ministries, Departments and Agencies
MOWCA	Maritime Organisation of West and Central Africa
NAFFA	National Association of Fish Farmers and Aquaculturists
NESREA	National Environmental Standards and Regulations Enforcement Agency
NIMASA	Nigerian Maritime Administration and Safety Agency
NIOMR	Nigerian Institute for Oceanography and Marine Research
NIPC	Nigerian Investment Promotion Commission
NIWA	National Inland Waterways Authority
NLNG	Nigeria Liquefied Natural Gas
NPA	Nigerian Ports Authority
NSC	Nigerian Shippers Council
NSDP	National Strategic Development Plan
NTDC	Nigerian Tourism Development Corporation
PESCAO	Programme for Improved Regional Fisheries Governance in Western Africa
PPP	Public-Private Partnership
SIDs	Small Island Developing States
SOLAS	Safety of Life at Sea Convention
TEU	Twenty-foot Equivalent Unit
UNCLOS	United Nations Convention on the Law of the Sea
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational Scientific and Cultural Organisation
VMS	Vehicle Monitoring System

Statement by Mr. President

His Excellency, Bola Ahmed Tinubu *GCFR*
President of the Federal Republic of Nigeria

It is with a strong sense of purpose and responsibility that I present the National Policy on Marine and Blue Economy. Our oceans, seas, and waterways are not only a source of immense natural beauty but also a cornerstone of our nation's prosperity, environmental health, and cultural heritage.

The nation's marine resources are a vital national asset, playing a critical role in driving economic growth, ensuring food security, and supporting livelihoods for millions of citizens. With a coastline spanning approximately 853 kilometers and an extensive Exclusive Economic Zone (EEZ), our marine ecosystems are rich in biodiversity and hold immense potential for sectors such as fisheries, aquaculture, shipping, tourism, and renewable energy, etc. These resources are not only central to our economic diversification efforts but also essential for addressing pressing challenges such as unemployment, poverty, and climate change. However, the sustainable management of these resources is imperative to prevent overexploitation, environmental degradation, and loss of biodiversity. This policy underscores Nigeria's commitment to harnessing the full potential of its marine resources responsibly, ensuring they remain a source of prosperity and resilience for present and future generations.

The Blue Economy offers significant opportunities for economic diversification, job creation, and innovation. This policy outlines a comprehensive approach to sustainable fisheries, marine tourism, renewable energy, maritime trade, and biodiversity conservation. It emphasises the integration of science, technology, and community engagement to achieve balanced and inclusive development.

As we move forward, it is imperative to address the challenges of climate change, pollution, and overexploitation of our marine resources. This policy provides a clear roadmap for mitigating these risks and promoting sustainable practices that benefit both current and future generations.

I urge all stakeholders—government agencies, private sector partners, civil society, researchers, and local communities—to collaborate in the implementation of this policy. Together, we can build a resilient and prosperous Blue Economy that supports national development while safeguarding our marine heritage.

Foreword by the Honourable Minister for Marine and Blue Economy

Mr. Gboyega Oyetola *CON*

Honourable Minister for Marine and Blue Economy

The world's oceans, seas, and coasts are vast and rich ecosystems that have long sustained human life and economic activities. Aquatic and marine spaces are an increasingly common topic of discourse. This is because their natural resources have remained largely under-exploited but are now being recognised for their potential to contribute to inclusive and sustainable development.

As we move forward in the 21st century, the importance of understanding and harnessing these marine resources responsibly becomes increasingly crucial. The concept of the Marine and Blue Economy represents a transformative approach to managing ocean and coastal resources, balancing economic growth with environmental sustainability.

The Marine and Blue Economy encompasses a broad spectrum of activities, from traditional industries such as fisheries and shipping to emerging sectors like marine biotechnology and blue ocean energy. The blue economy is more than just an economic space; it is part of Nigeria's rich geographical, social and cultural canvas. With a better understanding of the enormous impact and opportunities emerging from investing and reinvesting in Nigeria's aquatic and marine spaces, the exploitation balance can be tipped. This shift will steer the country away from illegal harvesting, degradation, and depletion to a sustainable development paradigm, serving Nigeria today and tomorrow. This economic model aims to leverage the vast potential of our oceanic resources while ensuring the preservation of marine biodiversity and the health of marine ecosystems.

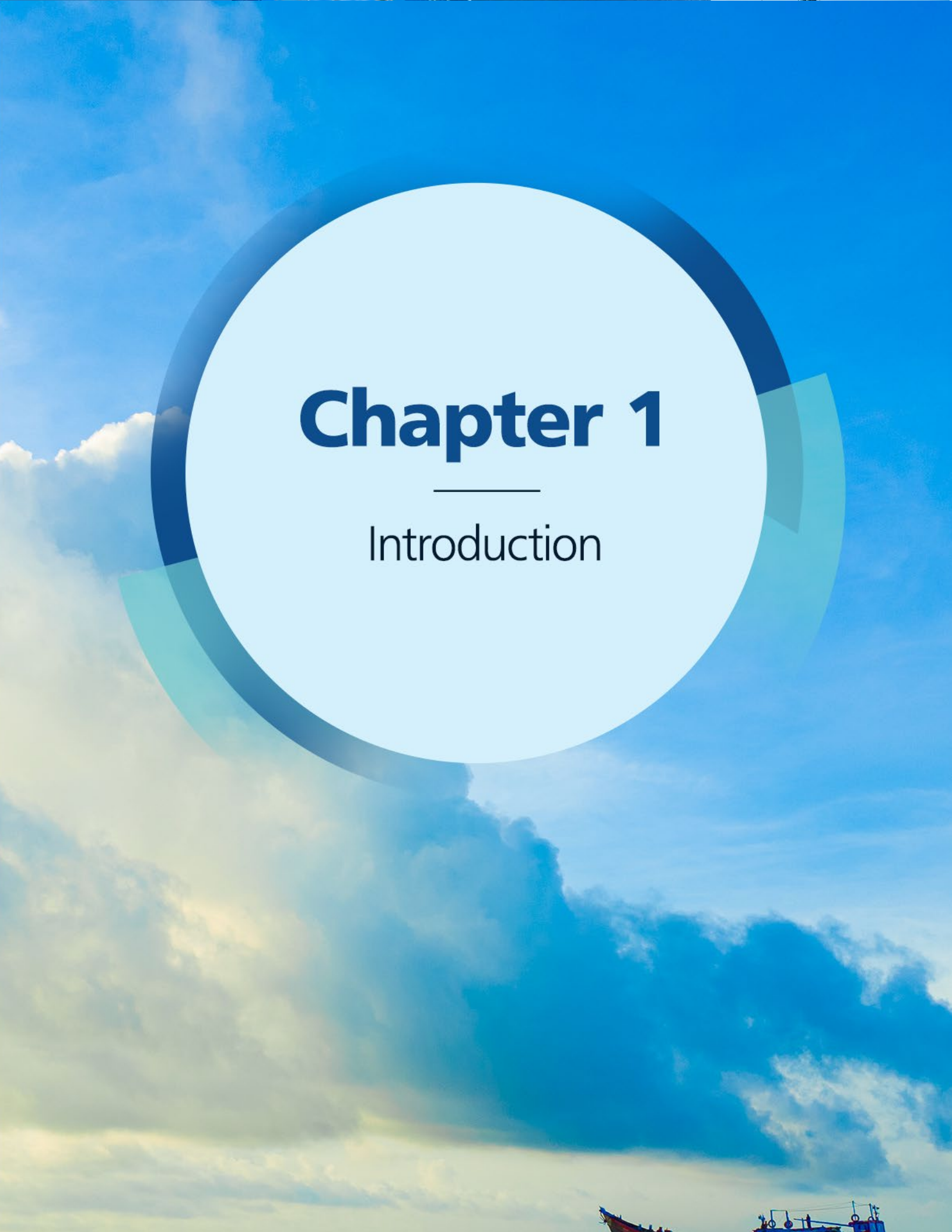
In this context, we are presented with a unique opportunity to innovate and create a sustainable future. By embracing principles of stewardship and adopting advanced technologies, we can develop new pathways for economic development that are both environmentally and socially responsible. The Blue Economy is not just about exploiting resources but about creating value through sustainability and resilience.

We extend our deepest gratitude to everyone who supported and contributed to the development of the National Policy for Marine and Blue Economy. This policy document is the outcome of several stakeholder engagement workshops, consultation sessions with subject matter experts and collaborative efforts of experts in the fields of Policy, Governance, Economics, Law of the Sea, Maritime Transport and Trade, Freight Logistics, Geology and Mining, Environment, Marine Biology, Fisheries, Aquacultures, Oceanographers, and Sustainable Development, etc.

The stakeholders involved in the development of this policy document were drawn from government, private sector, multi-lateral organisations, development partners, civil society, academia, researchers and inter-ministerial entities.

This policy document explores the various facets of the Marine and Blue Economy, from its impact on global trade and coastal communities to the innovative practices that are shaping its future. The Policy underscores the necessity of collaborative efforts among governments, businesses, and local communities to advance this vital sector.

This Policy is to be considered a living document. It is expected to provide decision makers and other stakeholders with clear and simple guidelines and options for aligning their policies with the Marine and Blue Economy concept. It will be reviewed from time to time to address development gaps and incorporate advancements in the blue economy.



Chapter 1

Introduction

1 Introduction

1.1 Aim of the Policy

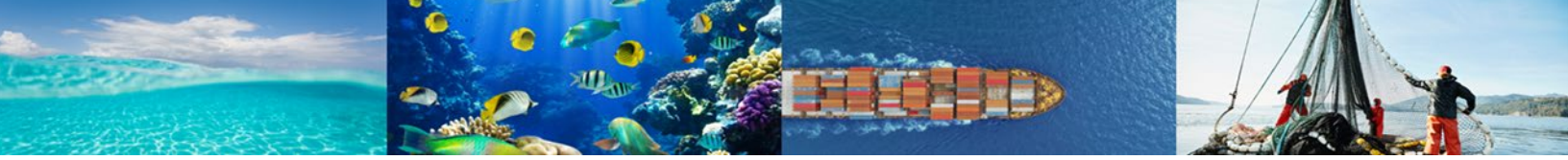
The National Policy on Marine and Blue Economy is a strategic framework designed to harness Nigeria's vast marine and coastal resources to foster sustainable economic growth, inclusive prosperity and environmental protection. It aligns with global trends towards sustainable exploitation of ocean resources and positions Nigeria as a leader in the marine and blue economy sector. The vision for this national policy is to transform Nigeria into a major hub for maritime trade in Africa, as well as a global reference for sustainable marine and blue economy development practices. It is to promote economic development, social equity, and environmental stewardship. As a nation, we must ensure that we achieve a responsible utilisation of marine resources to protect biodiversity, while expanding and diversifying our marine-based industries such as fisheries, tourism, shipping, etc.

The aim of this policy therefore is to provide a series of policy intents and strategic initiatives to sustainably accelerate the growth of Nigeria's blue economy. Its objectives include to:

a) Stimulate economic growth and job creation by expanding maritime transport and related services, developing fisheries and aquaculture, and fostering blue economy industries.
b) Enhance and improve the socio-economic well-being of coastal and inland waterways communities.
c) Enhance resilience to climate change impacts through adaptation strategies, contributing to the overall sustainability and ecological integrity of marine ecosystems.
d) Stimulate strong international cooperation and diplomacy for the development of Nigeria's blue economy.
e) Facilitate investment in the marine and blue economy and promote fair and transparent competition that prevents monopolistic practices by the industry players
f) Facilitate collaboration with relevant Ministries, Departments and Agencies (MDAs) and other stakeholders such as Nigeria Navy to ensure adequate security of the maritime assets and resources in the country.
g) Support allied sectors of the economy such as energy infrastructure, food security, and industrialisation.
h) Support the implementation of the United Nations Sustainable Development Goals (SDGs).

1.2 Definition of the Marine and Blue Economy

The Marine and Blue Economy (MBE) in the Nigerian context represents a holistic and sustainable approach to harnessing the potential of oceans, coastal and inland waters living and non-living things for economic growth, ecological conservation, and societal development. It promotes economic growth, social inclusion, preservation, and improvement of livelihoods while at the same time ensuring environmental sustainability of the oceans, and coastal and inland water areas.



This national policy document on marine and blue economy delineates Nigeria's marine and blue economy as all economic activities on or related to Nigeria's maritime domain. This includes offshore waters, offshore islands, estuaries, lagoons, archipelagos, deltas, wetlands, creeks, coral reefs, mangrove forests, sandy beaches and dunes, as well as inland waterways such as lakes, rivers, falls, and streams.

Nigeria's maritime domain is the sea, sub-sea and air space over which it has rights and obligations. It has a territorial sea of 12 nautical miles (nm) from the baseline, and lays claim to an Exclusive Economic Zone (EEZ) of 200 nm, and an extended Continental Shelf of up to 350 nm from the shore[1]. In addition, Nigeria is blessed with about 10,000 kms of inland waterways that traverse 28 of its 36 States.

1.3 Key Principles Guiding the Development of the Policy

The following principles represent the underlying philosophy that guided the development of this national policy.

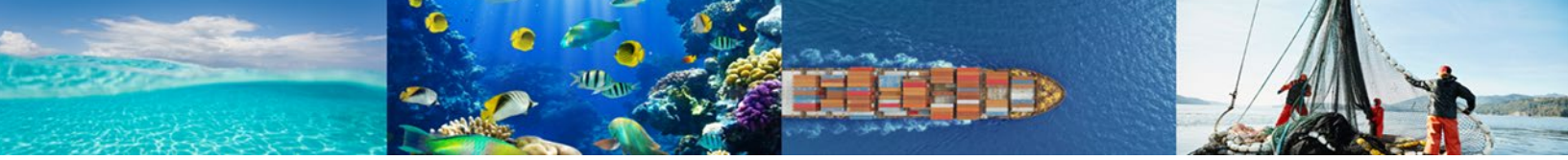
a) **Preservation of Nigeria's Maritime Interests** - This policy document seeks to preserve Nigeria's interests, derived from the shared values, goals and aspirations of the State and its people. These aspirations include the protection of the Nigerian territory and sovereignty, promotion of democracy, development of the domestic economy, active participation in the global economy, and the socio-economic development and wellbeing of the Nigerian people[2].

b) **Alignment with International Conventions and Protocols** - This policy document recognises Nigeria's membership of international bodies such as the International Maritime Organisation (IMO), the International Labour Organisation (ILO), etc., and its commitment to upholding international maritime, labour and environmental laws and practices.

c) **Regional Cooperation** - The cooperation of African countries is required for the successful development of the blue economy on the African continent. This policy takes into cognisance Nigeria's responsibility to cooperate with other African countries on matters such as security and safety on our waters, the exploitation of ocean resources, as well as alignment with the African Union strategy on the blue economy.

d) **Protection of the Marine Ecosystem** - The policy promotes the protection and restoration of marine, coastal and inland water ecosystems, reduction of the pollution of the water bodies, and coastal and inland water areas conservation initiatives.

e) **Stakeholder Engagement** - The national policy on marine and blue economy should benefit from several robust engagements with a wide range of stakeholders in the public, private, diplomatic, and development sectors, as well as those in the academia.



f) **Inclusive Wealth Creation** - The policy for the blue economy emphasises equitable distribution of the country's wealth through job creation and local investment opportunities. This includes specific policy initiatives aimed at youth employment, women empowerment, and support to persons with special needs.

g) **Strategic Partnerships** - The policy initiatives acknowledge the importance of collaborative efforts among governments, industries, academia and local communities. It recognises that legislation, strong governance structures, and partnerships are required to manage the country's marine and inland water resources. This must however be backed by public private partnerships, domestic investments, Nigeria in diaspora investments, and foreign direct investments to develop the blue economy.

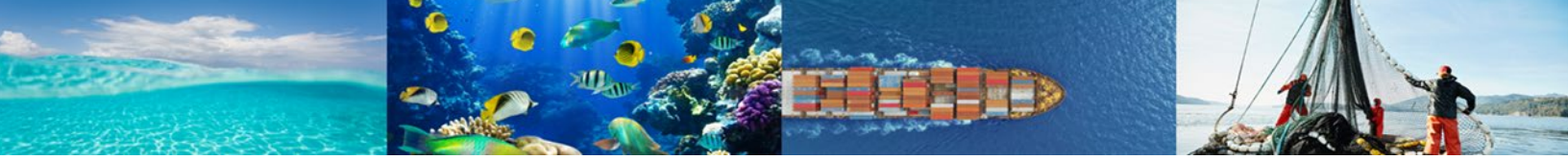
h) **Knowledge Led Innovation** - The policy advocates for the adoption of sustainable technologies to enable Nigeria to leapfrog the development ladder. This involves the application of emerging technologies such as artificial intelligence, data analytics, the internet of things, blockchain technology, etc. in established industries such as shipping, and fisheries/aquaculture, and in emerging areas like biotechnology.

i) **Outcome Driven** - The development of the marine and blue economy in Nigeria must be driven by specific measurable outcomes to be achieved within defined periods. A robust implementation arrangement and monitoring and evaluation framework is to be put in place to ensure diligent achievement of the policy objectives.

1.4 Policy Development Process

The national policy development process on Marine and Blue Economy was a comprehensive and inclusive effort, guided by a structured approach to ensure alignment with national priorities and stakeholder needs. The process began with the Honourable Minister commissioning a National Policy Technical Committee to spearhead the initiative of developing a national policy on marine and blue economy. This committee was tasked with conducting a thorough needs assessment to identify gaps, challenges, and opportunities within the marine and blue economy sector. The findings from this assessment laid the foundation for the policy's objectives and scope, ensuring it addressed critical issues and aligned with broader economic and developmental goals.

Following the needs assessment, the Technical Committee conducted a detailed sector analysis to understand the dynamics of the marine and blue economy. This included mapping key stakeholders across various subsectors such as maritime trade and transport, marine resources & industries, shipbuilding and repair, ports and related services, maritime safety and security, blue tourism and recreation, and marine fisheries and aquaculture. The stakeholder mapping ensured that all relevant actors were identified and engaged throughout the policy development process. Based on the sector analysis, the committee initiated the first draft of the policy, known



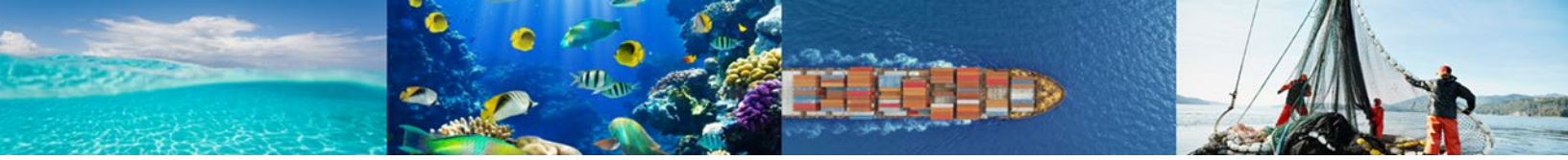
as the Zero Draft, which outlined the initial framework and strategic direction for the marine and blue economy.

To ensure inclusivity and gather diverse perspectives, the Technical Committee reached out to stakeholders and invited them to submit memoranda and inputs on the Zero Draft. These submissions were consolidated by subsectors, ensuring that the unique needs and challenges of each area—such as shipping, ports, maritime safety, and fisheries—were adequately captured. The committee meticulously reviewed these inputs and updated the Zero Draft to reflect the stakeholders' contributions, ensuring the policy was both comprehensive and representative of the sector's diversity.

The next phase involved facilitating a mini strategy session to present and agree on the broad strategic ambitions and aspirations of the policy. Key areas of focus included the sector's potential contribution to GDP, job creation, and sustainable development. This session helped align stakeholders on the policy's overarching goals and ensured that the draft reflected shared aspirations for the marine and blue economy. Following this, a series of executive and technical stakeholders' validation sessions were organised by subsectors and industry associations. These sessions involved critical stakeholders such as the National Assembly, the Nigeria Navy, the Nigeria Police, Federal Ministries (including Budget and National Planning, Environment, Agriculture, and Water Resources), state governments, and international bodies. These engagements provided a platform for in-depth discussions and further refinement of the policy. Subsequently, the draft was presented to the Federal Ministry of Budget and National Planning for review and buy-in, ensuring alignment with national economic planning and budgetary frameworks.

The Technical Committee also organised a validation session with the Nigerian Economic Summit Group (NESG). This session was to ensure the policy was robust, practical, and aligned with both national and international best practices. The feedback gathered during this session was instrumental in fine-tuning the draft policy.

The final stage of the process involved updating the policy based on comments and inputs from the Federal Ministry of Budget and National Planning, the NESG, the Nigeria Navy, Ministries, Departments, and Agencies (MDAs), and other relevant stakeholders. These updates ensured the policy was comprehensive, actionable, and reflective of the collective input from all parties involved. The finalised draft was then presented to the Federal Executive Council (FEC) for approval, marking the culmination of a rigorous, inclusive, and collaborative policy development process. This approach ensured that the National Policy on Marine and Blue Economy was not only well-informed but also widely supported by stakeholders across the public and private sectors.



1.5 References for Developing the Marine and Blue Economy Policy

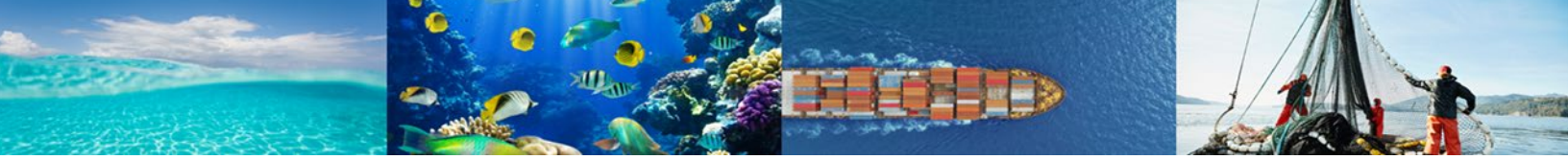
Reference was made to existing relevant instruments and documents in developing this National Policy on Marine and Blue Economy. This was done to ensure synergy of policy initiatives with Nigeria's obligations to international conventions and arrangements, continental agreements, and regional strategies and protocols. These include instruments on international maritime standards and protocols that have been ratified by Nigeria, international economic practices, environmental standards, labour standards, etc.

Some of the documents consulted include (but are not limited to):

- United Nations Convention on the Law of the Sea (UNCLOS)
- International Maritime Organisation (IMO) Conventions (SOLAS, MARPOL)
- International Labour Organisation (ILO) Declaration on Fundamental Principles and Rights at Work
- UN Sustainable Development Goals (SDGs) – 1,2,5,6,7,8,9,10,13,14
- Commonwealth Blue Charter
- World Bank – The Potential of the Blue Economy
- Africa Blue Economy Strategy
- National Maritime Strategy (2022)
- National Maritime Security Strategy
- Nigerian Blue Economy Implementation Plan (2024-2029) (AU-IBAR)
- National Maritime Transport Policy 2021 (Draft)
- African Maritime Transport Charter
- 2050 African Integrated Maritime Strategy (AIMS)
- ECOWAS Integrated Maritime Strategy
- ECOWAS Regional Climate Strategy, etc.

In addition to these, reference was made as required to relevant existing laws, policies, strategies and plans of Nigeria to ensure compliance and alignment with their provisions. Central to these are the National Development Plan, the Renewed Hope Agenda of the Federal Government, the Merchant Shipping Act (2007), Coastal and Inland Shipping (Cabotage) Act (2003), Sea Fisheries Act (1992), Nigerian Minerals and Mining Act, and the National Maritime Strategy (2022) among others.

Furthermore, the national policy documents and reports of blue economy nations such as the European Union, African Union, Indonesia, Seychelles, Mauritius, Barbados, Ireland, Gambia, India, Norway, Kenya, Virgin Islands, Namibia, etc. were also studied to draw insights on strategies for blue economy development. The best practice lessons from these reviews were incorporated into the Policy document.

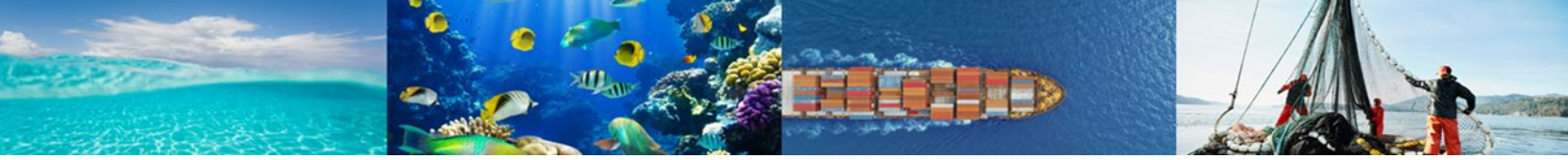


1.6 Structure of the Policy Document

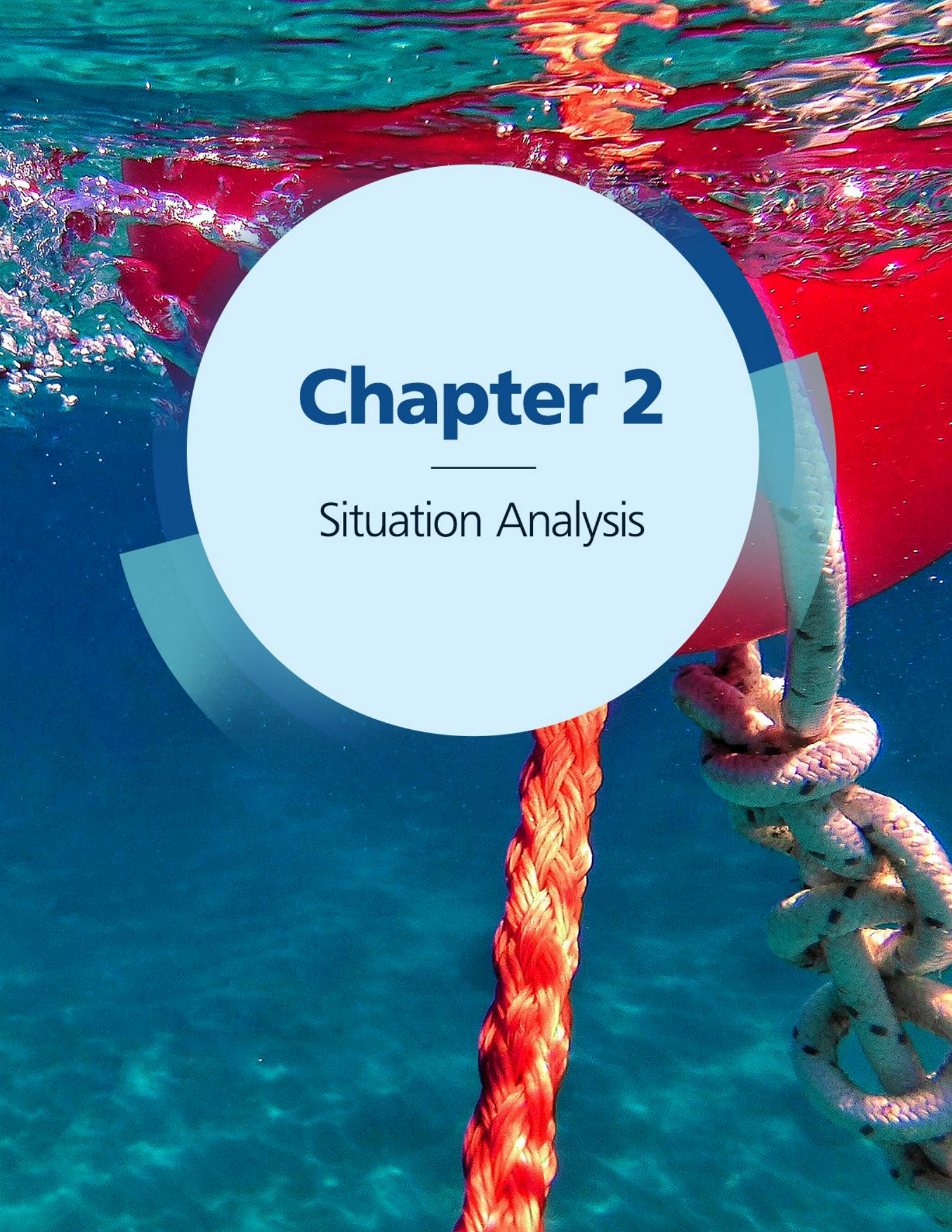
This National Policy on Marine and Blue Economy aims to leverage the vast potential of Nigeria's marine and inland water resources, while ensuring the preservation of marine biodiversity and the health of marine ecosystems. It presents Nigeria with a unique opportunity to innovate and create a sustainable future. The Policy thus contributes to the achievement of the objectives of the National Development Plan and the Renewed Hope Agenda.

The Policy outlines the initiatives that will address the challenges in the blue economy towards unleashing its potential as a key contributor to Nigeria's economic transformation. It lays out the priority policy actions to harness Nigeria's blue economy potentials in favour of the Nigerian people and its economy. The Policy document is structured as follows:

- **Chapter 1** - Introduction to the Policy document, describing the aim of the Policy and the scope of what is referenced as Nigeria's marine and blue economy. The chapter further outlines the underlying philosophy underpinning the Policy, and the existing laws, conventions, and strategies that provided a reference framework for its development.
- **Chapter 2** - Situation analysis of the marine and blue economy. The existing situation of Nigeria's blue economy is reviewed, including the legal and regulatory framework that governs it. The chapter closes with a broad review of the key strengths, weaknesses, opportunities and threats of the sector, and the broad framework of action required to transform it.
- **Chapter 3** - Nigeria's blue economy aspirations, outlining the vision, missions, and strategic objectives and goals. It also includes the performance outcomes expected from the implementation of the initiatives contained in this policy document.
- **Chapter 4** - Maritime Trade and Transportation: This covers an elaboration of the current situation, challenges, aspirations and policy initiatives for the economic transformation of the sector. It includes sub-sectors such as marine safety and marine security, shipping and ship building and repairs, ports and related services, etc.
- **Chapter 5** - Fisheries and Aquaculture: This covers an elaboration of the current situation, challenges, aspirations and policy initiatives for the economic transformation of the fisheries and aquaculture sector of the marine and blue economy.
- **Chapter 6** - Marine Resources and Industries: The chapter is dedicated to policy actions for the development of industries that depend on both biotic and abiotic marine resources. It covers an elaboration of the current situation, challenges, aspirations, and policy initiatives for the development of marine minerals mining (salt harvesting, seabed mining, etc.), biotechnology, underwater cabling and water desalination.
- **Chapter 7** - Energy and Environmental Sustainability: This chapter covers the development of economic activities (commercial and non-commercial) that bother on the sustainable utilisation and protection of the marine environment. It includes an elaboration of the current situation, challenges, aspirations and policy initiatives for the development of sub-sector activities such as blue energy and renewables using wind and tidal waves, coastal protection, marine pollution and waste management, blue carbon, and marine resource protection.
- **Chapter 8** - Blue Tourism and Recreation: This chapter focuses on the current situation, challenges, aspirations and policy initiatives for the strengthening of the coastal tourism and hospitality industry for recreational purposes.

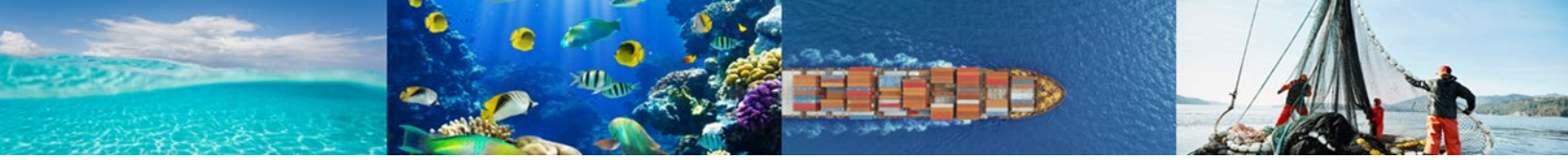


- **Chapter 9** - Capacity Building: This chapter discusses strategies and initiatives required to promote the development of skills needed for the growth of the Marine and Blue Economy sectors.
- **Chapter 10** - Implementation, Monitoring and Evaluation: The chapter outlines Nigeria's institutional structure for blue economy development, guiding key supporting mechanisms, and platforms at national and state level for the implementation, monitoring and evaluation of the policy initiatives.
- **Chapter 11** - References: The chapter outlines the sources of information or data for the policy documentation.



Chapter 2

Situation Analysis



2 Situation Analysis

2.1 The Global Blue Economy

The blue economy constitutes a significant percentage of earth's resources. Over 70 percent of the earth is covered by water and about half of the world's population lives within 60 kms of the sea. The ocean economy supports 90% of global trade and provides millions of jobs. It includes industries such as shipping, port services, fisheries and aquaculture, tourism, and offshore energy, etc. The global blue economy is currently valued at US$2.5 trillion according to the United Nations Environment Programme (UNEP). This accounts for roughly 2.4% of the $105.44 trillion[3] global GDP.

Oceans, seas, coasts and waterways play an important role in regulating climate and the functioning of ecosystems, such as mangrove forests, sea grass meadows, and saltwater marshes, as well as in storing and sequestering atmospheric carbon.

The blue economy is also a major contributor to sustainable livelihoods, helping to create jobs, reduce poverty and end hunger. For example, the UN Food and Agriculture Organisation (FAO) estimates that fish provide more than 4.2 billion people with over 15 percent of their animal protein intake.

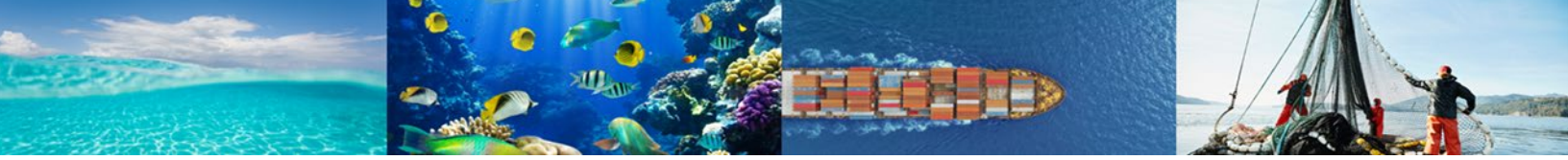
2.2 The Marine and Blue Economy in Nigeria

Nigeria is the most populous country in Africa with a population of 227.9 million, this offers significant market opportunity. It is one of the largest economies in sub-Saharan Africa with a GDP of $362 billion (2023). Economic growth has rebounded following the global slump due to the pandemic, averaging a growth rate of 2.35% in 2023. The path towards economic transformation has been charted by the Renewed Hope Agenda of the Federal Government, and the marine and blue economy has been tapped to play a significant role in delivering its objectives.

The marine and blue economy is significantly important to the Nigerian economy. This is clearly seen in its strategic contributions to the country, namely in:

a) **Transportation and Trade** - The Nigerian economy is highly dependent on the exports of crude oil and agriculture products and the import of raw materials, machinery and equipment for industries. The country's transport of cargo is a key driver of the economy in this regard through its access to the Gulf of Guinea (Atlantic Ocean) and its navigable inland waterways.

b) **Government Revenue Generation** - The marine and blue economy contributes significantly to government revenues through custom duties, taxes, levies and fees collected by agencies of government such as the Nigeria Customs Service (NCS), Nigerian Maritime Administration and Safety Agency (NIMASA), the Nigerian Ports Authority (NPA), etc.

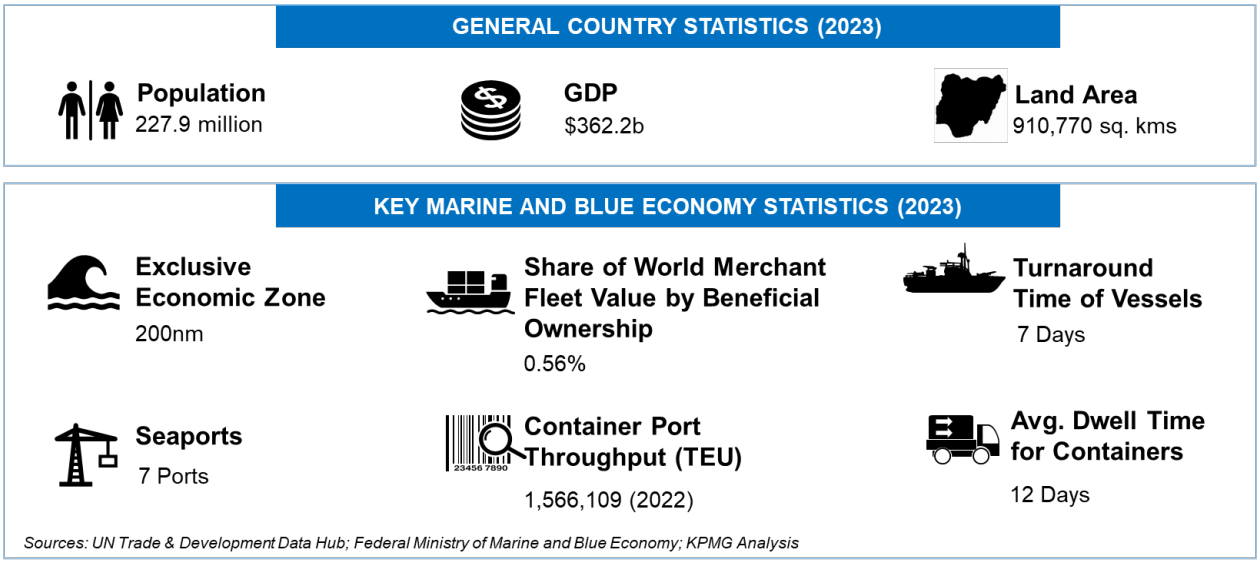


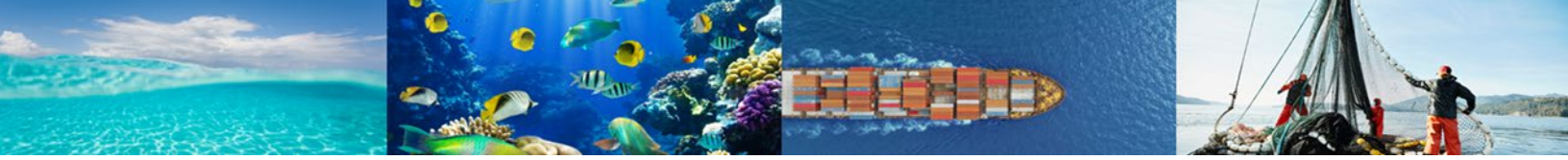
c) **Job Creation** - The maritime industry through its value chain activities engages millions of Nigerians in meaningful employment. For example, the fisheries and aquaculture industry engage many Nigerians in meaningful employment; seafarers/seamen, engineers, etc. are employed to meet the demands of the ship owners, ship operators and bareboat charterers for the operation and manning of vessels. The jobs in the marine and blue economy have a multiplier effect in the creation of indirect employment in other economic activities like warehousing, marine insurance, banking, cargo handling, petty trading, etc.

d) **Industrial Development** - The establishment of seaports in Nigeria have helped to incentivise the development of industries within their vicinities. This has helped industries that are heavily dependent on imported raw materials and equipment to produce finished goods at competitive costs. This pattern is also observed in the siting of free trade zones in close proximity to the seaports. The location is an important factor for industries primarily focused on the export market. About 70% of industrial activities in Nigeria are sited around the port cities of Lagos, Warri, Port Harcourt and Calabar[4].

e) **Coastal Tourism** - The natural beaches and inland waterways in Nigeria have promoted a tourism and hospitality industry that creates jobs and earns revenue for State Governments. Tourists cruise the Atlantic Ocean, lagoon and inland waterways in cruise boats and coastal vessels for relaxation and recreation. Many Nigerians also take to the beaches for picnics, musical shows and entertainments during religious festivals and public holidays.

Figure 1:Key Statistics on Nigeria's Marine and Blue Economy





2.3 Maritime Governance

International Relations

Nigeria is a member of international and regional organisations such as the International Maritime Organisation (IMO), the United Nations Environment Programme (UNEP), Maritime Organisation of West and Central Africa (MOWCA), Memorandum of Understanding on Port State Control for West and Central African Region (Abuja MoU), International Labour Organisation (ILO), International Seabed Authority (ISBA), and the Gulf of Guinea Security Cooperation Framework, etc. The country has established and maintains friendly relations and cooperation on matters of safety of maritime transport and protection of the marine environment through its membership of these organisations.

Nigeria is a Party to all the major International Maritime (IMO) Conventions and International Labour Organisation (ILO) Maritime Conventions on Ship Safety, Security, Marine Pollution Prevention and Maritime Labour Standards giving full and complete effect to their provisions.

Governance of the Marine and Blue Economy

The authorising authority for the legislative framework of laws that govern Nigeria's marine and blue economy is the National Assembly. Legislative oversight of the blue economy is consequently provided by the Marine and Blue Economy Committees of the Senate and House of Representatives.

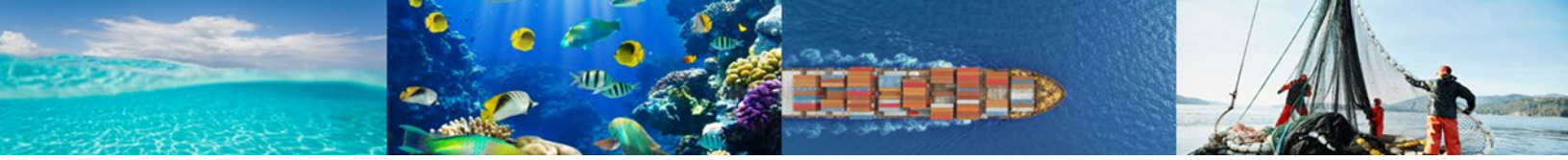
The regulatory environment is overseen by the Federal Ministry of Marine and Blue Economy (FMMBE), established in 2023 by the Federal Government. The mandate of the FMMBE is: "To institutionalise the Marine and Blue Economy as an important pillar for economic sustenance and growth diversification having due regards to the ecosystem."

The FMMBE is supported by a number of agencies and parastatals that regulate and provide services that cut across various segments of the marine and blue economy. They are as follows:

a) **Nigerian Maritime Administration and Safety Agency** – NIMASA is the agency responsible for effective Maritime Administration and Safety, Maritime Security, Maritime Labour Regulation, Marine Pollution Prevention and Control, Search and Rescue, Cabotage Enforcement, Shipping Development and Ship Registration, Training and Certification of Seafarers, and Maritime Capacity Development.

b) **Nigerian Ports Authority** – The NPA's mandate is to develop, own and operate ports and harbours; provide safe and navigable channel; offer cargo handling and storage services; maintain port facilities and equipment; ensure safety and security; and develop and own property.

c) **Nigerian Shippers Council** – The NSC is the port economic regulator. Its primary responsibility is to facilitate trade and to protect the interests of Nigerian Shippers, by promoting fair trade practices and ensuring the compliance of shipping companies with standard operating procedures.



d) **National Inland Waterways Authority** – NIWA was established with the primary responsibility to improve and develop Nigeria's inland waterways as an alternative mode of transportation for the movement of economic goods and persons.

e) **Federal Department of Fisheries and Aquaculture** – the FDFA is vested with the statutory responsibility of developing Nigeria's fisheries for attainment of sustainable self-sufficiency in fish production, utilisation and resource conservation.

f) **Council for the Regulation of Freight Forwarding in Nigeria** – The CRFFN is charged with, amongst other responsibilities, regulating and controlling the practice of Freight Forwarding in Nigeria, and promoting the highest standards of competence, practice and conduct among members of the profession.

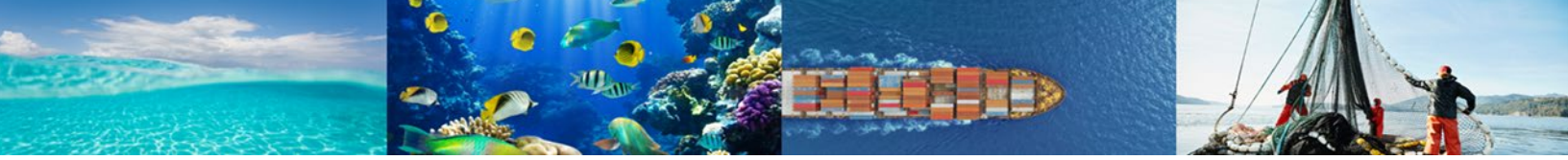
g) **Maritime Academy of Nigeria** - The MAN is Nigeria's premier maritime institution, charged with the responsibility of training all levels of manpower to man Merchant Navy Ships, Ports, Maritime Engineering Workshops, Pilotage, Shipyards and other Marine related industries.

h) **Nigerian Institute for Oceanography and Marine Research** – NIOMR is a multidisciplinary marine research institute for marine sciences. Its scientific research activities include aquaculture, biological oceanography, biotechnology, fisheries resources, fish technology and product development, physical and chemical oceanography, marine geology/geophysics, mariculture, marine meteorology and safety, etc.

i) **National Institute for Freshwater Fisheries Research (NIFFR):** The NIFFR is a Nigerian research institute focused on the sustainable management and use of freshwater fisheries and other aquatic resources. NIFFR seeks to increase self-sufficiency in fish production and improve the livelihoods of fish farmers via scientific research and development.

j) **The Federal College of Freshwater Fisheries Technology (FCFFT), New Bussa and Baga:** The institutions' mandate among others include: (i) Train junior, intermediate and senior fisheries personnel for inland fisheries development through short- and long-term formal education; (ii) Train and retrain middle level manpower in aquaculture technology (iii) Encourage women participation in fisheries through post-harvest technology.

k) **Federal College of Fisheries and Marine Technology (FCFMT):** The institution's mandate is to train middle-level workers in fisheries technology (freshwater, brackish, and marine), which includes aquaculture, fish processing, and fishing gear design and building. FCFMT is also responsible for training deep-sea fishermen to handle Demersal and Pelagic ships, as well as interwoven training of maritime professionals (traditional seafarers and shore managers) to support both national and international maritime trade.



2.4 SWOT Analysis

2.4.1 Strengths and Potentials

Nigeria is a large market in Africa with significant strengths that can be leveraged to transform its economy. A focused investment to further develop its maritime infrastructure, expand private sector activities in the blue economy, and build the capacity of its human capital is however required to unleash its great potential.

Some of the key strengths of the country as regards the marine and blue economy include:

a) Significant Natural Endowments

Nigeria is abundantly endowed with significant maritime resources. The nation's maritime environment defines a sovereign territory which is about one third of the total land mass of the country. Nigeria's maritime resources span a coastline of 853 kilometres bordering the Atlantic Ocean in the Gulf of Guinea. This translates to an Exclusive Economic Zone (EEZ) of about 200nm over which the country holds exclusive exploration and development rights. In 2023, Nigeria received approval to extend its continental shelf by 16,300 sq. kms, an area five (5) times the size of Lagos State.

The country's natural endowments include a vast inland waterways resource estimated at nearly 10,000kms, with 3,800 kms of this currently capable of supporting vibrant intra-regional trade. Twenty-eight (28) of the country's thirty-six (36) states can be accessed through waterways, linked to five (5) neighbouring countries (Benin Republic, Equatorial Guinea, Cameroon, Chad and Niger).

The country has abundant natural marine resources, both living and non-living. As the largest fishing nation along the Western Coast, it is well positioned as a global hotspot for marine biodiversity.

b) Strategic Location in the Gulf of Guinea

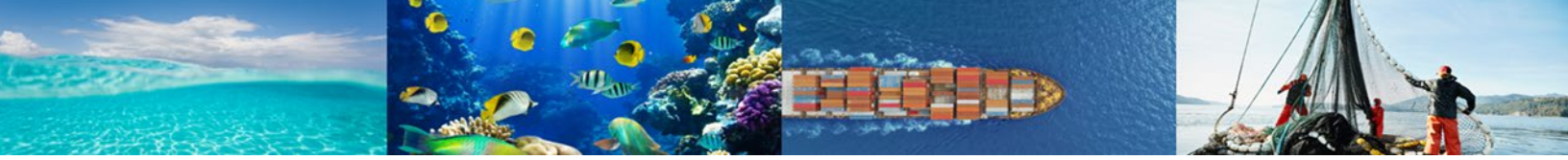
Strategically situated navigational routes link Africa with North and South America, Europe, and Asia. This makes the maritime sector a crucial catalyst of Nigeria's economy. Nigeria's location in the Gulf of Guinea with direct freight access to North America and Europe via the Atlantic Ocean gives the country a "freight advantage" to supplying the richest markets in the world. Nigeria can also reach Latin America, West Africa and Central Africa via its strategic location in the Gulf of Guinea and near the middle of Africa.

c) Large Domestic Market

Nigeria is one of the top 5 economies in Africa with a population of 228 million and GDP of $362.2 billion. This large domestic market has been the bedrock of the country's trade and reputation as a maritime nation. The country accounts for about 60% of the maritime trade of West Africa.

d) Growing Maritime Infrastructure

Nigeria is internationally recognised as a reputable maritime nation, though, most of the country's maritime worth is latent. The country has over time expanded the scope of its



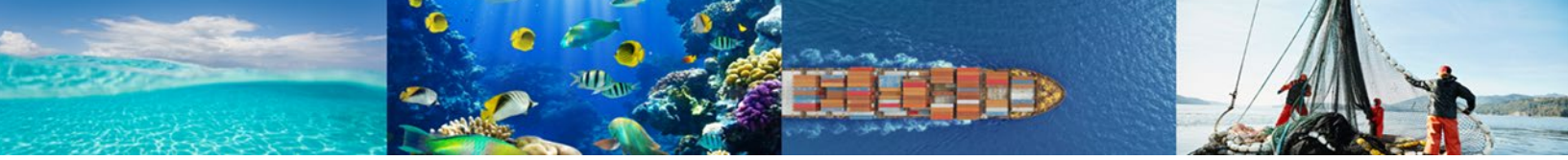
maritime operations through progressive development of its maritime infrastructure. There are currently 7 seaports in Nigeria, located in Apapa, Tin Can Island, Lekki, Onne, Port Harcourt, Delta and Calabar. Four (4) new deep seaports are also being developed to be located in Ibom, Badagry, Olokola, and Bonny.

The table below outlines key maritime infrastructure in Nigeria:

Table 1: Key Maritime Infrastructure in Nigeria

Maritime Infrastructures	Operational	Upcoming
Seaports	Seven (7) ports – Apapa Port Complex – Tin Can Island – Lekki Deep Seaport – Onne Port – Port Harcourt – Delta Port – Calabar Port	Nine (9) ports – Ibom Deep Seaport – Badagry Deep Seaport – Olokola (Ogun) Deep Seaport – Ondo Deep Seaport – Bonny Deep Seaport – Burutu Port – Benin Port – Bakassi Deep Seaport – Agge Deep Seaport
River Ports	Two (2) ports – Baro Port – Onitsha	– Lokoja Port
Inland Dry Ports	Three (3) Inland Dry Ports – Kaduna Inland Dry Port – Dala Inland Dry Port (Kano) – Funtua Dry Port (Katsina)	Four (4) Inland Dry Ports – Erunmu, Ibadan- Oyo State – Isiala Ngwa, Abia State – Heipang, Jos – Plateau State – Jauri, Maiduguri- Borno State – Snake Inland Port
Vehicle Transit Areas	Nil	Nine (9) Vehicle Transit Areas – Lokoja, Kogi State – Obollo-Afor, Enugu State – Jebba, Kwara State – Ore, Ondo State – Ogere, Ogun State – Porto Novo Creek, Lagos State – Onitsha, Anambra State – Mararaban Jos, Kaduna State – Potiskum, Yobe State

Source: Federal Ministry of Marine and Blue Economy



2.4.2 Weaknesses

A lot of literature and conversation have been generated as regards the significant challenges that hinder the performance of the marine and blue economy in Nigeria. While these challenges are outlined within the various sectors and sub-sectors covered in this document, this section outlines the cross-cutting fundamental issues that require urgent policy interventions. They include:

a) **Slow Pace of Legislative Reforms**

Key pieces of legislation that border on reforms in the marine and blue economy have been held in the legislative pipeline for several years. There is a need to fast track the legislative process for the amendments of Acts and domestication of maritime conventions and protocols. However, the recent creation of the Ministry of Marine of Marine and Blue Economy and the commitment of the National Assembly Committees on Marine and Blue Economy are expected to give more impetus to the pace of legislative reforms going forward.

b) **Weak Sector Governance**

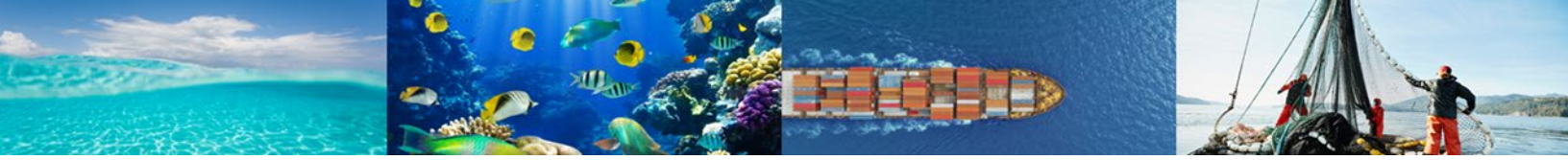
The current governance and institutional arrangements for the marine and blue economy has inherited historical issues as regards overlaps in the mandates of the Ministries, Departments and Agencies (MDAs) of government at both federal and state levels. Time, effort, and resources are therefore wasted on resolving these overlap issues. The gaps in interagency cooperation and the frequent turnover in leadership positions has also hampered consistent sector progress. In addition to this, the implementation capacity of MDAs to coordinate and execute needs to be better enhanced.

c) **Underinvestment in the Sector**

The FGN current budgetary allocation is inadequate for the sector. There is a need to expand financing through approaches such as blue bonds, development finance, blended finance, public-private partnerships, etc. This has limited the potential of the blue economy as regards its contribution to national economic transformation. There is a need for significant investment in maritime infrastructure – seaports, river ports and jetties, waterways dredging, inland ports, seaport-road-rail connectivity, ship ownership, water transport vessels, etc. A clear roadmap to facilitating funding the sector and incentivising private sector investments is required to fully address this challenge.

d) **Inadequacy of Locally Owned Ships**

Nigeria is the most populous country in Africa, having one of the largest economies. As the economy is heavily dependent on income and exports, the country is being shortchanged as most ships that service its significant trade are not owned by Nigerians. The economic opportunity loss translates into the loss of foreign exchange earnings, job losses for seafarers and other indirect forms of employment that depend on the maritime industry. This opportunity loss due to the inadequacy of locally owned ships operating in



our waters also makes shipping charges on Nigeria's routes more expensive compared to other places.

e) **Port Infrastructure Gaps and Low Competitiveness**

Our ports are inefficient on the back of infrastructure gaps, manual terminal operations, port congestion, and extra time of voyage and dwell time of ships. A major challenge of Nigerian ports is low draught level. Hence, the inability to accommodate mega ships with 8,000 -20,000 TEUs thereby losing businesses to other neighbouring ports with high draught levels. In terms of operational efficiency for example, the average vessel turnaround time in the ports is 7 days compared to 1-2 days in developed countries. The lack of adequate multimodal infrastructure to enable the efficient connection of the ports to the rail network, road network, and inland waterways/ICDs is also a major drawback for the national economy.

f) **Lack of Synergy in Hydrographic Capacity**

The maritime industry is based on navigable water. Most of our waters are deemed as not navigable because of a lack of synergy between government agencies responsible for charting of the waters and maintaining records on same. There is room for more synergy in the mapping of our maritime domain to facilitate greater maritime traffic and blue economic investments. The hydrographic study and a one-stop shop electronic inventory of all the country's hydrographic capacity will help to enlarge the space for more investments in the blue economy.

The navigable depths to some of our major seaports also need to be increased to accommodate traffic from larger vessels.

g) **Illegal, Unreported and Unregulated (IUU) Fishing**

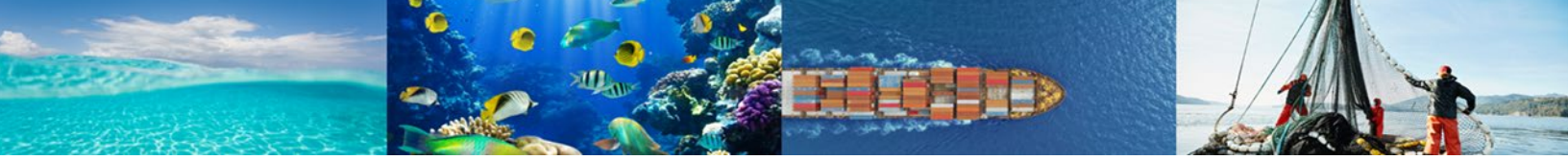
IUU fishing threatens sustainable fisheries and ocean ecosystems. It can undermine efforts towards food security. IUU fishing is a challenge in Nigerian waters. It ranges from foreign owned vessels fishing illegally in Nigeria's waters to artisanal fishermen exceeding the areas designated for artisanal fishing. There is a need to deter and eliminate IUU fishing by foreign vessels to protect the sustainability of fisheries, the livelihood of artisanal fishing, and the conservation of our marine ecosystems.

2.4.3 Opportunities

Nigeria can take advantage of recent trends and developments to achieve great strides in the development of its local blue economy. Some of these opportunities include:

a) **Growing Global Maritime Trade**

The growing maritime trade presents an opportunity for Nigeria to add to its investments in shipping, ship building, ship repairs and maintenance, taking advantage of its large domestic market. The volume of global seaborne trade has been showing a growing trend since 1990. Between 1990 and 2021, the volume of cargo transported by ships more than doubled, from four (4) to nearly eleven (11) billion tons. Hand in hand with the rise in seaborne trade goes the increasing capacity of the global merchant fleet. Between 2013



and 2021, the capacity of the worldwide merchant fleet grew by about 43 percent, reaching almost 2.1 million deadweight tons in 2021[5]. Furthermore, maritime trade is expected to grow by 2.4% in 2023 and more than 2% between 2024 and 2028[6].

b) African Continental Free Trade Area

The African Continental Free Trade Area (AfCFTA) is a free trade area established in 2018 connecting 55 countries and 1.3 billion people with a combined GDP of $3.44 trillion[7]. This significant potential for trade expands the opportunity for seaborne trade between African countries. This represents a great opportunity for Nigeria's blue economy being the country with one of the longest coastlines in the Gulf of Guinea.

c) Potential to be #1 Maritime Hub in West Africa

Nigeria accounts for about 60% of the maritime trade of West Africa. The country's dream of becoming a leading maritime hub for West and Central Africa remains an opportunity to be grasped. This however will require significant investments in seaport infrastructure and intermodal transport connectivity to facilitate this ambition. Other development initiatives must complement this to make the dream a reality. This includes human capacity development, achieving operational efficiency in port operations, etc.

d) Extension of the Continental Shelf

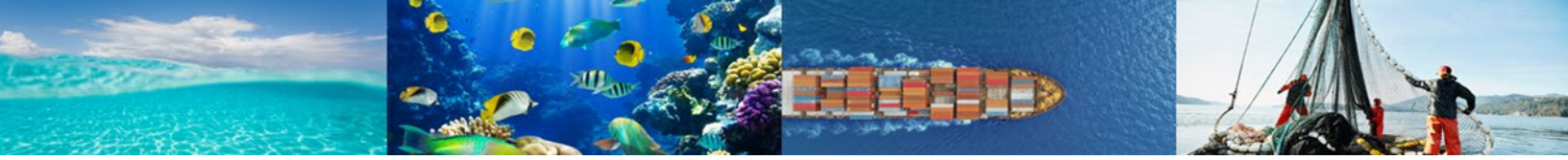
Approval was given to Nigeria in 2023 to extend its continental shelf claims by 16,300 sq. kms, an area almost five (5) times the size of Lagos State. The United Nations Convention on the Law of the Sea (UNCLOS) establishes the exclusive right of a sovereign state to explore and exploit the natural resources located on or in the shelf. These include mineral/non-living resources and seabed organisms.

e) Lagos – Calabar Coastal Road

The 700km Lagos – Calabar coastal highway represents a huge opportunity for the marine and blue economy in Nigeria. The road when completed will link the Lekki deep seaport and economic corridor in Lagos to the rich potentials of seven other states (Ogun, Ondo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River) for manufacturing, agriculture, trade and tourism. The highway will boost trade and when properly harnessed presents a unique opportunity to increase the contribution of the blue economy to Nigeria's GDP.

f) Technology Application in the Blue Economy

The application of existing and emerging technologies represents a huge opportunity for Nigeria to leapfrog in the development of its blue economy. Technologies help to protect the marine ecosystem and improve conservation efforts; mobile technology can assist to assess fish stock; technologies like sensors, satellites, etc. detect ocean pollution and help to study biodiversity, etc. Autonomous shipping, robots cleaning up beaches, and underwater agriculture are interesting opportunities offered by the application of technological advances to blue economy objectives.



2.4.4 Threats

The development of Nigeria's blue economy is subject to certain risks and threats that must be mitigated. Some of these include:

a) **Insecurity on the Waterways**

Nigeria has recorded zero security incident in its offshore waters for the past few years. However, piracy, kidnappings, trafficking, resource theft and other forms of insecurity remains a threat to be guarded against. Instances of insecurity on the waters deter investments, deplete marine resources, and pollute the marine environment, thereby negatively impacting economic development. Deploying and maintaining adequate security on our offshore and inland waters must remain a priority for the Nigerian government.

b) **Pollution and Destruction of Marine Ecosystems**

There are various forms of marine pollution that negatively impact the sustainable exploitation of our marine resources. This ranges from plastic pollution to crude oil spills to industrial discharges and untreated sewage runoff into water bodies. For example, it is estimated that about 7% (936 kilo tons) of the plastic waste generated in the country ended up as aquatic pollution in 2020. This is projected to increase by 78% by 2040 in the absence of a system change in how plastic pollution is managed[8]. Plastics can contain toxic chemicals that can be ingested by marine organisms. Industrial and untreated sewage cause algal blooms and oxygen depletion that make it difficult for fish and other forms of marine life to survive.

c) **Climate Change and Extreme Weather Events**

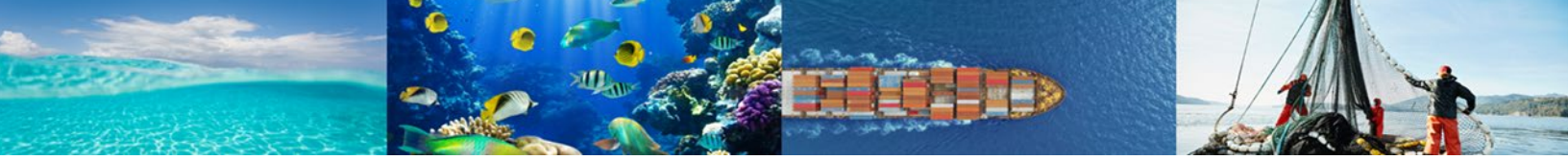
Change in the climate is causing sea temperatures to rise and altering the patterns of ocean currents. This disturbance in the marine ecosystem creates disruptions to marine lifecycles and weather patterns. This in turn has consequences for the sustainability of marine life, biodiversity, and blue economy development.

d) **Cyber Risk**

Shipping is becoming increasingly smart, being more heavily dependent on technology such as artificial intelligence, blockchain, data analytics, etc. As vessels become more connected, cyber safety and security then becomes a threat that must be mitigated to protect data, people, assets, and operations.

e) **Weak Governance Arrangements**

Nigeria has been prone to policy reversals and frequent changes in government policy and direction. This has often meant the abandonment of initiatives to develop and transform the economy. The result has been a slow pace of growth and economic transformation. Efforts must be made to mitigate the impact of this threat on the new marine and blue economy policy of the country. Institutional arrangements must be set in place as to ensure the continuity of development initiatives when leadership turnovers occur.



2.5 Framework of Action for Nigeria's Marine and Blue Economy

The development of Nigeria's blue economy is dependent on leveraging its strengths and potential for a vibrant blue economy and taking advantage of the prevailing opportunities, while at the same time addressing its weaknesses and mitigating the threats. A framework of action is consequently required to execute this. It must spell out the broad strategic actions to be taken, and the economic levers required to drive the creation of value in the sector.

The 4-Point framework of action for developing Nigeria's blue economy is as follows:

a) **Strengthen Blue Governance** - Strengthen the legal and regulatory environment, the security architecture of our waterways, and the capacities of key government agencies to become enablers of blue economic growth.

b) **Transform Existing Operations** - Implement initiatives that enable us achieve world class turnaround times and costs in our port operations. This includes introducing technology to drive efficiency and ensuring compliance with current regulations and safety codes.

c) **Enhance Blue Infrastructure** - Deploy a masterplan for blue economy infrastructure covering seaports, river ports and jetties, inland waterways, dry ports, inland container depots, export processing centres, vehicle transit centres, fish terminals and harbours, etc. and their interconnectivity with rail and road networks.

d) **Promote Sustainable Blue Economy Investments** – Design and execute an investment promotion campaign that ensures an enabling environment for local investments in blue economy activities, foreign direct investments, innovative financing, technology adoption, and sustainable livelihoods.

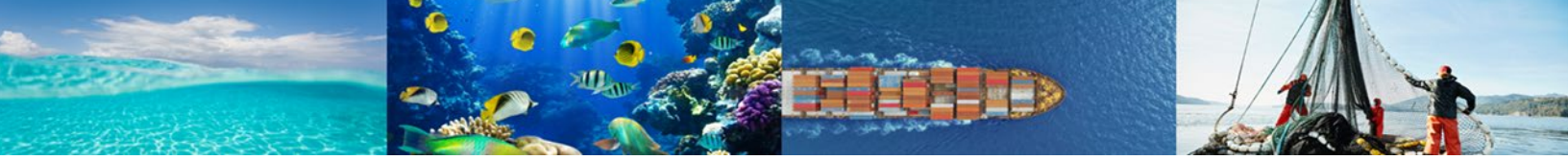
The framework of action was leveraged to generate strategic recommendations and initiatives for each sector and sub-sector of the blue economy. This was in addition to the various policy recommendations proposed by a broad range of stakeholders in Nigeria's marine and blue economy. This compendium of strategic recommendations and initiatives were then categorised into sectors and sub-sectors.

Finally, the completeness and adequacy of the policy recommendations were ensured by ensuring that all relevant economic drivers of value had been utilised in transforming each sub-sector of the nation's blue economy. These drivers of economic value are:

a) **Laws and Regulations -** These are initiatives to establish legislation and guide compliance with international conventions, protocols, and best practices.

b) **Governance and Institutional Arrangements** - Initiatives with respect to oversight of sector activities and inter-agency coordination necessary to deliver on strategic objectives and targets.

c) **Infrastructure** - Initiatives to build or rehabilitate facilities for marine and blue economy operations.



d) **Finance and Investment Climate/Incentives** - These include funding, the creation of an enabling environment, investment attraction, and government incentives required to promote private investments.

e) **Innovation and Technology** - These are initiatives leveraging research, innovation and technology resources to enable and accelerate impact delivery across key strategic target areas.

f) **Quality and Standards** - These are initiatives to ensure compliance with local and international leading practices, as well as safety regulations within the marine and blue economy.

g) **Skills and Capacity Building** - These are initiatives to develop human capabilities and training for sustainable growth of the marine and blue economy.

h) **Market Access – Local Patronage/ International Markets** - These are initiatives to expand opportunities and position Nigeria's marine products in global markets.

i) **Sustainability/Environmental Considerations -** These are initiatives to integrate sustainability and environmentally friendly practices in delivering on strategic objectives.

Table 2: Framework of Action for Nigeria's Marine and Blue Economy

	Action	Description	Drivers of Economic Value	Timeline
S	**Strengthen Blue Governance**	Strengthen the regulatory environment, the security architecture of our waterways, and the capacities of key government agencies to become enablers of blue economic growth.	▪ Laws and Regulations ▪ Governance and Institutional Arrangements ▪ Infrastructure ▪ Sustainability/Environmental Considerations ▪ Finance and Investment Climate/Incentives ▪ Innovation and Technology ▪ Quality and Standards ▪ Skills and Capacity Building ▪ Market Access – Local Patronage/International Markets	**Short Term** (2025 -2027)
T	**Transform Existing Operations**	Implement initiatives that enable us achieve world class turnaround times and costs in port operations.		**Short to Medium Term** (2025 -2030)
E	**Enhance Blue Infrastructure**	Develop and execute a masterplan for blue economy infrastructure covering seaports, dry ports, terminals, inland waterways and interconnectivity with rail and road networks.		**Short to Long Term** (2025 - 2035)
P	**Promote Sustainable Blue Economy Investments**	An investment promotion drive that provides an enabling environment for investments in blue economy activities, innovative financing, sustainable livelihoods, and foreign direct investments.		**Short to Long Term** (2025 - 2035)

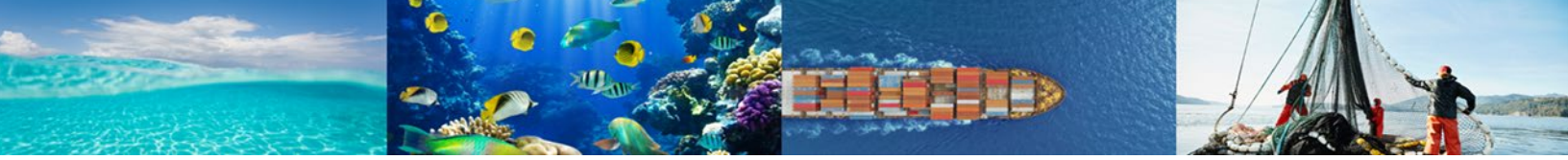
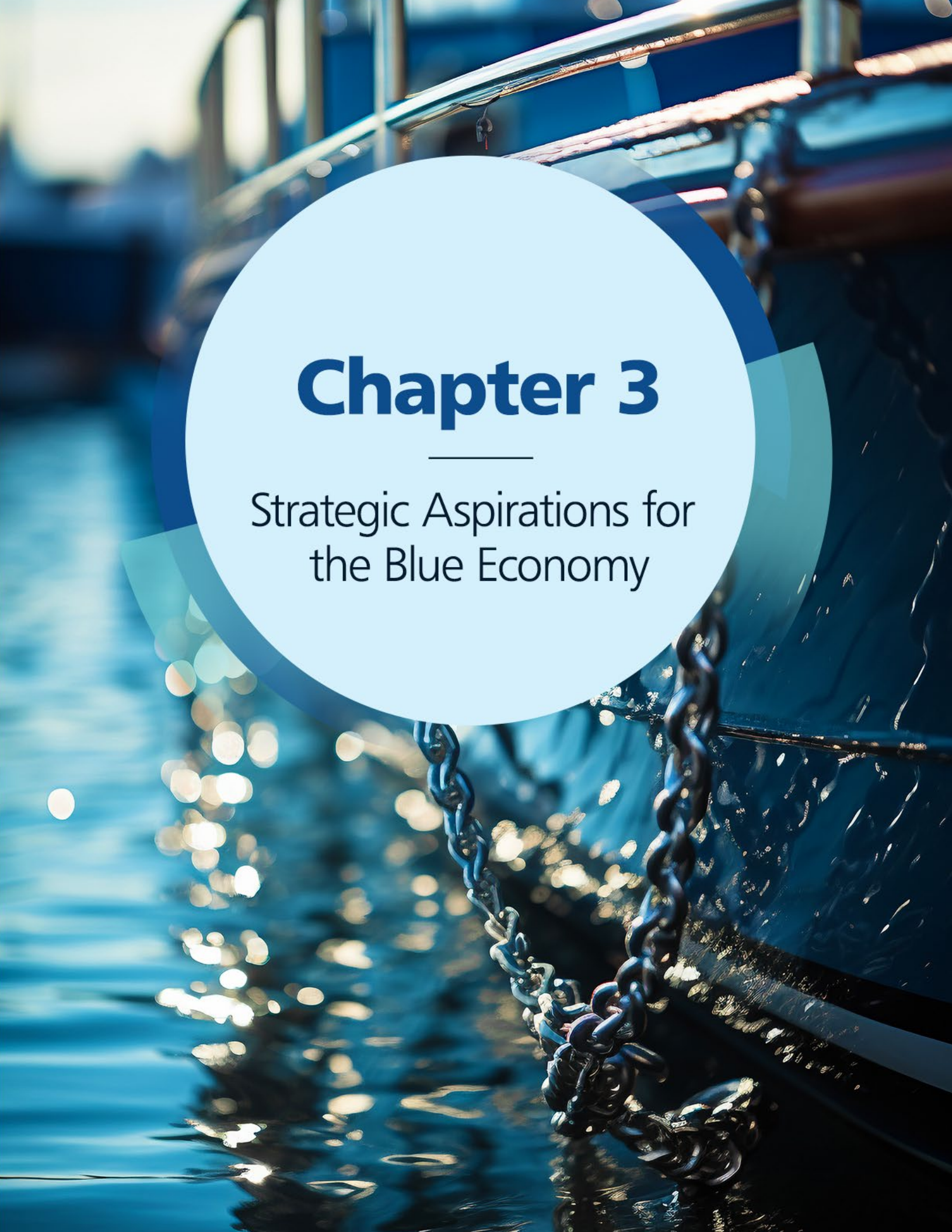


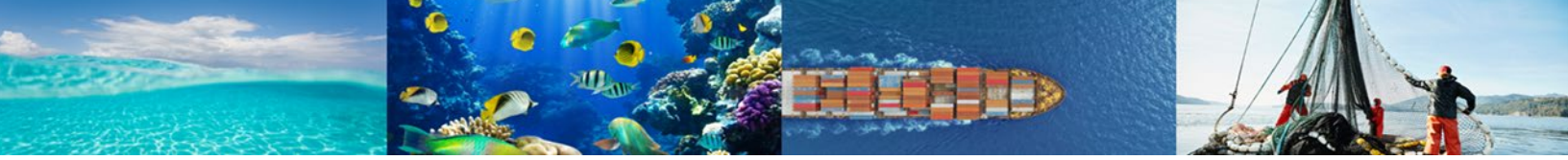
Table 3: Table of Blue Economy Sectors

S/N	Blue Economy Sectors	Subsectors	Code
1	**Maritime Trade and Transportation**	Maritime Transport	MT
		Port Infrastructure and Services	MD
		Shipbuilding and Repair	MSH
		Maritime Security	MSE
		Maritime Safety	MSA
2	**Fisheries and Aquaculture**	Fisheries – Artisanal, Coastal, and Deep Seas	FI
		Mariculture	FM
		Aquaculture	FA
		Fisheries and Seafood Processing	FP
3	**Marine Resources & Industries**	Marine Minerals	MM
		Blue Biotechnology	MB
		Water Desalination	MW
		Underwater Cable and Pipes	MU
4	**Energy & Marine Environmental Sustainability**	Blue Energy and Renewables	EE
		Marine Pollution and Waste Management	EM
		Blue Carbon	EB
		Green Shipping	EG
5	**Blue Tourism and Recreation**	Coastal and Marine Tourism	BT
		Coastal Development	BC
6	**Cross Cutting Enablers**	Capacity Building	CB



Chapter 3

Strategic Aspirations for the Blue Economy



3 Strategic Aspirations for the Blue Economy

3.1 Vision for the Blue Economy

The vision for the marine and blue economy in Nigeria aligns with the aspirations of Nigerians for economic growth and diversification. It is articulated based on good international practices to drive inclusive economic growth and prosperity, leverage knowledge-led innovative solutions, and ensure sustainability and a healthy marine and inland waters environment, whilst focusing on current and future generations.

The vision for Nigeria's marine and blue economy is:

> ***"To sustainably develop our blue economy potentials through knowledge-led innovations for national economic growth and inclusive prosperity."***

Our vision for the marine and blue economy will be delivered over a 10- year period from 2025 to 2034. It will be delivered by focusing on the following three (3) core missions:

Mission 1: Drive Economic Growth and Inclusive Prosperity

We will:

- Ensure that the marine and blue economy **contributes significantly to** Nigeria's **GDP** and growth targets.
- Promote blue economy policies and investments that enable the establishment of both **small scale and large-scale industries**.
- Focus on initiatives that **drive youth employment**, diversity, **and gender inclusion**.

Mission 2: Deploy Knowledge-led Innovations

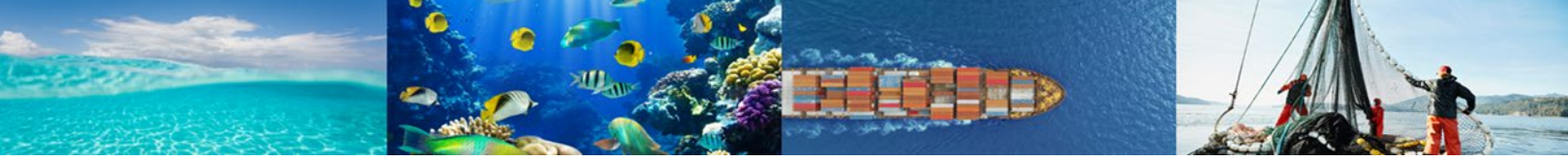
We will:

- Unlock the potentials of science and technology to deploy innovative oceans-sustainable initiatives.

Mission 3: Ensure Healthy Marine Ecosystems and Sustainability

We will:

- Develop a blue economy that provides essential benefits for current and future generations.
- Ensure our blue economy restores, protects, and maintains diverse, productive and resilient ecosystems.



- Base our blue economy on clean technologies, renewable energy and circular material flows.
- Develop a blue economy that provides essential benefits for both current and future generations.

3.2 Strategic Objectives and Goals

The marine and blue economy aims to be a source for sustainable economic growth and diversification in Nigeria. Consequently, it will focus on achieving the Blue Economy Vision 2034 by driving action targeted towards the following strategic objectives and goals.

3.2.1 Sector GDP Growth

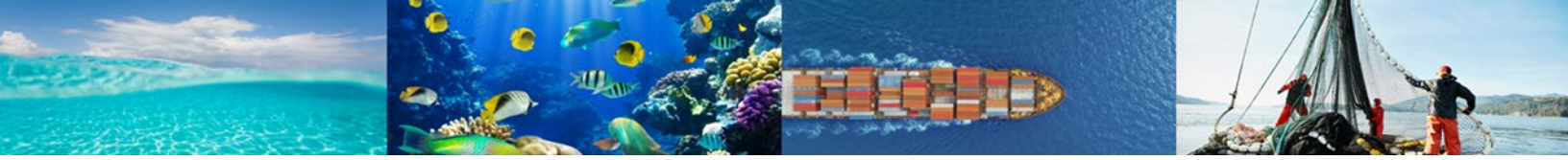
Unlock the potentials of Nigeria's marine and blue economy to achieve an annual sector growth target of 7%. The sector growth target for the marine and blue economy is aligned to the overall ambition of the Federal Government as outlined in the Renewed Hope Agenda. Government will focus on creating an enabling environment for private sector investments to drive this growth. This includes increasing the pace of legislative reforms and domestication of international maritime conventions and protocols. It also includes strengthening the capacity of blue economy agencies to regulate, innovate and expand the space for both domestic and international investments. The existing service operations at the offshore, seaports, and inland waterways will be transformed for more efficient service delivery to private sector operators. Furthermore, the existing infrastructure capacity for blue economy activities will be significantly expanded to accommodate increased investments.

3.2.2 Private Sector Led Investments

Facilitate private sector led investments in blue economic activities. It is expected that the development of the blue economy will be private sector led. Nigeria with its natural endowments and population remains a destination of choice for private investors. A strong investment promotion drive will therefore be put in place to drive investments in infrastructure upgrade through PPPs, and in various business enterprises along the blue economy value chain. The investment promotion effort will focus on priority sectors covering both existing and emerging industries of the blue economy.

3.2.3 Job Creation

Create 100,000 new jobs (direct and indirect) per annum through growth in marine and blue economy activities. The unemployment and underemployment challenge in Nigeria need to be addressed. The marine and blue economy will contribute its quota by creating up to 1 million jobs by 2034. The opportunities for creating additional jobs in the blue economy are immense. They include construction jobs during planned port infrastructure modernisation and development projects, ship crews for new locally owned shipping vessels, and workers for fish cold storage facilities to be established across the country, etc.



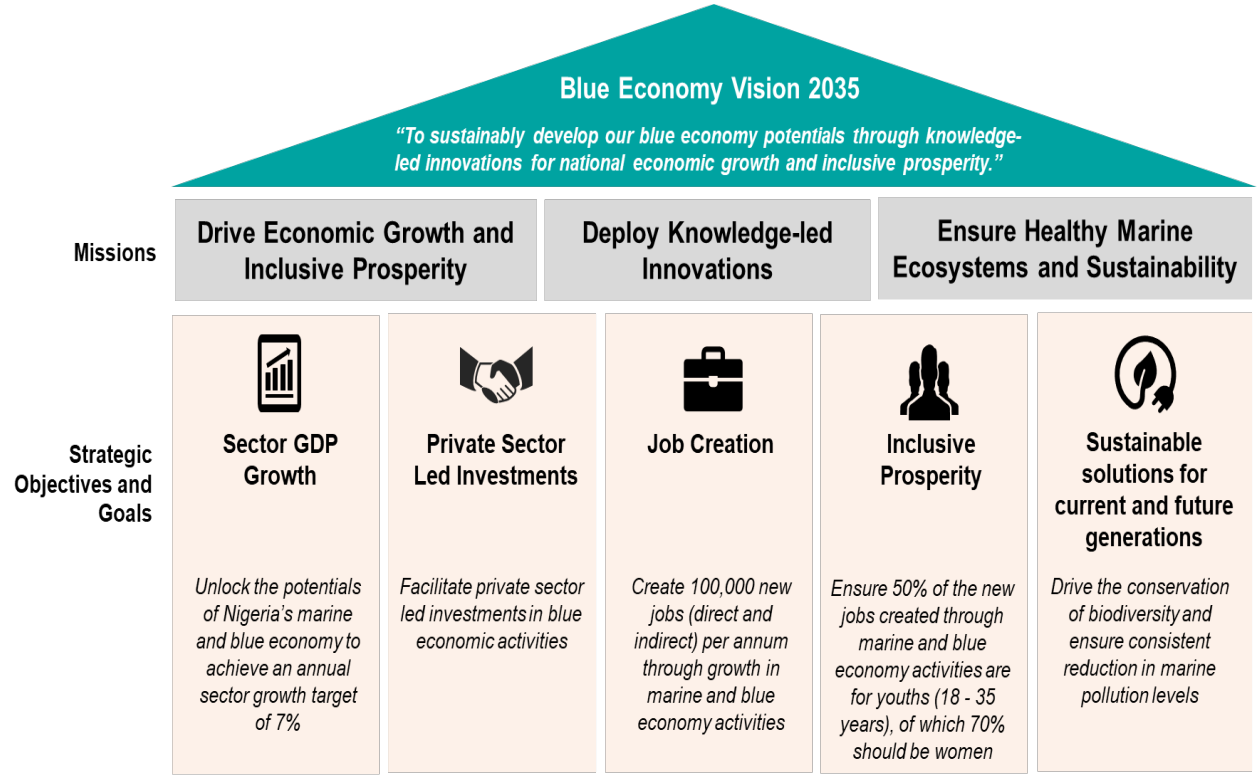
3.2.4 Inclusive Prosperity

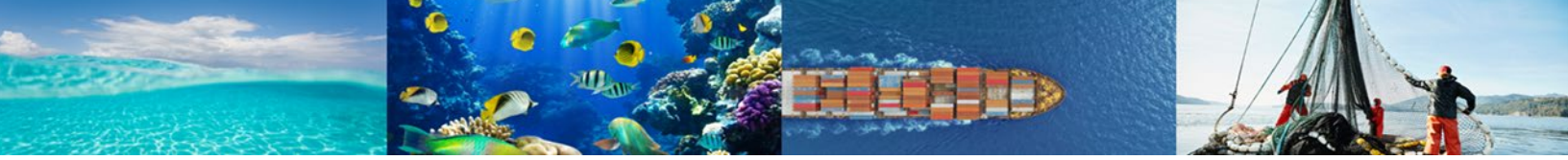
Ensure 50% of the new jobs created through marine and blue economy activities are for youths (18 - 35 years), of which 70% should be women and people with special needs. The economic growth contribution of the marine and blue economy must be inclusive, cutting across all strata of age, gender, and income. The initiatives outlined in this national policy document are targeted at putting Nigeria bulging youth population (54% of total population in 2023[9]) to work. In addition to this, employment quotas will be included in the implementation of government initiatives and PPP projects for diversity and women empowerment.

3.2.5 Sustainable solutions for current and future generations

Drive the conservation of biodiversity and ensure consistent reduction in marine pollution levels. The sustainability of maritime and other blue economic activities is critical to ensuring the future of the blue economy. This policy document and its implementation will ensure full compliance with existing regulations, conventions and protocols that protect the marine environment, ecosystems, and biodiversity.

Figure 2: The Blue Economy Strategic Framework





3.3 Performance Indicators

The Federal Ministry of Marine and Blue Economy has primary responsibility to drive the achievements of the objectives and goals of the country for its blue economy. The Ministry will do this by putting in place a rigorous evidence-based performance management framework. This framework will involve:

a) Establishment of baselines for key performance indicators.

b) Setting stretch and realistic targets for the key performance indicators based on benchmarks against best performing countries.

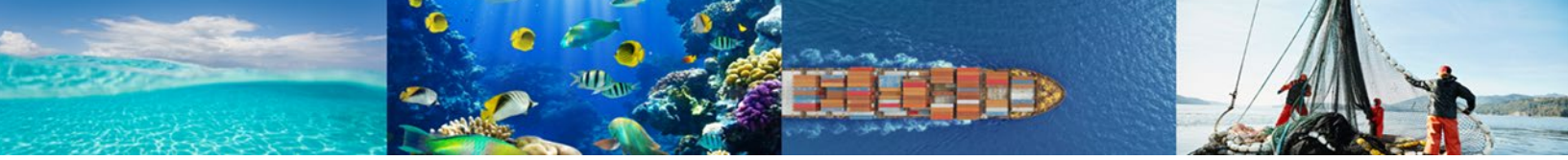
c) Assignment of responsibilities to MDAs for the gathering and reporting of KPI data; and

d) Periodic measurement of the KPIs to confirm progress towards the achievements of the targets.

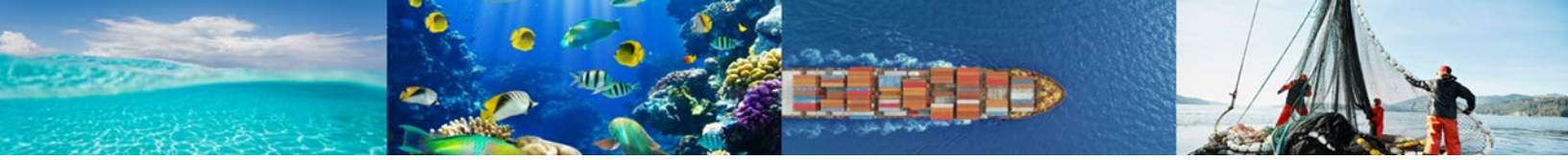
The table below outlines a set of key performance indicators that should be deployed to drive the achievements of Nigeria's ambitions for the blue economy. The KPIs should be considered as the minimum to be measured. The Federal Ministry of Marine and Blue Economy may include additional KPIs during implementation.

Table 4: Performance Indicators for the Blue Economy

S/N	Performance Indicators	Measurement Data Sources
• **Blue Economy Outcomes**		
1	Blue economy sector contribution to national GDP (percent)	• Nigeria Bureau of Statistics
2	Annual Sector GDP growth (percent)	• Nigeria Bureau of Statistics
3	Amount of new private sector investments in blue economy activities (domestic and foreign) (USD)	• Federal Ministry of Marine and Blue Economy • Nigeria Investment Promotion Commission
4	Number of jobs created annually in marine and blue economy activities (direct and indirect)	• Federal Ministry of Marine and Blue Economy • Nigeria Investment Promotion Commission
5	Number of new jobs for women in marine and blue economy enterprises	• Federal Ministry of Marine and Blue Economy • Nigeria Bureau of Statistics
• **Maritime Trade and Transportation**		



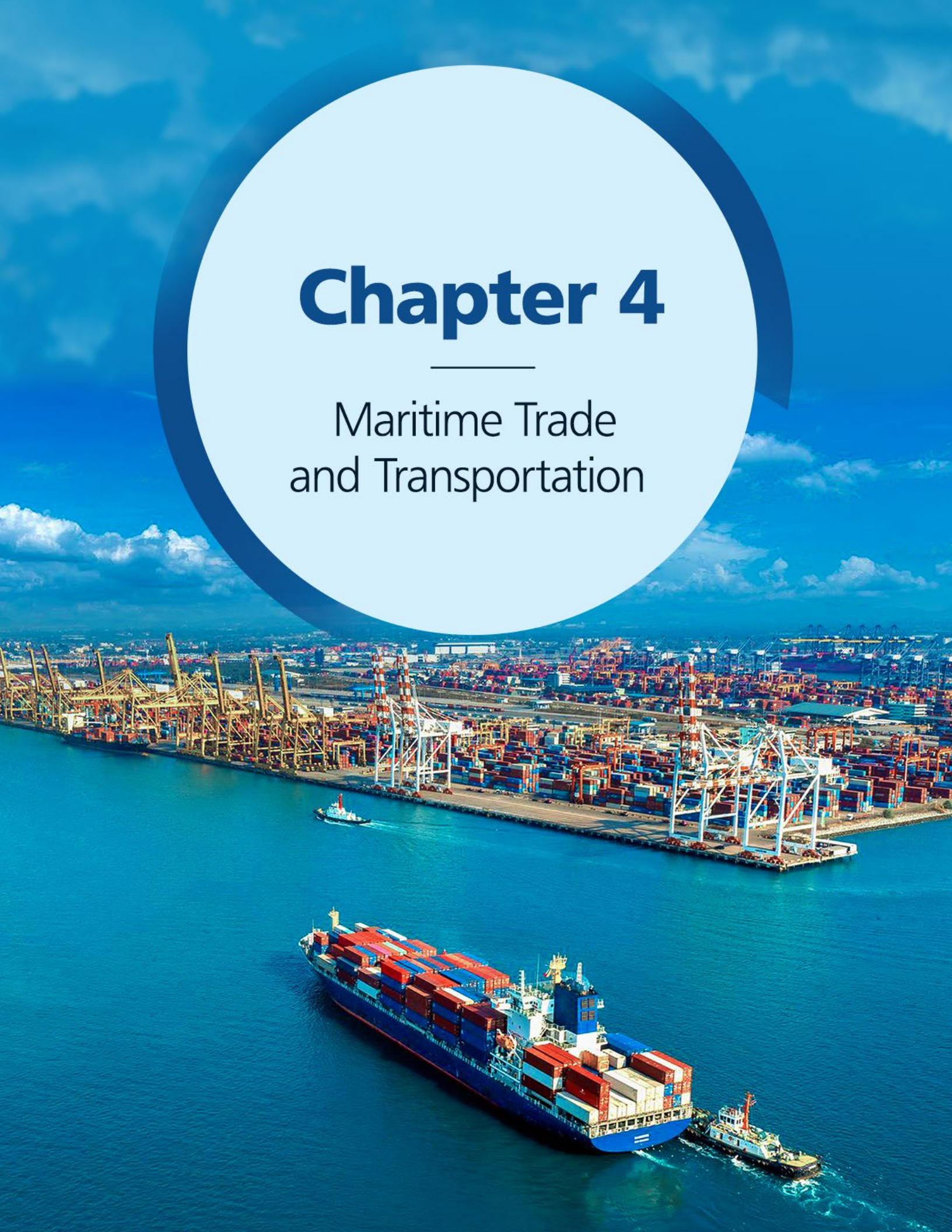
S/N	Performance Indicators	Measurement Data Sources
1	Share of World Merchant Fleet Value by Beneficial Ownership (percent)	• UN Trade & Development (UNCTAD) • Nigeria Maritime Administration and Safety Agency
2	Percentage of the volume of Nigerian bound cargoes carried by Nigerian Owned vessels	• Nigerian Maritime Administration and Safety Agency
3	Container Port Throughput (TEU)	• Nigerian Ports Authority
4	Number of operational deep seaports	• Nigerian Ports Authority
5	Number of operational inland dry ports and inland container depots	• Nigeria Shippers Council
6	Turnaround Time of Vessels (hours)	• Nigerian Ports Authority
7	Average Dwell Time for Containers (days)	• Nigerian Ports Authority
8	Volume of inland waterways dredged	• National Inland Waterways Agency
9	Number of seafarers trained, licensed and employed on vessels	• Maritime Academy of Nigeria • Nigerian Maritime Administration and Safety Agency
• **Fisheries and Aquaculture**		
1	Contribution of fisheries and aquaculture to national GDP (percent)	• Federal Department of Fisheries and Aquaculture • Nigeria Bureau of Statistics
2	Total fisheries production (metric tons)	• Federal Department of Fisheries and Aquaculture • Nigeria Bureau of Statistics
3	Number of persons engaged in the fisheries industry	• Federal Department of Fisheries and Aquaculture • Nigeria Bureau of Statistics
4	Number of women engaged in the fisheries industry	• Federal Department of Fisheries and Aquaculture • Nigeria Bureau of Statistics
• **Maritime Safety and Security**		
1	Number of vessel accidents in a year on the inland waterways	• National Inland Waterways Authority

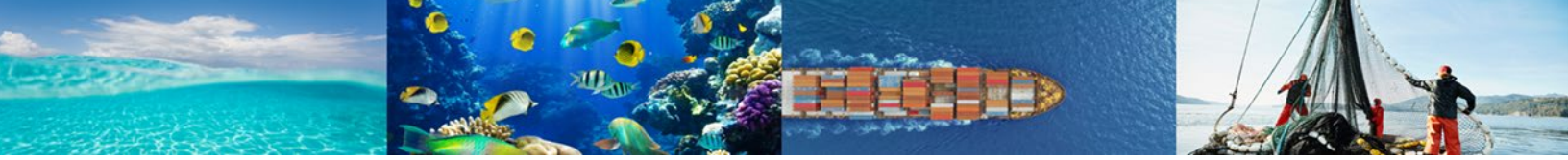


S/N	Performance Indicators	Measurement Data Sources
2	Number of security breaches in the offshore and inland waters – kidnaps, piracy, armed robbery, etc.	• Nigerian Maritime Administration and Safety Agency • National Inland Waterways Authority • Nigerian Navy
• **Blue Economy Development**		
1	Quantity of electricity generated from ocean renewable sources (MW)	• Nigerian Maritime Administration and Safety Agency • Federal Ministry of Power
2	Export of blue economy products and services as a percentage of total national export (percent)	• Nigeria Export Promotion Council • Nigeria Customs Service
3	Contribution of coastal tourism and hospitality to national GDP (percent)	• Nigeria Bureau of Statistics
4	Poverty rate in coastal areas (percent)	• Nigeria Bureau of Statistics
5	Number of persons employed in emerging blue economy industries (biotechnology, offshore renewable energy, seabed mining, etc.)	• Nigeria Bureau of Statistics
6	Total value of finance raised through innovative finance schemes – blue bonds, sustainability-linked funds, blended finance (USD)	• Federal Ministry of Marine and Blue Economy
• **Marine Ecosystem Conservation**		
1	Number of hectares of marine environment dedicated as Marine Protected Area (MPA)	• Nigerian Maritime Administration and Safety Agency
2	Total waste disposal into Nigeria's offshore waters (kg)	• Nigerian Maritime Administration and Safety Agency • Federal Ministry of Environment
3	Percentage of coastal villages with a well-functioning waste disposal system	• Nigerian Maritime Administration and Safety Agency • Federal Ministry of Environment • State Governments
4	Percentage of coral reef, swamp, mangrove forest area considered to be of good quality	• Nigerian Maritime Administration and Safety Agency • Federal Ministry of Environment

Chapter 4

Maritime Trade and Transportation





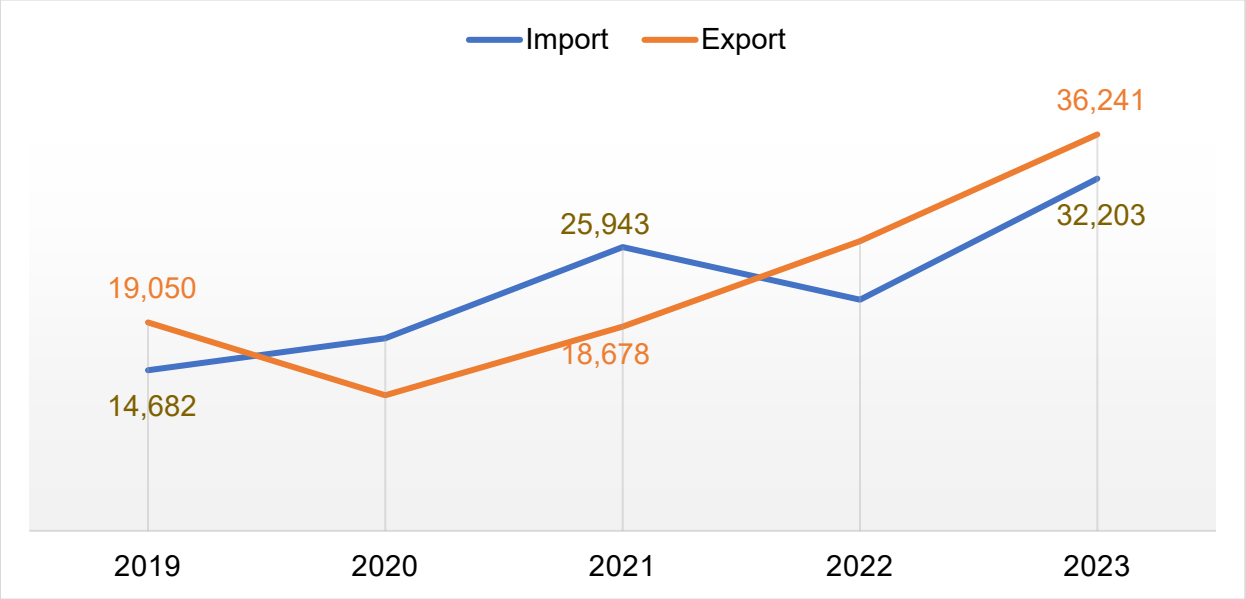
4 Maritime Trade and Transportation

Maritime trade is a cornerstone of Nigeria's economy, serving as the primary gateway for the movement of goods and commodities. With a coastline spanning approximately 853 kilometres along the Gulf of Guinea and 10,000 kilometres of inland waterways, Nigeria is strategically positioned to play a pivotal role in regional and global trade. The country's ports facilitate the import and export of essential goods, connecting Nigeria to international markets and driving economic growth.

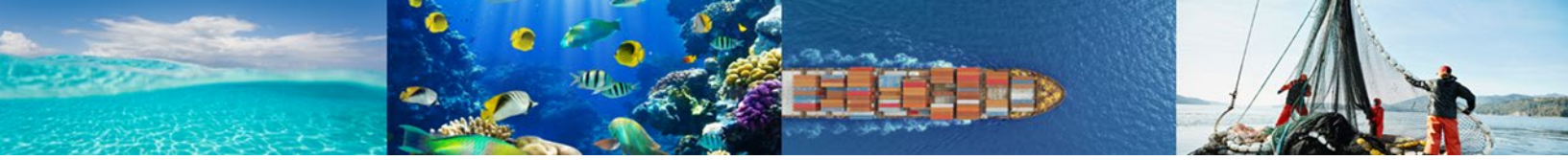
The significance of maritime trade to Nigeria's economy cannot be overstated. It accounts for a substantial portion of the nation's GDP, enabling the export of key resources such as crude oil, natural gas, and agricultural products, while also supporting the import of refined petroleum products, machinery, vehicles, and consumer goods. As one of Africa's largest oil producers, Nigeria relies heavily on its maritime sector to export crude oil and liquefied natural gas (LNG), which are critical to its revenue generation.

As illustrated in Figure 4 below, the value of exports transported via maritime routes experienced significant growth, rising from N19,050 billion in 2019 to N36,241 billion in 2023, reflecting a substantial increase in Nigeria's export activities over the five-year period. Similarly, the value of imports conveyed through maritime channels also saw a notable rise, climbing from N14,682 billion in 2019 to N32,203 billion in 2023. This upward trend in both export and import values underscores the critical role of maritime trade in Nigeria's economy, highlighting the sector's contribution to facilitating international trade and economic growth. The consistent growth in these figures also points to the increasing reliance on maritime transport as a key mode of moving goods in and out of the country, driven by factors such as globalisation, trade agreements, and the expansion of key industries.

Figure 3: Value of Maritime Trade (Billion Naira)



Source: NBS



Maritime trade and transportation activities are grouped into the following subsectors:

- Maritime Transport
- Port Infrastructure and Services
- Shipbuilding and Repair
- Maritime Security
- Maritime Safety

4.1 Maritime Transport

Nigeria's maritime transport sector is essential for the country's economic growth, contributing significantly to international trade. The sector plays a critical role in the transport of crude oil, petroleum products, agricultural goods, and other commodities. Key activities in the maritime transport sector include international trade and shipping, cabotage shipping, and inland waterways transport of cargo and passengers.

The sector employs more than 150,000 workers (serving as seafarers, crewmen, etc) and over 180 million tons of seaborne freight are transported in Nigeria each year. While freight paid in Nigeria exceeds $6 billion per year, 80% of the revenue goes to foreign firms in the maritime transport[10]

Nigeria's cabotage policy, governed by the Cabotage Act was launched in 2003. The policy aims at enhancing indigenous maritime capacity by limiting coastal shipping between Nigerian ports to Nigerian-owned, built, manned and registered vessels.

4.1.1 Strategic Aspirations

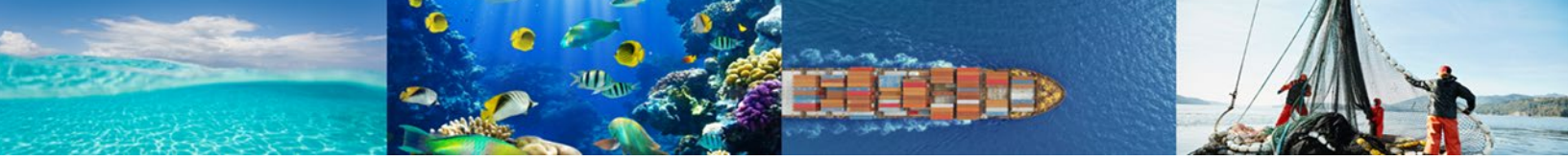
The strategic aspirations for maritime transport sector are summarised below:

a) Promote an efficient and competitive maritime transport sector that facilitates investment, generates employment and drives inclusive economic growth.

b) Position the inland water transport system as a significant transport mode in providing accessibility, mobility, and connectivity.

c) Optimise the cabotage regime in Nigeria by enhancing regulatory frameworks, promoting indigenous participation through financial and operational support, improving operational standards, and fostering sustainable development in the domestic maritime industry.

d) Develop indigenous commercial shipping in international trade.



4.1.2 Challenges

The specific challenges of Nigeria's maritime transport sector include the following:

a) Inadequate port facilities, lack of modern technology, and poorly maintained ports, jetties, and landing sites impede freight movement and increase operational expenses. Furthermore, the roads to and from the ports are in poor condition, resulting in congestion and major delays in the movement of cargoes.

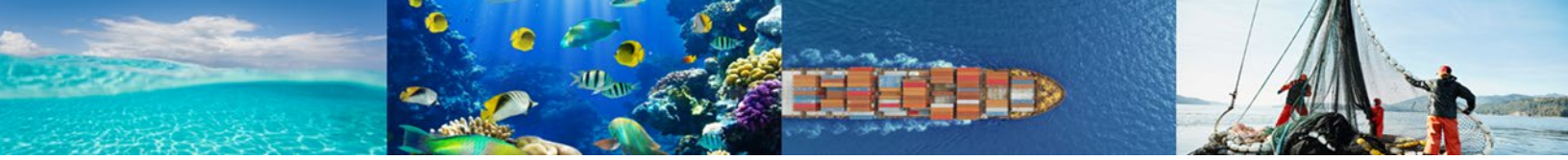
b) Nigeria's maritime sector is hampered by fragmented regulatory environments, overlapping mandates across multiple agencies, bureaucratic bottlenecks and operational inefficiencies and delays.

c) Nigeria lacks a substantial indigenous fleet to take advantage of the opportunities offered by its huge market. A large portion of its freight fees consequently leave the country, limiting its economic capacity and opportunities for job creation.

d) The Nigerian Ship Registry is suboptimal leading to loss of revenue to foreign ship registry. There is an urgent need to review and revamp the Nigerian Ship Registry and ensure it meets global standards to make it professional, effective, and globally competitive.

e) Changing rainfall patterns and flooding impacts coastal ecosystems and communities, as well as the inland waterways, posing long-term challenges to their use and sustainability. The consequential silting requires frequent dredging to maintain charted depth.

f) Lack of bunkering capacity and excess bureaucracy in bunkering operations leading to Nigeria losing out on international bunkering opportunities. Nigeria is uniquely positioned geographical for bunkering operations, especially being an oil producing nation. There is therefore the need to increase the nation's bunkering capacity to provide such services within the major shipping routes.



4.1.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

MT-01 **Collaborate with the National Assembly to amend relevant Acts that govern the maritime sector.**

The Ministry will collaborate with the National Assembly to facilitate the review and update of outdated and obsolete regulations and existing legislations to ensure that they align with international standards and emerging trends. Some of the existing legislations to be reviewed include the Merchant Shipping Act, the Coastal and Inland Shipping Act, etc. Furthermore, the Ministry will work with the National Assembly and other strategic stakeholders to ratify and domesticate outstanding international conventions and to enact new legislations and regulations in emerging sectors such as Blue Carbon, Blue Tourism, Biotechnology, etc.

MT-02 **Collaborate with relevant stakeholders to ensure regulatory compliance and effectively implement policies.**

This will help create a regulatory framework that promotes safety, efficiency, and environmental protection. A bi-annual stakeholder engagement should be conducted to obtain inputs/ feedback from key players in the sector on the performance of existing policies and strategic initiatives to reposition the sector for superior performance and growth.

MT-03 **Develop a national blueprint for water transportation for the country.**

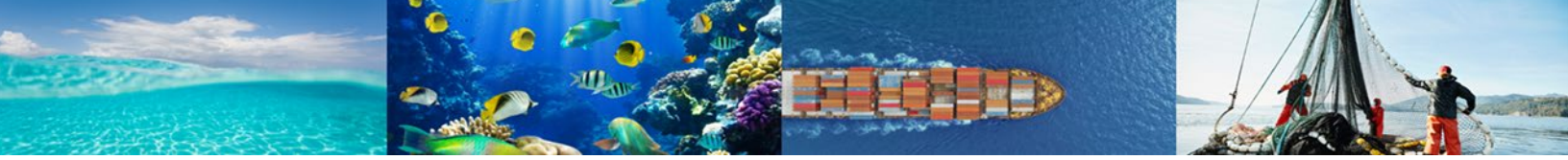
The blueprint is a strategic instrument for harnessing the full potential of the country's waterways. It should be a comprehensive document that addresses issues and challenges impacting the sector. The blueprint would outline a detailed plan for the development of an intermodal port system and inland waterways for the efficient movement of cargo and passengers across the country and the regions.

MT-04 **Create cargo guarantees to expand the participation of Nigerian owned ships in the global shipping trade.**

Designate Nigeria owned ships that pass international quality certification with national fleet status and grant national carrier status to qualified shipping companies with rights of first refusal for all government export and import cargo, including oil and gas exports. In addition, facilitate the evolution of favourable trade terms for domestic shipping companies. This should include but not limited to the issuance of long-term contracts for the shipping of oil and gas cargo.

MT-05 **Reduce pressure on the roads by facilitating the transportation of containers through the inland waterways in addition to the road network.**

Develop a detailed container movement guideline that encourages the movement of a certain number of containers via inland waterways to reduce congestion on the road network and ensure efficient utilisation of the inland waterways. This should include encouragement and support for the ownership and investment in the construction of barges.



Governance and Institutional Arrangements

MT-06 **Enhance the capacity of NIWA to oversee and regulate inland waterways development.**

Nigeria is experiencing an increase in boat accidents resulting in several fatalities and insecurity in the inland waterways. The Inland Waterways Transportation Regulations 2023 will enhance the capacity of NIWA to further strengthen the operational efficiency and effectiveness of the Authority to protect lives and properties in the Inland waterways and to preserve the waterways infrastructure.

MT-07 **Establish an Alternative Dispute Resolution (ADR) Centre Mechanism in collaboration with Federal Ministry of Justice, National Judicial Institute (NJI) and other relevant stakeholders.**

This will provide a faster and more cost-effective way to resolve disputes in the maritime sector. This will boost investor confidence and promote the growth of the industry. ADR processes such as mediation, arbitration, and negotiation offer an alternative to time-consuming and expensive court procedures

MT-08 **Ensure that agencies responsible for the maritime transport sector deploy a multi-stakeholder engagement framework to engage with communities, industry players, and civil society in their planning and decision-making processes.**

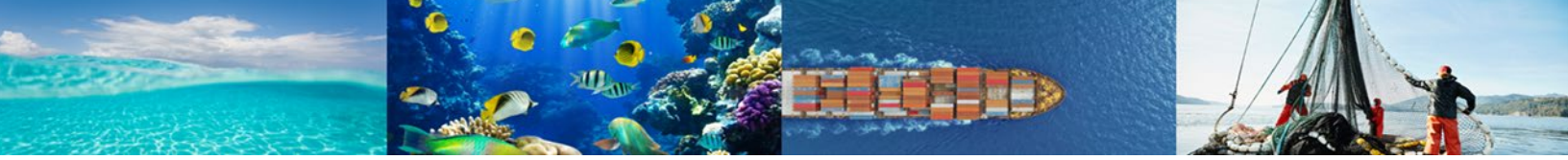
This promotes inclusion in decision-making and shared adoption of applicable policies. Engaging communities, industrial players, and civil society in the planning and decision-making processes not only helps to harmonise various interests, but also guarantees that policies and practices are more balanced, effective, and acceptable to all parties concerned.

MT-09 **Conduct an annual review of the structure of freight terms**

The objective of this policy is to empower local exporters, reduce dependency on foreign intermediaries, and promote the growth of Nigeria's shipping industry.

MT-10 **Requirement for foreign companies operating in Nigeria to employ a minimum number of Nigerians up to management level**

All foreign-owned maritime and logistics companies operating in Nigeria are required to maintain a workforce comprising a minimum of 50% Nigerian employees, with at least 30% representation at managerial and executive levels. Compliance with this policy will be enforced and monitored by the Federal Ministry of Marine and Blue Economy (FMMBE), in collaboration with relevant agencies, public sector regulators, and other stakeholders designated by the Ministry (FMMBE). Organisations found to be non-compliant will face penalties, including the potential revocation of their operating licenses.



MT-11 | **Protection of the interest of indigenous Employers**

In line with the objective of fostering economic growth and job creation, the Ministry shall adapt policies that support indigenous employers in the maritime sector. These include structured incentives for shipowners, stevedoring companies, and terminal operators that prioritise local employment, skills development programs and fair competitive polices to prevent monopolistic practices by foreign operators.

Infrastructure

MT-12 | **Develop the necessary infrastructure required for the efficient intermodal transport system in Nigeria through a network of functional road, rail, and inland waterways systems across the country**

This is to provide a free movement of cargo to and from the ports in order to decrease congestion and increase port operational efficiency. To implement this policy, the Ministry shall collaborate with the Federal Ministry of Works and the Federal Ministry Transportation to establish a good transportation network to and from the seaports.

MT-13 | **Upgrade the Capacity of Inland Water Infrastructure**

Identify priority areas for inland water infrastructure upgrading, like ports and jetties for modernisation, focusing on the River Niger/Benue and Delta Rivers, where significant commercial activity takes place. Expand these ports/jetties to handle larger vessels and more cargo. This will stimulate economic activity in these areas and contribute to Nigeria's overall economic development.

MT-14 | **Complete the construction of strategic jetties and ports, such as the Bonny Island jetty and the River Port at Lokoja**

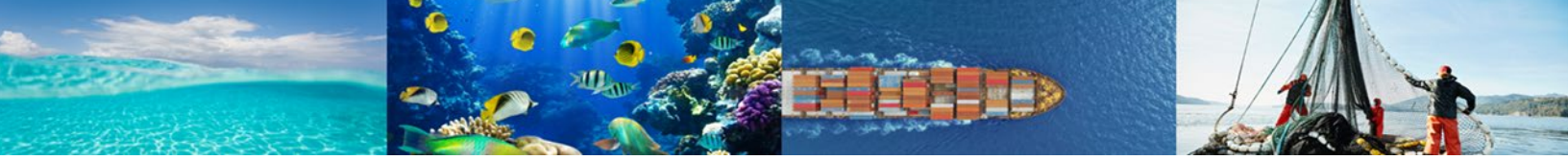
This will facilitate the movement of goods and people, reduce transportation costs, and stimulate economic growth in these regions.

MT-15 | **Carry out the continuous dredging of economically viable inland waterways in collaboration with State Governments.**

This will enable bigger vessels to navigate, reduce transportation costs, and stimulate economic activity along these waterways. By increasing the capacity of these waterways, the government will improve trade activities, lower transportation costs, and improve access to remote places.

MT-16 | **Increase indigenous ownership of ships through the designation of a national fleet status to Nigerian owned ships.**

This will strengthen Nigeria's domestic shipping fleet and enhance the country's ability to transport goods and people, reduce reliance on foreign shipping lines, minimise economic loss, and create jobs in the maritime sector.



MT-17 **Optimise vehicle transit operations through technological advancements and streamlined processes to reduce costs and improve competitiveness.**

Optimising vehicle transit operations is critical for Nigeria's maritime sector. This policy seeks to promote the establishment of Vehicle Transit Areas (VTAs) to provide short-term resting areas for truck drivers on long-distance trips and to prevent fatalities and cargo losses caused by fatigue-related incidents.

Sustainability/ Environmental Considerations

MT-18 **Develop and execute measures to improve the resilience of the inland waterways' infrastructure against the impacts of climate change.**

This is to guarantee the continued operation of the Nigerian inland waterways for the transportation of commodities and people. To achieve this initiative, the Ministry will champion development of required infrastructure, develop and implement sustainable waterway management practices and invest in real-time monitoring and forecasting systems.

MT-19 **Protect the Aquatic Ecosystems.**

Initiate programs aimed at protecting aquatic ecosystems through ship pollution control and proper waste management by adopting an integrated approach to the management of water resources, balancing economic, environmental, and social factors. This is to conserve the marine ecosystem and comply with international standards on the conservation of the ocean and its resources.

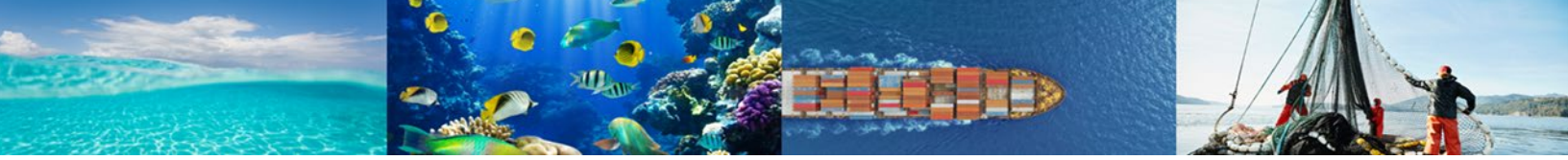
MT-20 **Introduce regulations that incentivise eco-friendly vessels, such as green shipping, hybrid, or electric boats, by offering incentives for operators who switch to sustainable technologies.**

This will reduce emissions in line with the global push for climate action and promote international trade. To implement this policy, the Ministry will set clear emission reduction targets for the maritime transport sector and define the appropriate financial incentives for ship operators who transit to ecofriendly vessels.

Finance and Investment Climate/ Incentives

MT-21 **Support maritime industry investors in their access to pioneer status tax incentives offered by the FGN and introduce additional investment incentives as required.**

This aims to attract new investors and provide existing investors the opportunity to expand their operations. The pioneer status incentives available for shipyard development, ship building, and boat building should be effectively leveraged. Further fiscal incentives for companies investing in maritime transport should be considered.



MT-22 | **Provide an enabling environment that promotes Public Private Partnership (PPP) in national and international maritime transport activities.**

This is to foster partnerships between the government and private investors to share risks and mobilise private capital for infrastructure development. The following activities should be performed to facilitate public private partnerships: (i) Define clear policy objectives and goals, such as improving trade efficiency and expanding maritime logistics hubs. (ii) Draft or amend laws to offer a clear, transparent, and reliable legal framework for PPP agreements. (iii) Develop standardised contracts or templates for maritime PPPs.

MT-23 | **Develop financing schemes for maritime transport investments by engaging with multilateral development banks for the creation of single digit interest loans to develop Nigeria's maritime transport sector.**

Engage with MDBs such as the AfDB, IsDB, Afrexim, etc., to provide financing schemes for small and medium-sized enterprises engaged in activities such as shipyard construction, ship building, boat building, ship and boat acquisition, etc. This will stimulate indigenous participation and foster the growth of small and medium-sized enterprises. The policy aims at addressing the funding challenges due to high interest rates.

MT-24 | **Disburse the Cabotage Vessel Financing Fund (CVFF).**

This will empower indigenous shipping companies to acquire vessels, boost their capacity, enhance their competitiveness, and promote the growth of the Nigerian maritime industry.

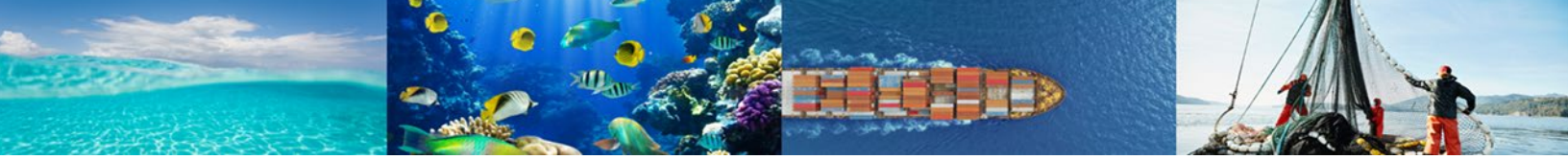
Innovation and Technology

MT-25 | **Full implementation of the Single Window System and other trade facilitation instruments in the ports to fast-track cargo documentation and clearance**

This will transform port clearance operations, improve economic indicators, boost transparency, and lower trade costs. The system aims to improve port operations by enhancing port efficiency, reducing vessel time in port, optimising processes, lowering emissions, and improving overall maritime safety. The single window system allows parties in international transport and trade to submit uniform official documents and information through a single-entry point, fulfilling all transit, export, and import requirements.

MT-26 | **Automate the Ship Registry and introduce an international open ship register**

Automating the ship registry will streamline the process of registering ships, reducing bureaucracy, and improving efficiency. The automation shall incorporate key functionalities, such as Flag registration, Ship survey functions, Seafarers' management, Maritime regulations status, Ship compliance tracking, Local content and Cabotage tracking, Billing functionality



This will attract more ship owners to register their vessels in Nigeria, boosting the country's maritime industry. An international open ship registry will also assist to boost Nigeria's image as a maritime nation.

Quality and Standards

MT-27 | **Approve designs and construction of inland river crafts and issue licenses for inland navigation, piers, jetties and dockyards.**

This will help prevent accidents, protect the environment, and maintain order and reliability within the inland waterways sector. Implementing this policy entails establishing clear regulatory standards, a transparent approval and licensing procedure, strong inspection, and monitoring systems. This policy will improve inland river transport efficiency and competitiveness by promoting safety, sustainability, and regulatory compliance, as well as the overall quality of the national transportation network.

Skills and Capacity Building

MT-28 | **Promote the development of indigenous technical and managerial skill to meet the challenges of modern inland waterways transportation**

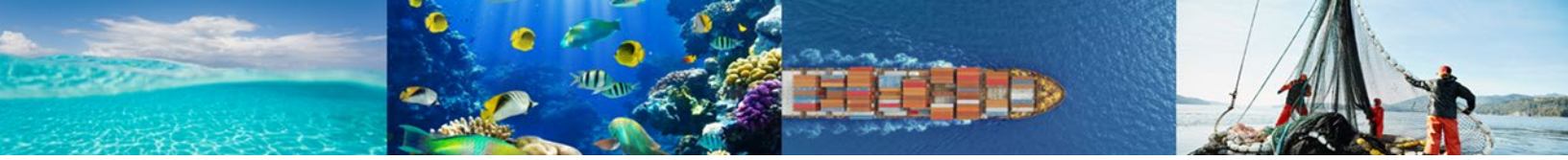
This involves capacity building for workers in the inland waterway sector to enhance skills in navigation, safety protocols, and maintenance. It includes facilitating the establishment of specialist training centres for inland waterways transportation. These centres should provide both academic education and practical hands-on training in areas such as vessel operation, navigation, maintenance, environmental management, and logistics. In addition, collaborate with both maritime academies, universities, and technical institutions to develop courses specific to inland waterways transportation.

MT-29 | **Scale up the implementation of the various development programmes to train Nigerian youths in a wide range of maritime disciplines.**

This will help in meeting the growing demand for skilled and qualified seafarers, marine engineers, etc., boost employment, and enhance the competitiveness of our maritime industry.

MT-30 | **Protection of indigenous maritime labour (Seafarers and Dockworkers)**

The Ministry shall establish policies that priorities employment opportunities for indigenous seafarers and dockworkers in both domestics and international shipping operations. Regulatory framework will be strengthened to enforce minimum employment quotas for Nigerian seafarers on vessels operating withing Nigeria's territorial and inland waters. Furthermore, the implementation of the Maritime Labour Convention (MLC) and the Cabotage Act will be reinforced to ensure improved working conditions, fair wages, and safety standards for Nigerian Maritime workers.



Market Access – Local Patronage/ International Markets

MT-31 | **Promote the use of inland waterways by local businesses.**

This is to increase patronage of the inland waterways transport services while reducing road traffic congestion. This should include organising campaigns to raise awareness of the benefits of water transportation for businesses and local communities, emphasising its efficiencies and cost-effectiveness.

4.2 Port Infrastructure and Services

Nigeria has seaports and dry ports that serve as important hubs for commerce and trade both domestically and globally. The seaports, which are distributed across some of the nine (9) coastal States in the country, handle commodities and freight transported by sea. They include the Apapa Port Complex, Tin Can Island, Port Harcourt, Onne Port, Delta Port, Calabar Port, and Lekki Deep Seaport. The country also has Inland Dry Ports, which are inland container depots connected to the seaports by road or rail, used to handle and process cargo away from the seaboard. The inland dry ports include the Kano dry port, Kaduna dry port, and the recently commissioned Funtua Inland dry port in Katsina State.

The two ports in Lagos (Apapa and Tin Can Island) process about 50-60% of seaborne cargo that comes into Nigeria. And while about 60% of the cargo destined for West Africa is Nigeria cargo, Nigeria is yet to realise her ambition of becoming the maritime hub for West Africa. This is due in no small part to infrastructure gaps and the low competitiveness of its ports compared to other neighbouring ports in the region. However, efforts are ongoing to develop more deep seaports in the country, whilst closing infrastructure gaps and improving the efficiency of processes at the existing ports.

4.2.1 Strategic Aspirations

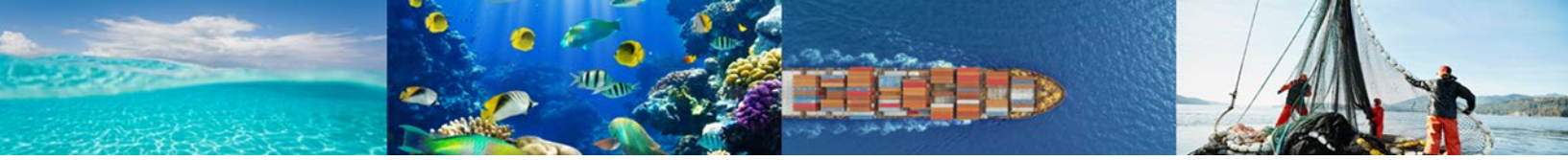
The country's strategic aspirations for the port infrastructure and related services are summarised below:

a) Provide efficient and competitive port services in a safe and secure environment to facilitate domestic and international trade.
b) Achieve 24 hours vessel turnaround time and 48 hours container cargo clearance.
c) Facilitate seamless connection of the port infrastructure to road, rail, and inland waterway networks.
d) Increase the number of fully operational deep seaports in the country.

4.2.2 Challenges

Some of the key challenges facing the Nigeria's Port Sector include the following:

a) Nigerian ports are challenged by inadequate infrastructure capacity. Insufficient port facilities and limited application of modern technology hinder the movement of cargo, increasing delays and operational expenses.



b) The road network leading to the ports are sometimes in poor condition, resulting in bottlenecks and delays in the transit of cargo to and from ports.

c) Most of our major ports are congested due to insufficient space, overtime cargo, and suboptimal port management practices.

d) Administrative procedures at the ports are lengthy and cumbersome due to the high number of government agencies physically involved in the cargo clearance process. This promotes delays, mismanagement, and fraudulent activity. These inefficiencies raise the cost and time required to clear products, significantly impacting international trade.

4.2.3 Strategic Policy Initiatives, Projects and Programmes

Governance and Institutional Arrangements

MD-01 | **Strengthen the capacities of the NPA and the NSC to serve as the port infrastructure manager and port economic regulator respectively.**

Strengthen the institutional capabilities of NPA and NSC so that they can fulfil their tasks efficiently and effectively. Strengthening the agencies should entail reviewing the agencies' operating model to improve its governance and organisation structure, port service delivery processes, automation of processes, skills and competences of staff and its performance management framework.

MD-02 | **Develop a comprehensive Blue Economy Infrastructure Masterplan**

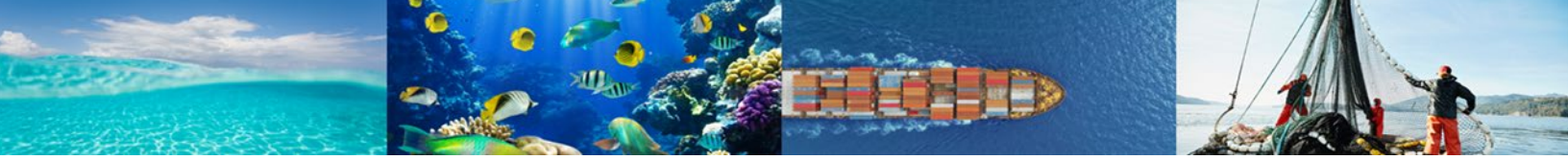
The plan will help to identify, prioritise, and guide the development of critical infrastructure, including ports, inland waterways, and coastal facilities. This plan will align with national development goals, optimise resource allocation, and enhance connectivity to drive sustainable economic growth.

MD-03 | **Foster the full operationalisation and utilisation of all existing inland container depots, inland dry ports and export processing centres.**

By fully utilising our existing inland container depots, dry ports and export processing centres, we will improve logistics efficiency, reduce costs, and stimulate economic growth. This will benefit businesses and consumers alike.

MD-04 | **Engage with port users, industry associations, and local communities through regular consultations and feedback mechanisms.**

A stakeholder advisory committee shall be established to provide opportunity for inputs from diverse interest groups in the decision-making process. The engagement and interaction with the stakeholders would promote trust, facilitate cooperation and collaboration with players within the ecosystem.



MD-05 | **Transparent and Competitive Bidding Framework for Concession Agreements**

Mandate open, transparent, and competitive bidding processes for all concession agreements, with clear criteria for evaluating bids.

The policy objective is to ensure fairness, prevent corruption, and attract qualified and capable investors.

MD-06 | **Performance-Based Concessions**

Clearly define risk-sharing mechanisms between the government and concessionaires, particularly for risks related to force majeure, regulatory changes, and market fluctuations.

This creates a balanced risk-sharing framework that protects both public interests and private investments.

Infrastructure

MD-07 | **Development/ Completion of Ongoing Port Infrastructure Projects.**

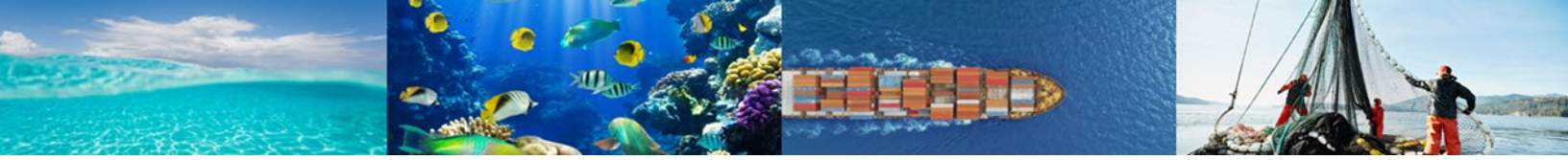
This involves facilitating the development/completion of ongoing port infrastructure projects in the country, such as the four (4) deep seaports at Ibom, Badagry, Ondo and Bonny. Rehabilitation and modernisation of Apapa and Tin Can Island ports, as well as the Completion of the Jos Inland Dry Port. Developing maritime infrastructure is essential for boosting Nigeria's economy and enhancing its global competitiveness through improved efficiency, reduced logistics costs, and attraction of more international trade.

MD-08 | **Facilitate the connectivity of existing and planned ports with the railway, and inland water networks.**

Improving port connectivity to rail, road and inland water networks is crucial. This will reduce costs, minimise delays, and enhance supply chain efficiency thereby benefiting businesses and the economy. The Ministry, in collaboration with the Ministry of Transportation should carry out the following activities to facilitate the connectivity of the existing ports with the rail and road networks: (i) Conduct a thorough review of the current port infrastructure and their connectivity to other transport infrastructure; (ii) Identity key issues and challenges impacting the connection (iii) Collaborate with other MDAs to resolve all challenges and facilitate seamless connection of the port infrastructure with other transport infrastructure.

MD-09 | **Establish a multi-modal system for efficient cargo movement in and out of the ports – rail, road, and inland waterways.**

The Federal Government should partner with private sectors to build intermodal terminals/ hubs that allow freight to be readily transported between rail, road, and water. These hubs shall be equipped with cutting-edge handling equipment such as cranes, conveyor belts, and automated systems to expedite the transition between modes.



MD-10 | **Promote the use of modern cargo handling equipment.**

Implement modern cargo handling equipment at ports and jetties to reduce loading/unloading and cargo inspection times. Automation of processes like container handling should also be explored.

Sustainability/ Environmental Considerations

MD-11 | **Commit to sustainable operations that minimise environmental impact.**

The following activities would be carried out to ensure compliance with sustainable practices:

- Promote the use of green technologies and digital solutions.
- Adopt efficient waste management practices.
- Promote capacity building programmes on sustainable ports operations.
- Raise awareness of the environmental impact of port operations and take practical efforts to mitigate that impact.
- Develop guidelines for implementing green practices at the ports, such as using renewable energy sources and promoting energy-efficient technologies.

MD-12 | **Set up a water quality monitoring system.**

Set up a water quality monitoring system along Nigeria's major rivers to track pollution levels. Collaborate with local authorities and businesses to implement pollution control measures.

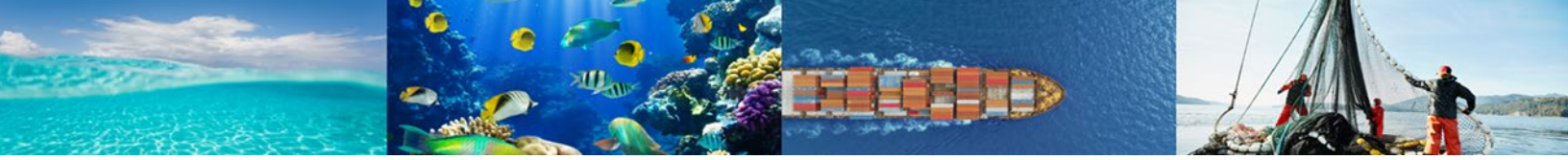
MD-13 | **Design and implement erosion and sedimentation control.**

Implementing effective erosion and sedimentation control measures, especially in areas prone to heavy riverbank erosion, is essential for maintaining the health and sustainability of marine environments. Develop guidelines for land use around rivers to prevent excessive sediment from flowing into the waterways.

Finance and Investment Climate/ Incentives

MD-14 | **Facilitate investment through PPPs and other forms of innovative finance to leverage private sector expertise and funding in the development and management of maritime infrastructure.**

Leveraging PPPs to develop and manage maritime infrastructure will accelerate development, enhance our ports, improve efficiency, and stimulate economic growth. To deliver on this strategic initiative, a workable investment framework defining the roles, responsibilities, and obligations of both public and private partners should be designed.



Innovation and Technology

MD-15 **Digitalise and automate all levels of port processes and procedures to ensure seamless access to service, devoid of unnecessary human interaction.**

- Fast track implementation of the ongoing Port Community System by the NPA.
- Establish 24 hours operations using 8 hourly shifts at the ports, especially at the terminals, cargo examination, and other customs documentation processes.
- Implement the International Cargo Tracking Note (ICTN).
- Strengthen the electronic traffic management system for traffic flow in and out of the ports, devoid of human interaction.

MD-16 **Implement a distributed system where all agencies control their data and infrastructures but share needed data with the ecosystem.**

A distributed system is a network of interconnected nodes (computers, servers, etc.) that collaborate to deliver a service or solve a problem. A distributed system's nodes share resources, data, and tasks while appearing to the end user as a single coherent system. To deliver on this initiative, the Federal Government is currently implementing the National Single Window initiative.

MD-17 **Streamline the activities and operations of all government agencies at the ports by implementing the Presidential Executive Order 001 on Ease of Doing Business.**

This will reduce bureaucratic hurdles, improve efficiency, attract investment, and make Nigeria a more competitive maritime hub.

Quality and Standards

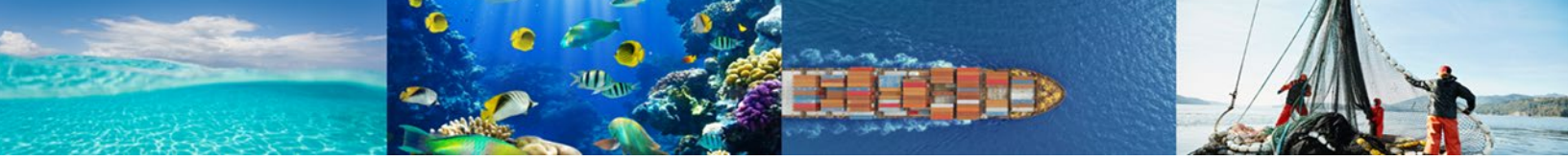
MD-18 **Establish national standards for the operations of inland dry ports.**

This encompasses standards for cargo handling, safety procedures, and service delivery as well as regular audit and assessment of the dry port operations to ensure compliance with national and international standards. The Ministry should review and update existing regulations and standards to ensure alignment with international best practices.

Skills and Capacity Building

MD-19 **Ensure the development of indigenous technical and management capabilities to close skill gaps in port operations.**

Establish training and certification programs focused on logistics management, terminal operations, cargo handling, safety protocols, and technology use for port personnel.



Market Access – Local Patronage/ International Markets

MD-20 | **Decongest the ports via disposal of overtime cargoes to free-up economic space occupied by the overtime cargoes.**

This will reduce congestion, expedite cargo clearance, and boost overall port performance.

To implement the aforesaid initiative, the Ministry should collaborate with the NCS to facilitate the auctioning or destruction of abandoned cargoes and containers at seaports in accordance with the Customs Service Act of 2023.

MD-21 | **Design Tariff and Pricing Structures.**

Develop a standardised pricing and tariff system for the use of inland waterway infrastructure to ensure fair usage fees while attracting private operators.

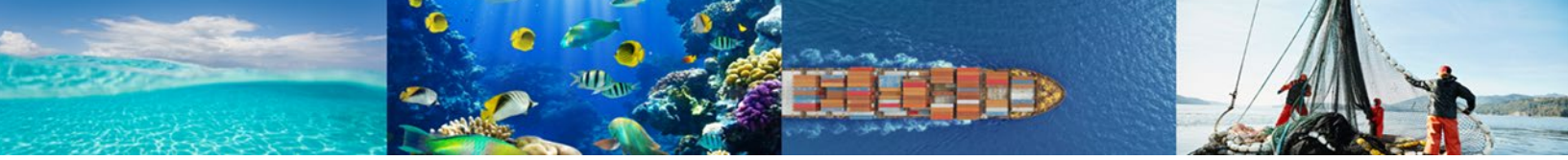
4.3 Shipbuilding and Repair

The global shipbuilding industry was estimated at US$111.2 billion in 2023 and projected to be US$140.3 billion by 2030, with a CAGR of 3.4% from 2023 to 203010F[11]. According to UNCTAD 2023 review of maritime transport, Nigeria is the largest ship-owning country in Africa, with 291 vessels totalling 7.94 million dead weight tons. In terms of vessel value, Nigerian-owned vessels were in 30th place with a 0.56% share of the world fleet value11F[12].

In the maritime sector shipbuilding, repairs, and maintenance services are regarded as critical areas that contribute significantly to the industry's rapid growth. It contributes to economic activity, maritime trade, job creation, local skill development, and revenue generation.

There are about 11 ship repair yards/ dockyards in Nigeria with 7 of them operational. They include the following12F[13]:

- 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, Onne Oil and Gas Free Zone
- Continental Shipyard Limited, Apapa, Lagos
- Technitrade, Warri
- Niger Benue Transport Company Limited, Warri
- Shipside Drydock (Nestoil), Port Harcourt
- West African Shipyard, Onne, Rivers State
- Elschon Nigeria Ltd, Port Harcourt



4.3.1 Strategic Aspirations

The strategic aspiration for the shipbuilding and repair sector is to:

Facilitate the expansion of the ship building and repair industry in Nigeria to attract business from Nigeria-owned ships that currently seek drydocking and repair services outside the country.

4.3.2 Challenges

Some of the challenges facing Nigeria's ship building and repair sector include:

a) The number of shipyards in Nigeria and their combined capacities cannot meet the local demand for repair services and vessel drydocking. Consequently, a significant percentage of vessels operating in Nigerian waters leave the country in search of docking and repair facilities in other West African countries. This represents a major economic loss to the country in terms of earnings, foreign exchange and skills development.

a) The infrastructure available to support the efficient operation of shipyards is suboptimal. More needs to be done in ensuring the availability of stable power supply, as well as road infrastructure to ship building locations.

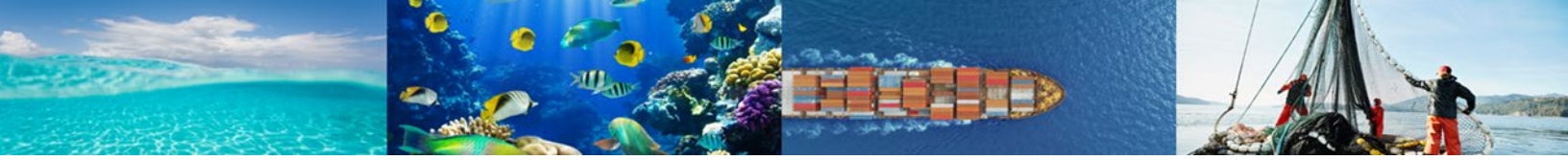
b) The absence of a viable steel industry in-country to provide raw material feedstock for ship building and repairs is a major disincentive to the expansion of ship building and maintenance facilities. Steel is usually imported from countries such as China and Ukraine, making services to be non-competitive compared to other African countries.

c) The dwindling fortunes of ship building and repairs/maintenance in the country has meant a reduction in the supply of skilled manpower specific to the activities of the industry. The implication has been an increasing reliance on foreign technicians for jobs such as welding, ship building engineering, etc.

d) Access to the significant financial outlay required to develop shipyards and dockyards is challenging for many potential investors. Government support is required to develop complementary infrastructure and to provide other fiscal incentives that derisk such projects.

e) Being an import dependent industry, the importation of equipment and materials for ship building and repairs under high custom duties and tariff structures is a disincentive to investing in the sector.

f) The ship building sector is hampered by a lack of supporting industries such as steel mills, railroads, and engine manufacturers. These deficiencies are exacerbated by the absence of an appropriate shipbuilding master plan for Nigeria.



4.3.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

MSH-01 **Strengthen and implement the laws and regulations that govern ship building and repairs.**

A review of the existing laws and regulations that govern ship building and repairs should be carried out, to ensure compliance with all relevant international standards/ conventions and promote the patronage of the shipyards and dockyards that exist in the country. Attention should be given to the need to maximise local content in the local ship building and repair industry.

Governance and Institutional Arrangements

MSH-02 **Strengthen the skills and resource capacities in the agency in charge of developing and regulating the domestic shipbuilding and repairs industry and promote accelerated development of indigenous ship building and ship repair capacity to curtail capital flight.**

A unit dedicated to shipyards and dockyards regulation should be established with the regulating agency to oversee the activities of the shipbuilding and repair industry. The unit's staff would be well trained to carry out inspections in line with international standards, while implementing the policy to expand the scale of ship building and repair activities in the country.

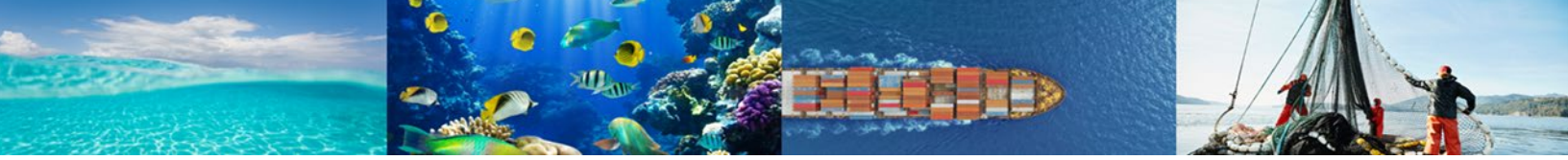
MSH-03 **Establish a cross-sector Ship Building/Repair Advisory Council to facilitate the expansion of the country's ship building and maintenance industry.**

The Advisory Council with representation from government agencies and the private sector will consider and propose actions for the implementation of the initiatives proposed to expand the scale of ship building and repair activities.

Infrastructure

MSH-04 **Revitalise the railway foundry in Ebute Meta, Lagos State, and establish other facilities for shipwreck recycling.**

This will reduce the negative impact of shipwrecks and ship breaking on the marine environment. Resuscitating the facility will contribute to the country's infrastructure drive, create local capabilities, and generate revenue. The plant will also create multiple jobs with spare components for shipbuilding and repairs, therefore conserving the country's foreign exchange. Recycling wrecks will help protect the environment and conserve resources.



MSH-05 | **Facilitate the establishment of shipbuilding and ship repair yards with facility for wreck recycling.**

Facilitate the establishment of shipbuilding and ship repair yards with facility for wreck recycling in strategic locations such as Warri, Port-Harcourt, Lagos, and Calabar, to attract investment, generate jobs, and reduce the need to send ships overseas for repairs. Recycling wrecks will help protect the environment and conserve resources.

MSH-06 | **Expand docking facilities to handle larger vessels and meet the increasing demand for offshore vessels.**

This will increase the revenue generation capacity of the shipyards and stimulate economic growth.

To carry out this initiative, it is necessary to estimate present and future demand for offshore vessels, as well as define the type, size, and frequency of vessels that require docking. This helps determine the expansion's capacity and characteristics.

Sustainability/ Environmental Considerations

MSH-07 | **Promote the use of renewable energy and sustainability practices in shipbuilding and repair (e.g., the use of recycled steel and aluminium, Natural Fiber Composites, etc.)**

This is to promote compliance with the global call for climate action and to attract foreign investment. The clearance procedure for innovative green technologies and materials should be simplified to help accelerate their adoption in the sector.

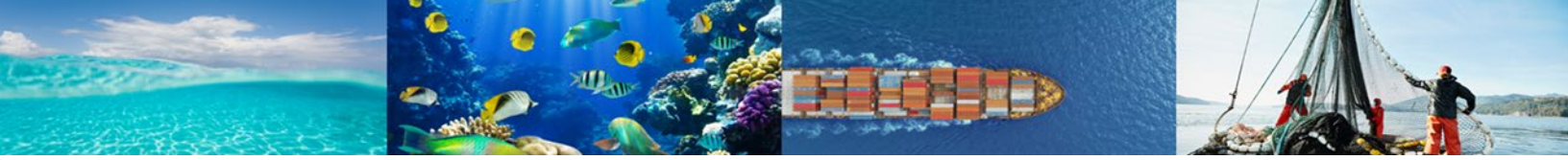
Finance and Investment Climate/ Incentives

MSH-08 | **Provide fiscal incentives to companies involved in shipbuilding and repairs to encourage their business expansion.**

This will create a favourable investment climate to attract private sector participation in the development and operation of the shipbuilding and repair sector. In addition to the pioneer status already available for the ship building industry, other fiscal incentives such as government grants, granting of free trade zone status, infrastructure support to develop quayside/shore protection, dredging of channels and waterfronts, etc. should be considered.

MSH-09 | **Provide single digit interest loan to companies involved in shipbuilding and repair.**

Shipbuilding and repair projects require substantial capital investment with a long payback time. A single-digit fund and a long-term repayment horizon should be granted to local shipbuilding and repair enterprises to stimulate industry expansion and provide a competitive advantage over their international counterparts.



Innovation and Technology

MSH-10 **Require and facilitate the inclusion of cutting-edge facilities and technologies in private sector initiatives to upgrade existing shipyards/dockyards or construct new ones.**

This will improve the turnaround time for shipbuilding and repair, resulting in more revenue for the firms and economic growth. It will also place Nigeria on the path towards the adoption of new technologies such as autonomous shipping, maritime robotics, etc.

Quality and Standards

MSH-11 **Create a set of industry standards and best practices for shipbuilding and repair to ensure that local companies compete on a global scale.**

This would ensure that ships built or repaired in Nigeria meet global standards and requirements. And that safety officials are involved from the onset of a ship building or repair enterprise.

These standards should aim to improve quality, efficiency, safety, environmental sustainability, innovation, and cost-effectiveness. To ensure that ships are built to globally approved specifications, the implementing agency should draft and adopt internationally recognised design and construction standards (for example, from the IMO and ISO).

Skills and Capacity Building

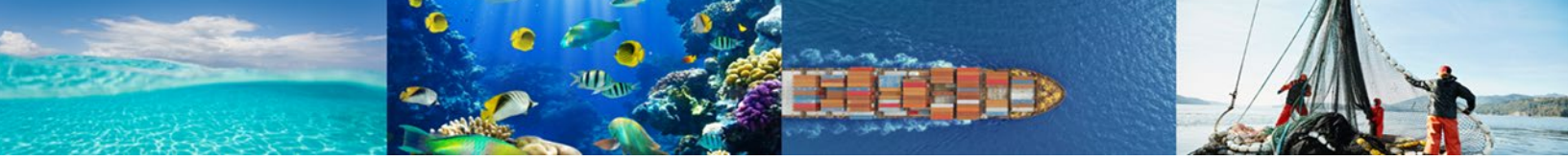
MSH-12 **Mandate the establishment of skill development centres to build the capacity of personnel in the shipbuilding and repair industry.**

Collaborate with shipyards and dockyard to establish skill development that offer training programs in welding, ship design, marine engineering, and offshore technologies, to provide the local workforce with the skills needed for advanced shipbuilding and repairs.

This will help in meeting the growing demand for skilled and qualified workforce, and boost employment.

MSH-13 **Encourage collaboration between Nigerian shipbuilding enterprises and experienced international shipbuilders to share information, technology, and management techniques. This may involve joint ventures, technological partnerships, and knowledge-sharing agreements.**

This will foster foreign patronage for Nigerian firms' service offerings. The implementing agency should consider putting together workshops, technical seminars, and conferences to bring international experts to Nigeria. These events should centre on the most current shipbuilding technologies, trends, and management techniques. Nigerian companies should attend these forums to learn from and network with industry leaders.



4.4 Maritime Security

Maritime security has evolved beyond defending against military attacks to dealing with non-traditional threats such as maritime terrorism, climate change, illegal fishing, and marine pollution. It entails preventive actions to protect maritime areas from threats and illegal acts. Nigeria's maritime environment is critical due to its petroleum reserves, oil and gas infrastructure, shipping routes, and fisheries.

In the recent past the Gulf of Guinea was known worldwide for incidences of piracy. However, this situation has significantly improved on the back of the Nigerian government's investment in maritime security. In the last two years, incidences of security breach in Nigeria's maritime domain have been virtually non-existent. It is important that these gains are sustained.

4.4.1 Strategic Aspiration

The strategic aspiration for the maritime security sector is:

To sustain the integrated maritime security architecture towards ensuring zero incidence of security breaches such as kidnapping, smuggling, piracy, etc. within our EEZ and inland waterways.

4.4.2 Challenges

Some of the challenges facing Nigeria's maritime security sector include:

a) Inadequate sea, air, land and intelligence assets of security agencies (to complement already existing assets) limit the capacity of the Nigeria Navy, NIMASA and the Marine Police to successfully fight piracy and other maritime crimes.

b) Piracy and armed robbery pose a direct physical threat to security personnel in the Gulf of Guinea, with the possibility of being attacked, kidnapped, or even killed. This not only jeopardises their safety but also lowers morale among security personnel.

c) Nigeria's coastline stretches 853 kilometres. Monitoring and guarding such a large area with minimal resources and manpower is an uphill task. Security forces are often unable to cover every point of entry, making it harder to detect illegal activities.

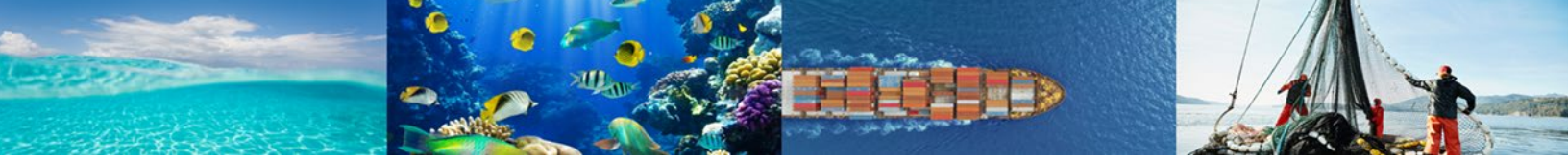
4.4.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

MSE-01 | Establish a special court to try maritime related offences/crimes.

A dedicated maritime court will expedite the prosecution of maritime crimes. This will deter criminals, ensure swift justice, and protect our maritime interests.

For example, the regular court processes are causing delays in the disposal of seized vessels held by the Nigeria Navy, and the costs associated with their maintenance are significantly impacting the finances of the Navy[14].



MSE-02 | **Ensure full compliance with the International Ship and Port Facility Security (ISPS) Code.**

Ensuring full compliance with the ISPS Code and implementing stringent security measures will protect against potential threats such as terrorism and piracy, safeguarding our maritime infrastructure and the lives of those who rely on it.

Governance and Institutional Arrangements

MSE-03 | **Create a national maritime security database and publish an annual maritime security report for the country.**

A centralised database will provide real-time maritime security information. Annual reports will assess our maritime security posture, identify vulnerabilities, and inform strategic decision-making.

MSE-04 | **Establish a national network and coordination of all maritime domain awareness infrastructure currently operated in silos by various MDAs. For example, the Navy's Falcon Eye System, NIMASA's Command, Control, Communication, Computer, and Intelligence Centre (C4i), etc.**

A unified maritime domain awareness network will enhance our ability to monitor and respond to threats in the maritime domain.

MSE-05 | **Develop and promote mutual assistance and cooperation between neighbouring State Parties.**

Sharing information, coordinating efforts, and conducting joint operations will strengthen collective capacity to address challenges. This will benefit all nations involved and contribute to a more secure and sustainable maritime domain.

Infrastructure

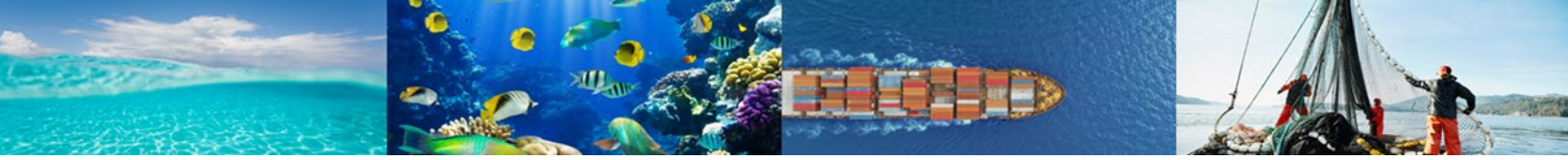
MSE-06 | **Sustain the effective implementation of the Deep Blue Project.**

The Deep Blue Project is the first integrated maritime security strategy in West and Central Africa with the aim of tackling the incidences of piracy, sea robbery, and other crimes at sea[15].

The project is aimed at ensuring a comprehensive surveillance of the nation's coastal and inland waterways through digital, aerial, land, and marine security assets and platforms.

MSE-07 | **Provide adequate resources such as patrol vessels and other equipment for maritime security.**

This would boost the morale of marine security officers as well as improve operational efficiency of the officers to quickly respond to maritime threats.



Skills and Capacity Building

MSE-08	**Collaborate with international maritime security organisations such as the International Maritime Organisation (IMO) and the United Nations Office on Drugs and Crime (UNODC) to train members of the Nigeria Maritime Security sector.**

These collaborations would enable Nigerian marine personnel to obtain training on global best practices and improve their operational readiness

4.5 Maritime Safety

Maritime safety refers to the practices, measures and regulations put in place to prevent accidents, injuries, and fatalities in the maritime industry. This includes safety on ships, offshore platforms, and in ports, etc. Maritime safety is also essential to avert fatalities and the destruction of assets and the environment in the inland waterways.

Stronger regulatory approaches and capacity building are required to ensure safe, secure, efficient, and sustainable port and ship operations that meet economic and safety objectives while also assuring environmentally friendly transportation.

4.5.1 Strategic Aspiration

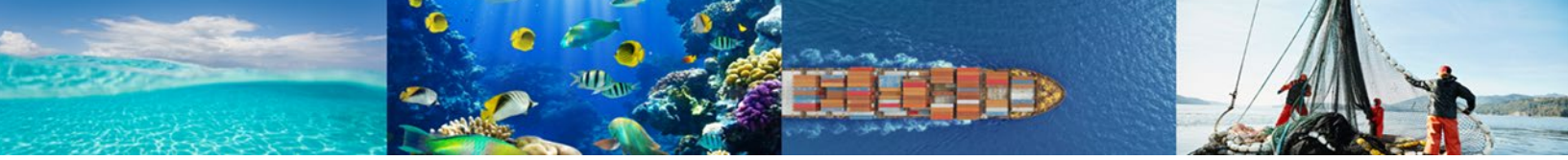
The strategic aspiration for the maritime safety sector is:

To eliminate substandard vessels from Nigeria's waters, increase the protection of passengers and crews, and reduce the risk of environmental pollution.

4.5.2 Challenges

Some of the maritime safety challenges facing the country include:

a) Spill pollution of the waters by ships, tankers and offshore drilling operations harm the ecosystem and aquatic life.
b) Outdated equipment and poor maintenance of port facilities contribute to operational inefficiencies, accidents and safety hazards.
c) Challenges in monitoring and securing vast offshore areas due to limited resources.
d) Limitations in the country's search and rescue capabilities that lead to delays in responding to emergencies in the event of maritime accidents or distress situations. The limited availability of appropriate search and rescue equipment and skilled personnel causes rescue efforts to be delayed, increasing the likelihood of fatalities.
e) Non-adherence to safety regulations such as boat capacity and use of life jackets. Regulatory agencies struggle with the resources and staff to ensure compliance.
f) Poorly built jetties and inadequate docking facilities are among the contributing causes of accidents, particularly in rough seas or bad weather.
g) Most boat operators and crew members lack the essential safety training, which includes emergency response protocols, first aid, and firefighting techniques.



h) Most passengers are typically unaware of basic safety precautions such as wearing life jackets and understanding evacuation procedures.

4.5.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

MSA-01 | **Enforcement of all maritime safety conventions and domestic regulations on all vessels within the country's territorial and Inland waters.**

Ensure consistent enforcement of international maritime safety conventions and relevant domestic regulations as outlined in Port State, Coastal and Flag State responsibilities, to help prevent unsafe practices and ensure ships meet uniform safety standards across borders.

Governance and Institutional Arrangements

MSA-02 | **Adequate manning of vessels by certified Nigerian seafarers.**

A shortage of qualified and certified seafarers leads to safety risks, operational inefficiencies, economic losses, and damage to a country's maritime reputation. Ensuring Nigerian seafarers are employed on vessels is crucial for our maritime industry. It promotes job creation, skill development, and knowledge transfer.

MSA-03 | **Strengthen Flag, Coastal and Port State Inspection Regimes.**

Ensuring effective Flag, Coastal and Port State Inspections will help eliminate the use of substandard vessels in Nigerian waters.

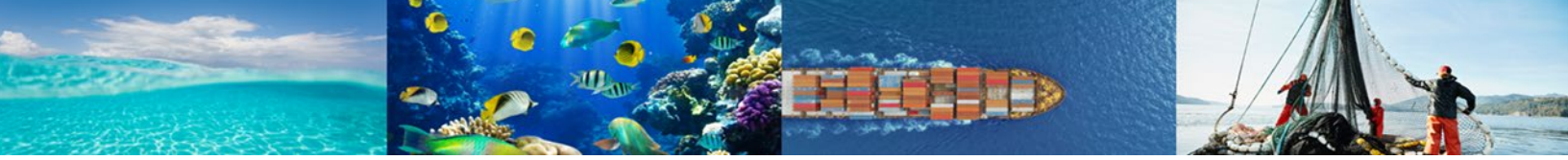
Infrastructure

MSA-04 | **Improve navigability of the waterways (inland and EEZ) through wreck identification, marking, and removal.**

Improving navigability of Nigeria's waterways, both inland and within our Exclusive Economic Zone, is essential. By identifying, marking, and removing wrecks, we will make our waters safer and more efficient for shipping. This will boost the economy and strengthen our position as a maritime hub.

MSA-05 | **Install Global Maritime Distress and Safety System (GMDSS) equipment in the Regional Rescue Coordinating Center and all rescue sub-centres across the country.**

Installing and maintaining GMDSS equipment in all rescue sub-centres across the country is crucial for enhancing maritime safety. This will enable rapid response to distress calls, coordinate search and rescue operations, and ultimately save lives at sea.



MSA-06 | **Provide and sustain well-equipped and functional Search and Rescue (SAR) Centres operated by qualified and experienced personnel at strategic locations within the country maritime domain in line with the global requirements**

This will increase the country's emergency response efficiency, resulting in a drop in the country's existing accident casualty rate.

Sustainability/ Environmental Considerations

MSA-07 | **Remove water hyacinth to enhance maritime safety. This should also include the removal of plastics pollution from the waterways.**

Water hyacinth and plastic pollution pose significant threats to maritime safety. By removing these hazards, we will ensure safer waterways, protect our environment, and boost economic activity.

Innovation and Technology

MSA-08 | **Deploy maritime communication systems.**

This will enable ship tracking, ship-to-ship or ship-to-shore communication to transmit/ receive distress signals, safety calls, routine priority messages, etc.

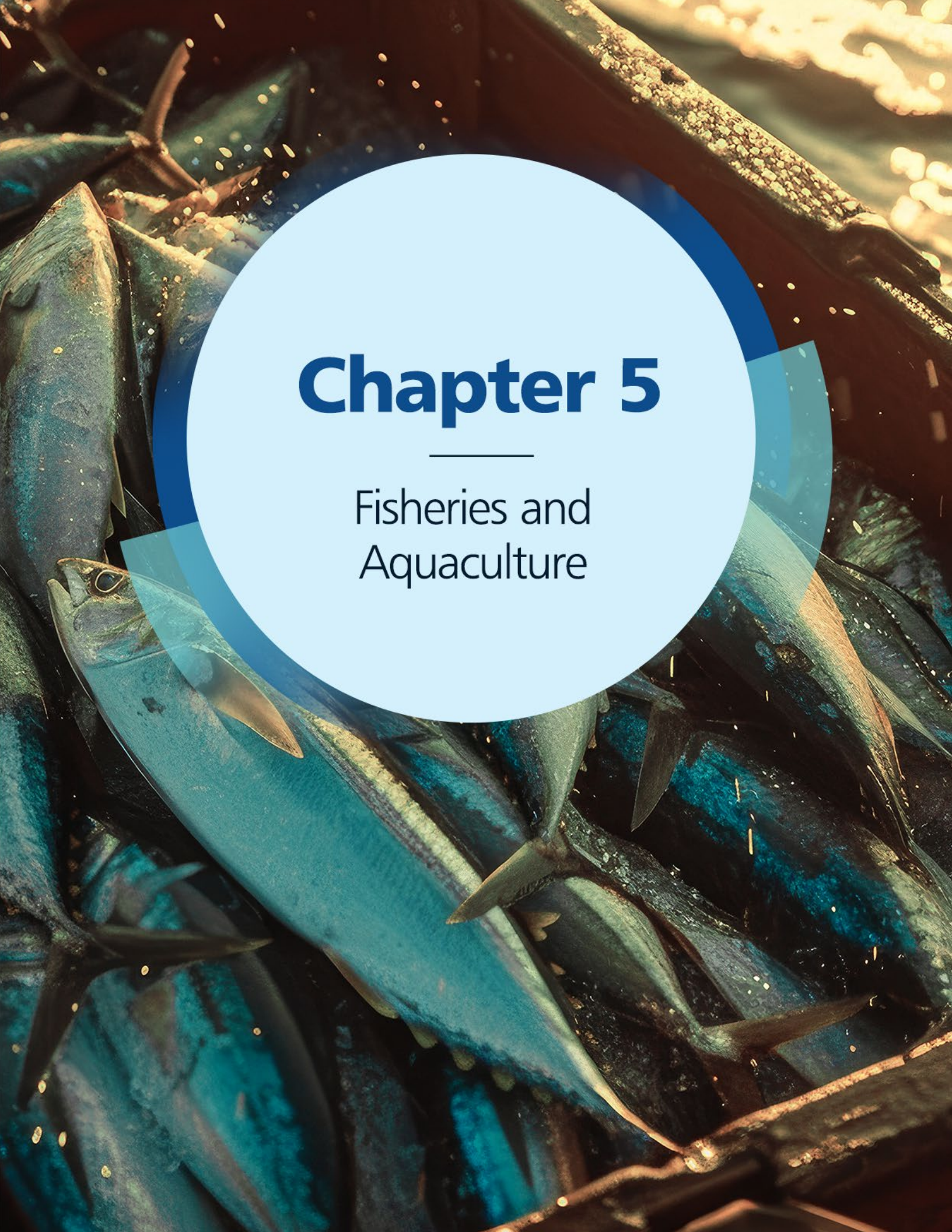
MSE-09 | **Develop electronic charts of Nigeria’s waterways for ease and safety of navigation.**

Nigeria's current hydrographic charts are outdated, potentially impacting the safety and efficiency of maritime operations. This dissuades shipping companies from utilising Nigerian ports, leading to a loss of revenue for the nation. By adopting electronic navigational charts (ENCs), Nigeria will enhance maritime safety, attract more shipping traffic, and position itself as a preferred maritime hub in West Africa, thereby boosting the national economy.

Skills and Capacity Building

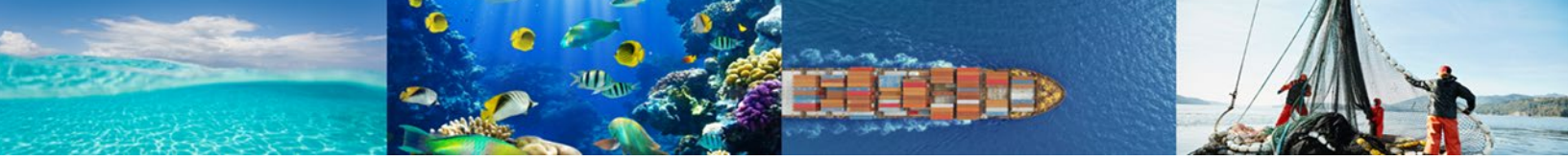
MSA-10 | **Sensitise coastal communities, to ensure their buy-in and cooperation as regards maritime safety and security.**

Raising awareness among coastal and riverine communities is vital for fostering a culture of maritime safety and security. Educating people will empower them to make informed decisions and protect themselves. This will build trust, strengthen partnerships, and enhance overall maritime safety.



Chapter 5

Fisheries and Aquaculture



5 Fisheries and Aquaculture

According to the Food and Agriculture Organisation (FAO), fish provides more than 60 percent of the world's supply of protein in developing countries. The Nigeria fisheries and aquaculture subsector plays a key role in improving food supply, nutrition and job creation. It is noted that about 10 million Nigerians are actively engaged in primary and secondary fisheries operations15F[16]. In the first quarter of 2021, the fisheries sector contributed 3.24% to the country's GDP according to the National Bureau of Statistics (NBS)16F[17]. In 2022, the total fisheries production was estimated at 1.1 million tonnes, to which marine catch contributed 36 percent, inland waters catch contributed 36 percent and aquaculture contributed 28 percent.

Global total fisheries and aquaculture production reached 223.2 million tonnes in 2022, a 4.4 percent increase from the year 2020. Despite the numerous potentials of the fisheries and aquaculture subsector globally, it remains a low contributor to GDP in Nigeria (about 0.83 percent of national GDP in 2020), due to a number of challenges. Nigeria's over-reliance on the oil and gas sector has impacted the fisheries and aquaculture subsector. The subsector has suffered neglect with little financial commitment and investment to drive sector operations, maintain productivity and rehabilitate aging infrastructure. The paucity of recent data and statistics on fisheries and aquaculture activities present a challenge for adequate planning and management of fisheries resources. The poor enforcement of existing regulations within the fisheries and aquaculture subsector have also limited the growth and potentials of the Nigeria's marine economy. By addressing these challenges, Nigeria can reposition the fisheries and aquaculture sector for growth by unlocking blue economy opportunities.

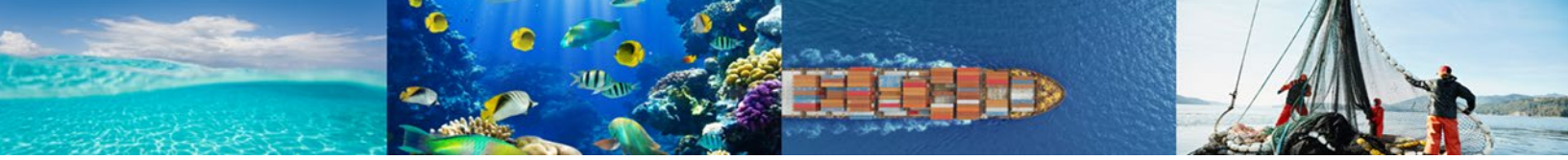
The fisheries and aquaculture subsector comprises the following activities.

- Fisheries - artisanal, coastal, and deep seas
- Mariculture
- Aquaculture
- Fisheries and seafood processing

5.1 Fisheries – Artisanal, Coastal and Deep Seas

Fisheries activities is an essential aspect of the blue economy contributing significantly to food security, job creation and economic development. Globally, over one billion people are known to depend on fish as a source of protein. The demand for fisheries is rising; driven by population and economic growth, globalisation, urbanisation and diet shifts in developed countries.

Fisheries in Nigeria is vital for rural development, food and nutrition supply and socioeconomic growth. The value of fisheries activities in Nigeria is estimated at $1.5 billion and employs about 2 million people17F[18]. Fish is widely consumed in Nigeria and is considered to be a significant source of food and protein intake. Fish contributed to about 40 percent of protein intake for over 60 percent of Nigerians. Despite its popularity, fish consumption still remains below the global average in Nigeria. Nigerians are estimated to consume about approximately 13.3 kilograms of fish per person per year which is below the global per capita average of 21 kilograms18F[19]. This may be attributed to high cost of fish, seasonality of fishing and poor storage infrastructure which affect supply of fish.



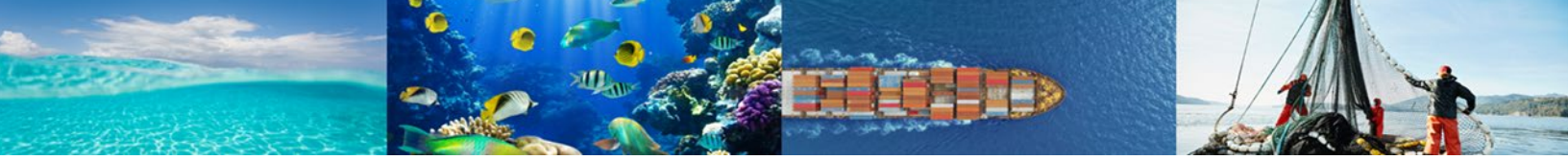
Fisheries is a major contributor to livelihood in Nigeria, particularly in rural and marine communities. The subsector is estimated to employ over 8.6 million people directly and 19.6 million indirectly across the value chain. In 2022, fish production was estimated at 92.3 million tonnes, comprising 11.3 million tonnes from inland and 81 million tons from marine capture19F[20]. It is also estimated that about 200,000 tons of fish are produced along Nigeria's coast annually, from both commercial and artisanal fishing activities.

Artisanal or small-scale fishing activities along coastal areas, creeks and lagoons, inland rivers and lakes account for about 80 percent of total domestic fish production in Nigeria while industrial fishing activities makes up less than one percent. The total domestic fish supply from all sources is about 1.1 million tonnes per annum. Nigeria still requires the importation of about 1.9 million tons annually to augment the supply gap to meet the 3.2 million tonnes of fish needed annually to satisfy local demand and dietary requirements.

Nigeria has the potential to produce 2.6 million tonnes of fish annually and achieve self-sustainability if its rich marine resources are harnessed and adequately exploited. In order to fully unlock sector opportunities, both the artisanal and capture fisheries require adequate support to boost productivity and increase revenue earnings among other benefits.

The development of the national policy with regards to fisheries and aquaculture in Nigeria is guided by the following references:

- The Fishery Committee for the Eastern Central Atlantic (CECAF)
- Ministerial Conference on Fisheries Cooperation Among African States Bordering the Atlantic (COMHAFAT)
- International Commission for the Conservation of Atlantic Tunas (ICCAT)
- The Fisheries Committee for the West Central Gulf of Guinea – (FCWC-FISH).
- Nigeria is a party to the UN Law of the Sea Convention and to the UN Fish Stocks Agreement (from 1995).
- Nigeria's Fisheries Act 2014
- The Nigerian Fisheries Act of 1992
- The Nigerian Fisheries Regulations
- The Fisheries (Amendment) Act of 2003
- The National Inland Waterways Authority Act
- The Environmental Impact Assessment Act
- The Water Resources Act
- The National Agency for Food and Drug Administration and Control Act
- The Nigerian Maritime Administration and Safety Agency Act
- The Coastal and Inland Shipping (Cabotage) Act
- The Exclusive Economic Zone Act



- The National Inland Fisheries Act
- The Nigerian Oceanography and Marine Research Development Act

5.1.1 Strategic Aspirations

The strategic aspiration of the Fisheries – Artisanal, Coastal and Deep Seas in Nigeria is to:

Establish fishing standards and adopt sustainable practices to improve catch quality and, volume; and ensure Nigeria's self-sufficiency and export of artisanal and capture fisheries.

5.1.2 Challenges

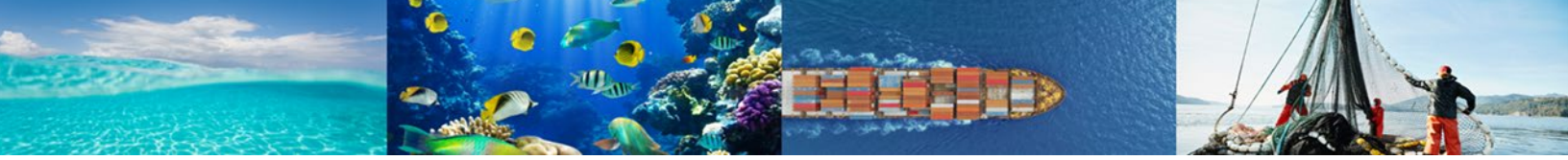
The specific challenges of the Fisheries – Artisanal, Coastal and Deep Seas in Nigeria include the following:

a) Poor fisheries management and weak enforcement of fisheries regulations. Nigeria's fisheries subsector suffers from inadequate governance and enforcement of existing regulations, resulting in overfishing and unregulated activities. For instance, the lack of resources and personnel within agencies like the Federal Department of Fisheries hampers their ability to patrol and monitor the vast Nigerian Exclusive Economic Zone (EEZ). This has allowed illegal, unreported, and unregulated (IUU) fishing by foreign vessels, leading to revenue losses and depletion of fish stocks.

b) Insufficient monitoring and research create a lack of data needed for stock status assessment to inform effective management planning and decision making. The absence of adequate scientific data to assess fish stock status undermines effective management planning in fisheries subsector. There is limited investment in research institutions such as the Nigerian Institute for Oceanography and Marine Research (NIOMR) which has constrained efforts to understand marine ecosystem health. This lack of data results in policy blind spots, leaving critical decisions on fish quotas and conservation measures to guesswork rather than evidence-based planning.

c) Unsustainable fishing practices lead to significant decline in fish stocks and resulting in ecological imbalances. Nigeria's fisheries resources have faced pressures from both foreign and domestic fishing vessels. The widespread use of large nets, bottom trawling for fishing, etc. has caused a sharp decline in fish stocks and disrupted marine biodiversity. These practices are also known to affect fishing populations, harm marine habitats, and deplete ecosystem diversity.

d) Despite abundant marine resources, Nigeria relies heavily on fish imports to meet domestic demand. The total official fish imports in 2023 were estimated at about US$0.6 billion while exports were valued at US$90 million. This overreliance on foreign fish resources is worsened by mismanagement and infrastructure challenges experienced in the fisheries subsector. For example, the country's aquaculture sector, which could offset import reliance, faces high costs and inadequate funding, thus widening the gap between local supply and consumption.



e) Bycatch and the use of non-selective fishing gear contribute significantly to marine biodiversity loss in Nigeria. Artisanal and industrial fishers often deploy gear such as bottom trawlers and fine-mesh nets that indiscriminately capture non-target species, including endangered marine life. A notable example is the frequent bycatch of sea turtles and juvenile fish along the country's Atlantic coastline, which disrupts the ecological balance and depletes future fish stocks. This impacts negatively on the optimal production of marine fisheries resources.

5.1.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

FI-01 | **Strengthen laws and enforcement systems to enforce sustainable fisheries practices.**

Finalise the revision and implementation of the Fisheries Act of 1992 Act and any other relevant. laws, regulations, and policies relating to the fisheries subsector. Implement robust legal framework to guide fisheries operations and set up a National Fisheries Surveillance Task Force comprising relevant agencies for monitoring purposes. Integrate a community-based monitoring systems to empower local stakeholders in enforcing fishing standards, where required.

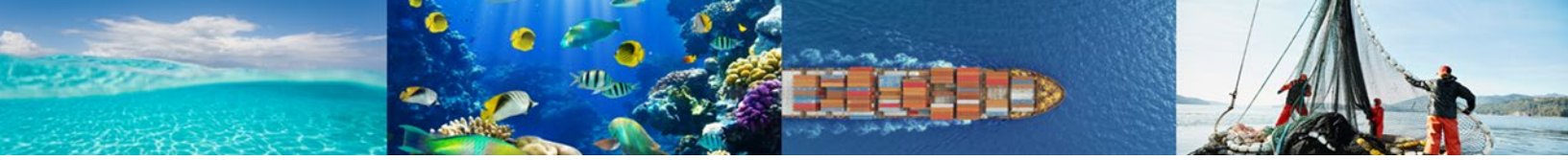
FI-02 | **Implement tiered fishing licensing and spatial and temporal access controls/ quotas for sustainable fisheries practices.**

Implement spatial and temporal access controls/ quotas enforcing, fish catch limits, etc. to promote sustainable fisheries practices. Implement a tiered licensing and quota limit structure based on the scale of operations (e.g., small-scale or industrial) to prevent overfishing and resource depletion. Enforce existing legislations to implement fishing licenses and monitor illegal fishing activities. Revise catch and license limits periodically based on research and data obtained.

Governance and Institutional Arrangements

FI-03 | **Harmonise regional fisheries monitoring systems to track fishermen, fishing boats/ crafts and other fishing activities.**

Consolidate mechanisms to track fishing vessels and fishing activities across the various agencies under the Federal Ministry of Marine and Blue Economy to effectively address illegal, unreported, and unregulated (IUU) fishing activities. Accelerate the implementation and operation of Vessel Monitoring System (VMS) on Nigerian waterways to monitor and control illegal, unreported and unregulated fishing. Ensure effective collaboration and synergy between departments and agencies. For instance, the FDFA is responsible for licensing fishing vessels while NIMASA is responsible for vessel registration and survey. There is therefore need for cross collaboration to ensure that unseaworthy vessels are not licensed to operate on Nigerian waters.



Infrastructure

FI-04 **Rehabilitate fisheries infrastructure such as dedicated fishery terminals, harbour landing sites, etc. to boost fisheries operations.**

Perform periodic assessments to identify and undertake rehabilitation projects. Plan for the mobilisation of funds from government budgets, international grants and private sector investments to facilitate project execution and upgrade of existing fisheries institutions. Explore funding options targeted at infrastructure development such as concessionary loans from development banks and other financial institutions, public-private partnership (PPP) arrangements, etc.

Sustainability/ Environmental Considerations

FI-05 **Enforce the sustainable disposal of marine litter to minimise marine pollution caused by fishing vessels, discarded fishing gear and other fishing related activities.**

. Mandate the use of eco-friendly and selective fishing gear and ban the use of destructive fishing practices, such as trawling in shallow areas. Set up collection points at strategic locations such as landing sites for old or discarded fishing gear. Position task force teams at strategic hotspots to respond to issues of waste and marine pollution.

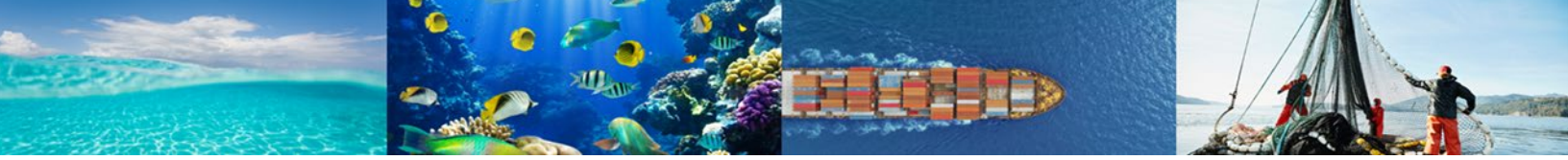
FI-06 **Enforce fishing limits and quotas to preserve critical fisheries habitats and maintain ecological balance and diversity of fish resources.**

Enforce catch limit on specific fish species to prevent overexploitation and to maintain marine diversity. This should be informed through research-backed assessment of commercial, artisanal and industrial fisheries stock. Maintain the productivity of ecosystems for present and future generations, conserving critical habitats and protecting endangered species.

Finance and Investment Climate/ Incentives

FI-07 **Establish fisheries clusters such as fisheries villages and research centres to promote sustainable fisheries management and development.**

Establish hubs for small-scale artisanal fishers to build capacity, access shared infrastructure and resources to promote fisheries development in Nigeria. Promote the application of environmentally friendly fishing practices by co-locating fisheries researchers, sector experts, investors, students/ fishers and practitioners. Encourage sector investment by creating an enabling ecosystem to attract local and foreign investors to the subsector. Establish operating incentives across fishing license categories i.e. artisanal and industrial.



FI-08 **Design targeted incentives and support for fisheries operations across the value chain to attract investors and boost food supply.**

Facilitate technical support to service providers to enhance fisheries operations and boost productivity i.e. seed management, licensing, and marketing, waste and disease monitoring. Establish rewards for compliance with strategic economic and sustainability objectives such as tax holidays, favourable lease agreements, import free duties, subsidies, low interest rate on loans, etc.

Innovation and Technology

FI-09 **Harmonise digital data and information on fisheries to standardise fisheries reporting and promote transparency.**

Maintaining reliable data on fish stocks assessments are critical to effective planning and policy implementation efforts. There is need for a robust fisheries database to inform investment and policy decisions for the fisheries subsector. Setup mechanisms for obtaining real-time fisheries data from multiple sources. This requires a centralised data collection framework to obtain data on fish stocks, catch volumes, fishing vessels, etc. through enhanced technological capabilities.

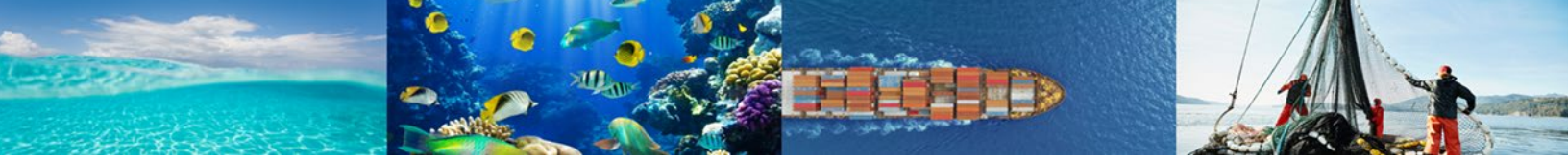
FI-10 **Harness technology for real-time fisheries data collection and monitoring of activities.**

Employ the use of technologies to collect, track and monitor fisheries data through spatial and temporal data collection methods. Tools such as Geographic Information Systems (GIS) and remote sensing technologies should be used to obtain data on environmental changes (water quality, habitat), biological changes (spatio-temporal changes in fish communities/ species) and fisheries changes (fish catch and efforts data).

Quality and Standards

FI-11 **Enforce quality and standards on fishing activities to foster sustainable fisheries operations.**

Establish framework and protocols to standardise fishing operations, with particular focus on artisanal fishing activities. Optimise and enforce existing protocols to standardise fisheries operations, coordinate the use of technologies and support development of the sector. Optimise and enforce existing protocols to standardise fisheries operations, coordinate the use of technologies and support the development of the sector. Accelerate the adoption of fishing gear standards for commercial, industrial and artisanal fisheries activities. This will promote the sustainability of fish stocks, reduce bycatch and improve the quality of fish products. This will promote the sustainability of fish stocks, reduce bycatch, and improve the quality of fish products.



FI-12 **Align national fisheries operations and practices with global standards to boost Nigeria's competitiveness of fisheries outputs.**

Adopt international best practices to guide fisheries operations, align with quality, safety, and sustainability standards required for a globally competitive fisheries subsector. Optimise existing regulations for compliance with standards and certifications such as the Food and Agriculture Organisation's (FAO) Code of Conduct for Responsible Fisheries. This will enable international market penetration and expand revenue generation potentials.

Skills and Capacity Building

FI-13 **Implement inclusive empowerment programmes to enhance the welfare of fisherfolks.**

Promote broad participation of fisherfolk across marine and coastal communities in the fisheries subsector through skills and capacity development. Strengthen the capacity of artisanal fisherfolks to boost productivity and enhance livelihoods. Develop empowerment schemes and programmes across segments of youth, women and marginalised communities, including persons with disability groups.

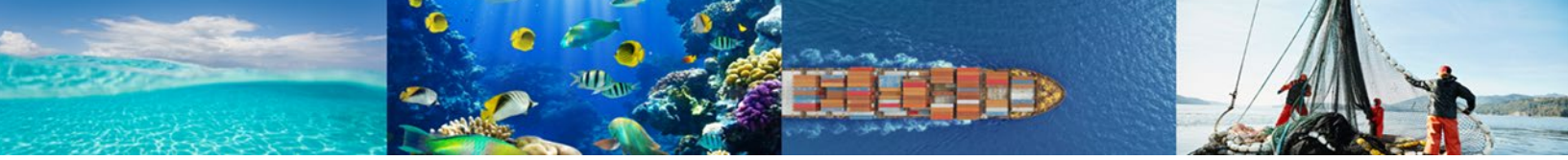
FI-14 **Implement framework for fisheries training, capacity building and certification.**

Promote the application of relevant skills and competencies amongst fisherfolks and empower them. Empower fisherfolks with the capabilities to respond adequately to fisheries demand. In addition, rollout educational and vocational training programs on quality standards and sustainable fishing practices. This also includes equipping fishing vessel crews with capabilities to adopt operational efficiency and sustainability practices. Establish certification standards for skills development to ensure good quality fisheries operations should be established.

Market Access – Local Patronage/ International Markets

FI-15 **Support export-led fisheries activities to transition the Nigeria to a net exporter of fish stock.**

Establish export processing zones (EPZs) to facilitate the production and exportation of fisheries resources. Leverage infrastructure and technical support as well as financial incentives to boost export potential of fisheries. Leverage infrastructure and technical support as well as financial incentives to boost our export potential of fisheries. Engage international organisations for the promotion of local fisheries stock and to penetrate new markets.



FI-16	**Strengthen fisheries coordination between regional and international partners.**

Appraise and enhance mechanisms for regular dialogue as well as exchange of information on fisheries issues. Engage stakeholders, including fishers, local communities, scientists, policymakers, and conservation organisations, both locally and internationally to promote and develop the local fisheries subsector. Integrate local knowledge and, traditional practices to strengthen and promote sustainable fisheries practices. Expand collaborative areas to data-sharing, joint enforcement, resource pooling, and inclusive decision-making, etc.

5.2 Mariculture

The coasts, creeks, lagoons, inland rivers and lakes of Nigeria are rich in marine wildlife and resources. This present huge opportunities for rearing, raising, producing or growing fish in natural environments and habitats. While aquaculture is the farming of freshwater and saltwater organisms as well as aquatic plants in any available water body, marine aquaculture or mariculture can be defined as the cultivation of marine organisms such as fish, molluscs, crabs, and seaweeds in their natural environments.

Nigeria boasts over 140,000 square kilometres of inland waters, which include rivers, streams, artificial and natural lakes[21]. The nation's coast also stretches approximately 800 kilometres from the tip of the Badagry Lagoon to the eastern end off Cross River[22]. However, despite the conducive natural conditions and vast expanse of water bodies comprising freshwater, brackish water, coastal and offshore zones, mariculture is often overlooked and under-exploited in Nigeria.

Nigeria's water body also comprise an extensive drainage system made up of the Niger Basin, Chad Basin, and West Coastal Basin. The brackish water network of the Niger Delta region is considered a "biodiversity hotspot". Nigeria's deltas and estuaries have a total surface area of 858,000 hectares, while freshwaters cover about 3,221,500 hectares[23]. The vast natural aquatic endowments offer opportunities for the rearing and production of fin, shellfish and other aquatic living organisms.

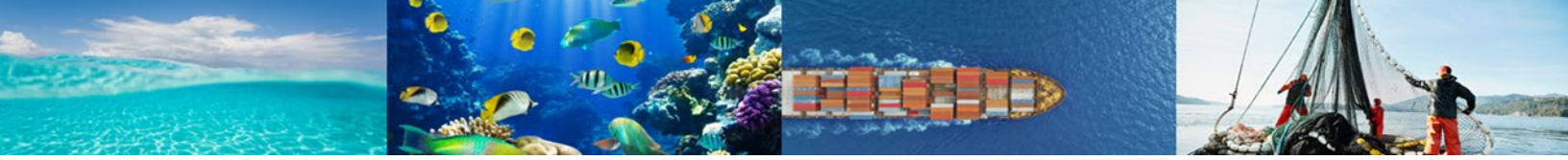
Mariculture is vital in reducing reliance on wild fish stocks for seafood production, thereby conserving natural fish populations and maintaining biodiversity in marine ecosystems. Mariculture also plays a critical role in advancing food security and promoting economic opportunities for fisherfolks in marine communities.

5.2.1 Strategic Aspirations

The strategic aspirations for mariculture in Nigeria are summarised below:

a) Increase commercial investment for the sustainable exploration and exploitation of mariculture towards the diversification of the Nigeria marine and blue economy.

b) Establish marine protected areas to encourage marine ecosystem conservation and the sustainable exploitation of diverse mariculture resources.



5.2.2 Challenges

The specific challenges of the mariculture in Nigeria include the following.

a) Mariculture environment and aquatic ecosystems suffer greatly due to the menace of pollution (oil spillage, biological waste, non-biodegradable objects, etc.). Pollutants such plastics, disposed fishing gear, wreckage and oil spillages (in oil-producing regions), disrupt the balance of marine ecosystems and affect the survival of cultured aquatic species. Such pollutions have limited the prospects of a rich diverse mariculture ecosystem.

b) Excessive exploitation of aquatic and mangrove resources without corresponding commitment to restore and replenish marine biodiversity. Unregulated and excessive exploitation of aquatic species in their natural habitat have led to the depletion and endangerment of key fish and aquatic resource stocks.

c) Poor level of exploration, research and investment into diversifying mariculture opportunities. The cultivation of marine organisms like shellfish, seaweed, and finfish in coastal and marine environments is vast but largely untapped due to low-level of research and investment. The paucity of data and information available on various species has impacted the ability to generate interest and participation in mariculture activities.

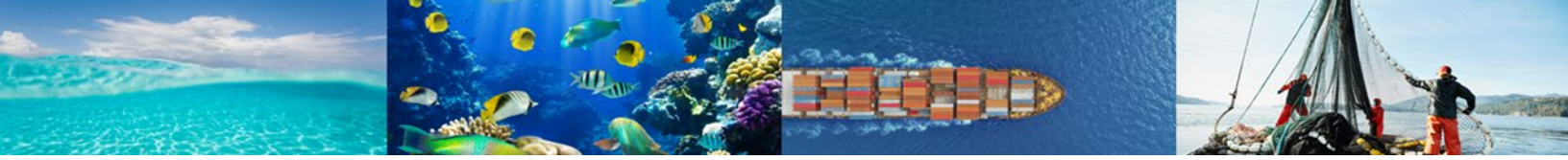
d) Threats from climate change, extreme weather events and natural disasters significantly impact the development of mariculture activities**.** Poorly conducted mariculture can also impact and damage to coastal wetlands and ecosystems, and contribute to ecosystem contamination with food residues, waste, antibiotics, hormones, diseases and alien species.

5.2.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

FM-01 **Domesticate international regulations and laws on mariculture to commercialise mariculture resources and promote marine sustainability.**

Integrate international regulatory and legal frameworks to boost revenue generating potentials of the subsector. Integrate international regulatory and legal frameworks to boost the revenue generating potentials of the subsector. This is also critical for ensuring alignment with global best practices and facilitating sector investments. Integrate and benchmark international frameworks and policies such as the FAO's Code of Conduct for Responsible Fisheries, the UN's Sustainable Development Goals (SDGs), United Nations Framework Convention on Climate Change (UNFCCC), etc. This is expected to promote the responsible use of coastal resources, drive conservation and reduce pollution.



FM-02 **Strengthen and enforce existing laws to safeguard and protect marine habitats, coastal areas, mangroves, etc.**

Reinforce existing regulations, policies, and laws to protect and preserve natural marine conditions. Protect the inland and coastal environment by supporting the full roll out and implementation of regulations to enforce marine protection and rehabilitation projects such as the National Mangrove Restoration Project. Collaborate with other relevant ministries, agencies and departments to designate mariculture hotspots as marine protected areas (MPAs). Enforce zoning regulations to ensure aquatic organisms thrive in their natural environment.

Governance and Institutional Arrangements

FM-03 **Integrate effective and inclusive governance framework for sustainable mariculture development.**

Embed existing governance frameworks for the implementation and enforcement of mariculture policies in line with national and sectoral agenda. Governance approach should be anchored on clear principles to effectively address mariculture challenges such as environmental degradation, access to resources, etc.

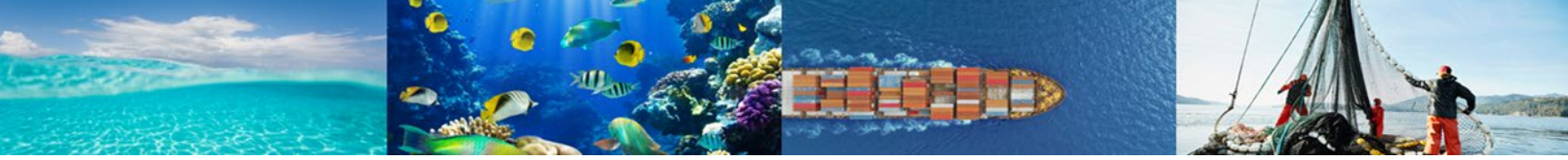
FM-04 **Conduct periodic stock taking of mariculture resources to guide decision making and promote mariculture development.**

Conduct marine spatial planning of mariculture resources to keep track of stock and facilitate decision making. Structure stock taking and tracking of mariculture resources on a three-year and five-year and 10-year basis to inform effective resource planning, promote sustainability efforts and facilitate investments. Publish reports, papers and statistics on mariculture resources periodically for public and investment decision making.

Infrastructure

FM-05 **Rehabilitate degraded marine habitats, inland and coastal areas, mangroves, etc. to promote the mariculture sector in Nigeria.**

Provide adequate infrastructure to promote mariculture activities within marine ecosystems. Facilitate the provision of essential services for sustainable mariculture, such as maintaining water quality, stabilising coastlines, and delivering natural nurseries for the development of marine species. Rehabilitate existing and dilapidated infrastructure for the restoration of natural marine habitats. Adopt the use of emerging technologies to drive sustainability of mariculture structures. For instance, construct artificial reefs, biofilters, and mangrove replanting technologies, to revive natural mariculture ecosystems and degraded areas.



Sustainability/ Environmental Considerations

FM-06 | **Formalise the assessment of ecosystem vulnerability to climate change.**

Climate change poses significant risks to mariculture ecosystems in Nigeria, including rising sea temperatures, ocean acidification, and unpredictable weather patterns. Incorporate periodic environmental vulnerability assessment to mariculture operations to safeguard aquatic species and the livelihoods of coastal communities. Define environmental assessments parameters in line with peculiarities of Nigeria's marine ecosystems and international best practices i.e. water quality, salinity levels, and the presence of harmful algal blooms, etc.

FM-07 | **Enforce invasive species management for the conservation, protection and sustainability of mariculture species and habitat.**

Conserve and protect indigenous species and habitats to ensure the sustainability of mariculture activities. Proactively identify ecosystem threats to mariculture activities such as invasion of harmful aquaculture species, disruptions to native food chains, limited resources for indigenous species and other factors that alter the ecosystem dynamics. Integrate an invasive species management plan into a broader climate action plan for effective implementation.

Finance and Investment Climate/ Incentives

FM-08 | **Enhance access to finance for small and medium-scale mariculture operations.**

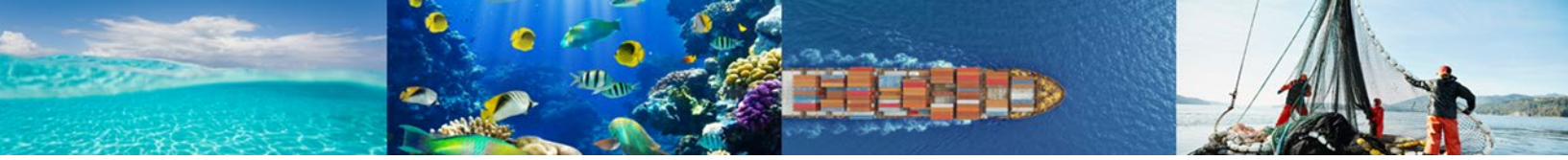
Offer specialised financing facilities with flexible terms as part of targeted programs to promote small-scale mariculture operations, particularly in coastal communities. Provide strategic financial, technical and business setup support with focus on women and youth. This will encourage the development of capabilities across mariculture activities i.e. seaweed, pearl oysters, etc.

FM-09 | **Extend financial incentives to mariculture operators and businesses through a mariculture fund to achieve strategic targets.**

Leverage tax and other income generated from permits, levies and penalties on resource exploitation to support priority mariculture initiatives such as marine ecosystem rehabilitation projects. Prioritise the funding of economically viable and environmentally sustainable initiatives. Implement monitoring and evaluation frameworks to ensure accountability and effective use of funds.

Innovation and Technology

FM-10 | **Promote the adoption of innovation and technology to enable efficient and sustainable mariculture operations.**



Optimise productivity and reduce environmental impacts through the integration of advanced technologies such as recirculating aquaculture systems (RAS), automated feeding systems, and water quality monitoring tools. Strengthen partnerships and collaboration efforts to facilitate access to global expertise and cutting-edge technologies.

Quality and Standards

FM-11 **Develop comprehensive guidelines and operational standards covering various aspects of mariculture for the Nigerian mariculture ecosystem.,**

Mariculture activities such as site selection, species cultivation, feeding practices, disease management, and environmental sustainability should follow quality standards adopted globally. These standards should align with internationally recognised best practices and standard certifications by international organisations i.e. Aquaculture Stewardship Council (ASC) and Global Aquaculture Alliance (GAA), etc.

Skills and Capacity Building

FM-12 **Collaborate with non-governmental organisations (NGOs), education, and research institutions to deliver technical knowledge and capacity-building initiatives.**

Equip small-scale operators with the required skills and expertise to adopt sustainable and innovative mariculture practices. Implement targeted trainings on techniques for species selection, hatchery management, water quality monitoring, feed optimisation, and disease control. Promote a community-focused approach to bridge knowledge gaps at the grassroots level.

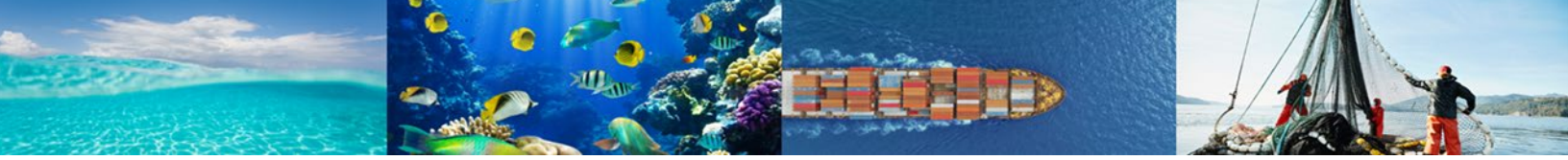
FM-13 **Promote the unbundling of mariculture activities to enhance value chain specialisation and ecosystem diversification.**

Provide resources targeted at various segments of the mariculture value chain. This will create more targeted job opportunities and encourage innovation within each mariculture cluster. This will also enable operators to focus their resources, expertise, and investments in areas with comparative advantage and areas where they can achieve economies of scale .i.e. shrimp, catfish farming, etc.

Market Access – Local Patronage/ International Markets

FM-14 **Explore opportunities for penetration into emerging global markets and position Nigeria as a competitive player in the global mariculture industry.**

Collaborate through joint ventures, knowledge exchange, and technology transfer with countries and organisations that have advanced expertise in mariculture practices. Leverage Nigeria's immense mariculture resources such as its vast coastline, favourable climatic conditions, and increasing demand for seafood to expand into lucrative international markets for increased export potential. For instance, the brackish water zones of the Niger Delta present opportunities for attracting global mariculture activities.



5.3 Aquaculture

The aquaculture subsector has grown significantly in recent years, even surpassing capture fisheries as the primary producer of fish and aquatic animals[24]. According to the Food and Agriculture Organisation (FAO), aquaculture production in 2021 reached a record 126 million tonnes (valued at $297 billion)[25]. Aquaculture, which entails the nurturing of aquatic animals (organisms living, breeding and feeding in water) in a controlled environment, plays a very important role with regards to job creation and income generation.

Nigeria is the second largest aquaculture producer and accounts for 52 percent of total farmed fish production in Sub Saharan Africa. In 2023, aquaculture products were estimated at about 267,000 tonnes. Nigeria and recorded a total of $33 million in aquatic product export in 2019. The aquaculture subsector has great potential to reduce poverty, ensure food and nutrition security, and stimulate economic growth and development. This is particularly true in the riverine communities where communities rely almost exclusively on the aquaculture sector as a source of income and food.

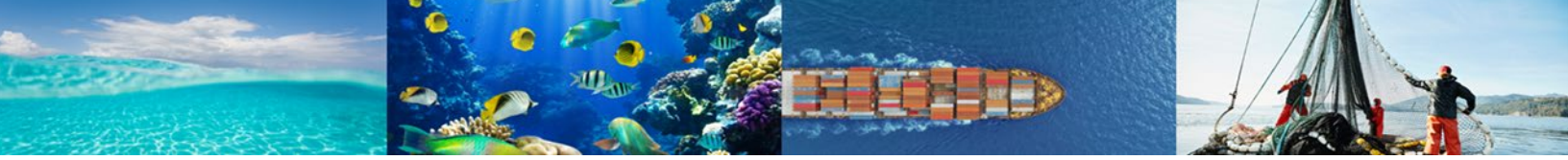
Nigeria aquaculture is primarily focused on freshwater fish, with about 64% of production coming on catfish species. Nigeria is the largest producer of the African specie of catfish in the world, about 260,000 tonnes per year. This specie is the most commercially viable freshwater fish in Africa. Aquaculture activities in Nigeria have notably led to increased fish production and is expected to play a vital role in addressing the fish supply gap of about 1.16 million metric tons[26].

The aquaculture sub sector contributes between 0.5% and 1% to Nigeria's domestic fish production.

The types of enclosures typically used to grow fish in Nigeria include earthen ponds, earthen tanks lined with plastics, wooden tanks lined with plastics, net cages in lakes or oceans, rectangular raceway tanks, circular or rectangular fibre glass tanks, concrete tanks, etc. By advancing aquaculture, developing value-added fish products, and exploring synergies with related industries such as tourism, the fisheries sector can create new revenue streams and mitigate risks associated with market fluctuations.

Ornamental Fisheries

Globally, aquariums are regular sights in homes, workplaces and other public spaces. Given its popularity, particularly in Asia and Europe. The contribution of ornamental fisheries to the marine and blue economy in Nigeria is however negligible. This can be attributed to the lack of awareness of the potentials, the lack of the technical skills required for breeding, and lack of private sector investment in the sector. In 2022, the global ornamental fish market was valued at over $5.9 billion. This has the potential to create livelihood opportunities through revenue generation, particularly in rural areas, create revenue generation opportunities given Nigeria's vast fisheries resources.



5.3.1 Strategic Aspirations

The strategic aspiration for aquaculture in Nigeria is to:

Enhance aquaculture development and investment towards diversifying livelihoods and reducing poverty with focus on women, youths, and vulnerable groups.

5.3.2 Challenges

The specific challenges of aquaculture in Nigeria include the following:

In achieving the strategic aspirations for the subsector, the following challenges need to be addressed.

a) Poor implementation of aquaculture plan at national and regional level. Inconsistencies in policies and implementation of aquaculture plans, coupled with a lack of will to follow through in a determined manlier has impacted negatively on the aquaculture sub-sector.

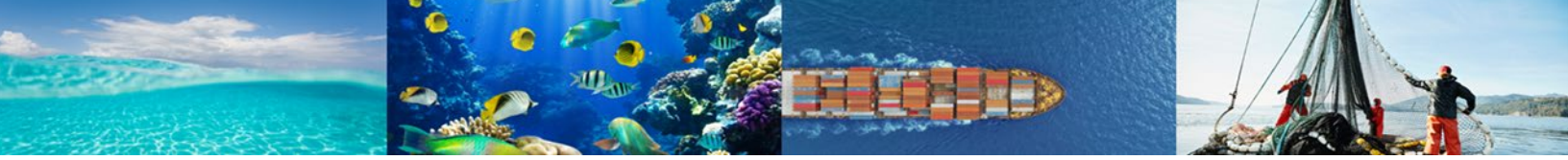
b) Lack of well-defined legal framework to guide regulation and enforcement of applicable aquaculture laws. Overlapping administrative jurisdiction between regional agencies limited the impact and contributes delayed growth of the subsector.

c) Low level of awareness and participation in aquaculture activities. The social, economic, and environmental value of small-scale fisheries in Nigeria is still not fully understood and is largely underexplored. There is also little or no accurate data on gender and wealth disparities on fisherfolk or other sector operators.

d) Lack of incentives to initiate attract investment and promote aquaculture business. Lack of strategic support initiatives to encourage aquaculture through conducive policies and programmes. It remains difficult to access credit and insurance for aquaculture enterprises.

e) Poor technical knowledge on aquaculture practices. Shortage of competent and experienced technical manpower to conduct aquaculture practices. Instances of poor administration of feeds leading to financial losses and environmental consequences.

f) High investment requirement and increasing cost of commercial fish feeds for aquaculture. Increasing raw material costs and underdeveloped potentials for local sourcing of feeds have contributed significantly to the high cost of aquaculture activities. This has discouraged a wider participation in aquaculture activities.



5.3.3 Strategic Policy Initiatives, Projects and Programmes

Law and Regulations

FA-01 **Strengthen laws and regulation to protect small-scale aquaculture farmers and enhance aquaculture output.**

Establish laws and regulations to protect access to land, water, and other resources for small-scale aquaculture practices. Protect small-scale aquaculture operations against land tenure insecurity, unfair competition from larger operators, etc.

FA-02 **Minimise the reliance of domestic aquaculture operation on the importation of fish feeds.**

Protect local aquaculture businesses from global price swings by limiting the importation and use of foreign fish feeds. Promote efforts to enhance feed efficiency and investigate alternate feed sources, such as insect-based feeds, to reduce the cost burden on fish farmers.

Governance and Institutional Arrangements

FA-03 **Develop dedicated systems for aquaculture governance and establish framework for monitoring and implementation.**

Appoint a multi-stakeholder board with representatives from government, private sector, academia, and local communities to oversee policy alignment and operational priorities. Build capacity for regional and state governance of aquaculture.

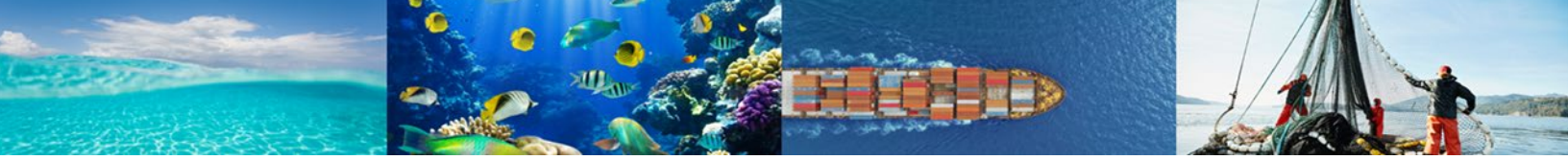
FA-04 **Develop specialised management plan for the sustainable exploitation of key aquaculture resources.**

Conduct detailed assessment of fish species and develop cultivation plan for key aquaculture species such as catfish, tilapia, shrimp, etc. based on their ecological compatibility and market demand. Establish framework for effective and sustainable production of fish species to ensure standardised and high-quality output.

Infrastructure

FA-05 **Enhance the capacity of training and vocational institutions to deliver specialised knowledge, skills, and practical expertise on aquaculture.**

Strengthen institutions such as agricultural colleges, vocational centres, and extension services responsible for trainings on best practices in areas of hatchery management, fish feed formulation, disease control, and water quality monitoring. training and vocational institutions to boost aquaculture capabilities. Equip training centres with modern facilities, demonstration farms, and access to emerging technologies to provide hands-on, real-world training.



Sustainability/ Environmental Considerations

FA-06 **Promote Integrated Multi-Trophic Aquaculture (IMTA) to improve efficiency and reduce waste.**

Encourage the practice of co-farming multiple organisms from different trophic levels through integrated multi-trophic aquaculture (IMTA), which combines different species such as fish, shellfish, and seaweed to naturally recycle nutrients and reduce waste. Adopt environmentally friendly feeds made from sustainable sources to significantly decrease the carbon footprint and dependency on wild fish stocks for feed production.

FA-07 **Undertake conservation breeding and stocking programs for species recovery.**

Conduct conservation breeding and stocking programs to restore species at risk of extinction or have undergone significant declines. Implement captive breeding, rearing, and release of fish into suitable habitats to enhance populations and genetic diversity. For example, species like the African bonytongue (Heterotis niloticus) and the African catfish (Clarias gariepinus) face pressures from habitat loss and overfishing and can benefit significantly from such programs.

Finance and Investment Climate/ Incentives

FA-08 **Encourage private sector investment in aquaculture exploitation and value chain development.**

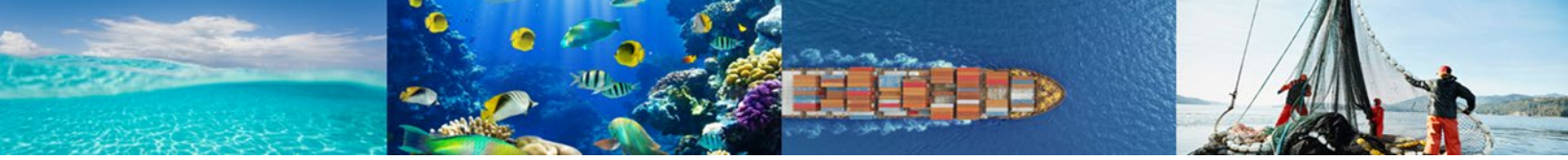
Support investments from private sector and international development organisations in aquaculture operations to improve productivity across key segments. This includes delineating aquaculture zones nationwide for private sector investments. Engage funding institutions to negotiate reasonable interest rates for investment in aquaculture development.

FA-09 **Facilitate aquaculture extension and support services to fish farmers.**

Support private sector extension and outreach services such as farmer support, aquaculture technology transfer centres, etc. This is expected to facilitate access to inputs like fish feed, fingerlings, fishing equipment, etc. streamline and centralise aquaculture operations. This will facilitate compliance with environmental and operational standards as well as enable infrastructure investment in hatcheries, cold storage, water systems, etc.

FA-10 **Implement incentives to incorporate and encourage the production of locally sourced fish meal.**

Enable tax incentives for investments in local hatcheries, feed production, and offshore farms. Streamline approval processes to ease permits and licensing and improve sector attractiveness to commercial entities and fish farmers. Establish dedicated loan schemes for aquaculture and capture fishery operators through agricultural and development banks. Raise capital for investments from private sector and international development organisations to improve productivity in specific high-yield aquaculture operation i.e. catfish and tuna fish farming.



FA-11 **Develop customised financial products to facilitate credit and financial inclusion for aquaculture operators.**

Establish targeted financial products to deepen financial services for coastal communities engaged in sustainable aquaculture practices such as recirculating aquaculture systems. Explore the use of affordable and flexible credit, grants and subsidies, and low-interest loans to support implementation of sustainable aquaculture programs.

Innovation and Technology

FA-12 **Leverage technical expertise and technological advancements to improve fish cultivation, minimise loss and improve fish supply.**

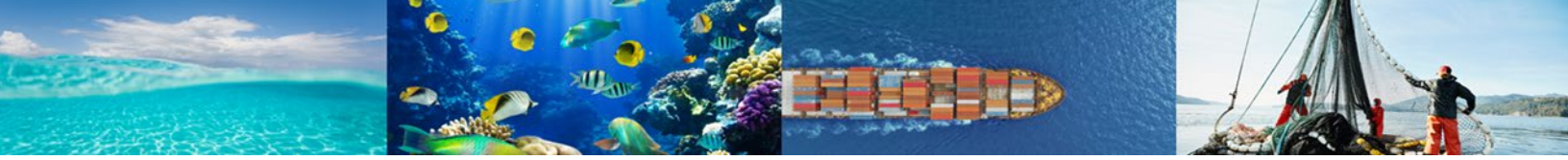
Identify and cultivate fish breeds that are resilient to common diseases and adaptable to varying environmental conditions in Nigeria. Collaborate with support and research institutions to introduce disease-resistant and fast-growing fish species. This will enhance the capacity of commercial fish species to significantly boost yields, reduce mortality rates, and ensure year-round supply to meet local and export demands.

FA-13 **Adopt precision technologies for aquaculture businesses to optimise productivity, profitability, and sustainability.**

Implement technologies such as automated feeding systems for precise feeding control and minimisation of feed waste. Introduce water quality monitoring devices that enable fish farmers to track critical parameters like dissolved oxygen, pH levels, and temperature, allowing for timely interventions that improve fish health and reduce mortality rates. Technologies also include sensors and, artificial intelligence (AI), and satellite monitoring that support real-time data collection for better resource management and decision-making.

FA-14 **Improve fish feed quality through research and innovation.**

Develop high-quality, nutrient-rich feeds for specific fish species to enhance feed efficiency, reduce volume of feed required per kilogram, etc. This reduces production costs and lessens the environmental footprint of aquaculture operations. For example, incorporating locally sourced ingredients such as cassava peel, soybean meal, or insect protein into feed formulations can lower costs and promote the circular economy.



Quality and Standards

FA-15 **Establish accreditation programmes that define standards for local aquaculture practices.**

Develop standards for the application of local indigenous practices in aquaculture. Ensuring approaches are specific to the local production systems. Stimulate domestic feed industries by establishing accreditation standards for the production of fish feeds using locally available ingredients (cereals, lantern fish and freshwater clupeids) as basic feed ingredients. Establish standards to setup aquaculture operations using indigenous materials such as fish hatcheries, brood-stock production centres, etc. Unbundle aquaculture into different areas of specialisation and develop capacities of small-scale farmers to implement best aquaculture management practices.

Skills and Capacity Building

FA-16 **Upscale local production of fish feeds to enhance food supply and create jobs.**

Extend training and capacity building on fish feed development and production. This will boost fish cultivation and supply, promote sustainable aquaculture, drive fish health management, etc. Set up fish feeds production facilities within aquaculture hubs to develop local capacity, potentially boost job creation, promote food security and increase revenue.

Market Access – Local Patronage/ International Markets

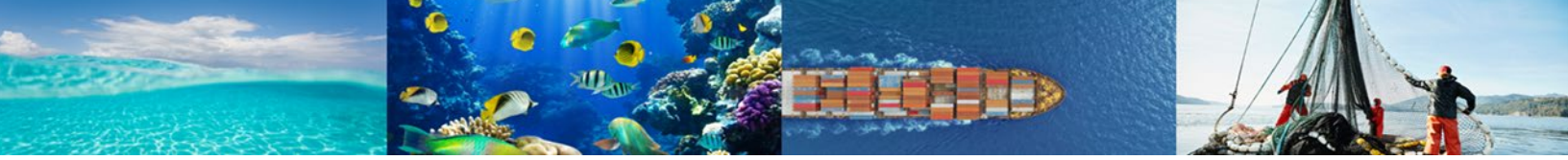
FA-17 **Provide a forum for collaboration, coordination and experience-sharing to support implementation of aquaculture development initiatives and address key concerns for the sector.**

Promote sector development and market access through a collaborating platform to share technical and technological knowledge, discuss constraints and opportunities, aquatic animal health and biosecurity frameworks, etc. Engage with environmental experts to address common issues on governance, aquaculture development, etc.

5.4 Fisheries and Seafood Processing

The Sustainable Development Goals stresses the importance of ensuring access to food and food security towards ending world hunger by the year 2030. Given the significance of the fisheries subsector in achieving this goal, there is need to promote fisheries processing activities, reduce post-harvest loss and improve food supply. The FAO states that “food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritional food that fits their dietary needs and food choices, for an active and healthy life”.

Nigerians consume approximately 8 kilograms of fish per person per year, far below the global per capita average of around 21 kilograms. Although fish remains an important source of protein in remote areas, it is estimated that between 30 to 50 percent of fish harvested is lost to poor



handling and preservation processes[27]. Given the gap, there are huge opportunities for the country to supplement fish consumption with processed and preserved fisheries produce.

The fisheries and seafood processing subsector has the potential to further unlock job opportunities within the fisheries and aquaculture value chain. This can be achieved by supporting the exploration of alternative products derived from fisheries by-products, enhancing seafood processing techniques and adopting processing technologies to catalyse sector growth.

In Nigeria where the technological adoption of fish processing is relatively low, leading to limited production, inconsistent fish supply, etc., small-scale fishers can be given training, technical assistance, and access to resources through these projects, enabling them to raise fish for local consumption and economic production.

5.4.1 Strategic Aspirations

The strategic aspirations of the Fisheries and Seafood Processing in Nigeria are summarised below:

a) Promote fisheries value addition and processing to exploit market opportunities towards revenue generation, job creation and advancing food security.
b) Implement sustainable fisheries processing standards to achieve global competitiveness and reduce post-harvest loss and waste.

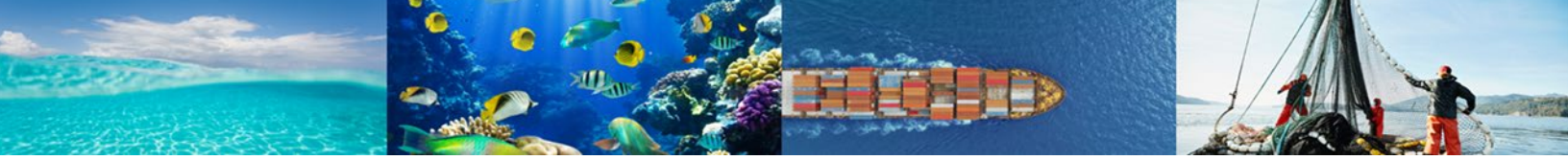
5.4.2 Challenges

In achieving the strategic aspirations for the subsector, the following challenges need to be addressed.

a) Poor fish production and harvest practices which impact quality of fisheries processing. Lack of adequate training on standard fisheries handling practices lead to post-harvest loss and affects fisheries processing activities. Poor adherence to fish growth, cultivation and handling standards, impact the quality of fish outputs for seafood processing.

b) Low mechanisation of fisheries and seafood processing techniques, particularly amongst small-scale artisanal fisherfolks. Fish processing techniques still comprise traditional methods with little innovation such as drying, salting, and smoking which are labour intensive, manual and unsustainable to scale operations.

c) Low investment in fisheries processing infrastructure. Fish processing infrastructure such as cold storage systems, which prevent loss and wastage of perishable fish products are insufficient in developing countries like Nigeria. In addition, frequent power issues, poor road networks and poor route to market all make fisheries and seafood processing more challenging.



5.4.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

FP-01 **Harmonise new and existing laws and regulations to promote local fisheries and seafood resources processing.**

Consolidate new and existing regulations to guide fisheries and seafood processing activities to promote local fisheries and seafood processing. Implement laws to enforce processing quotas which reserve a percentage of fisheries catch for processing. This is expected to enhance food security, create jobs and develop ancillary industries such as packaging and transportation. This is expected to enhance food security, create jobs, and develop ancillary industries such as packaging and transportation.

FP-02 **Strengthen regulations on fisheries processing and licensing to promote export and facilitate access to international markets.**

Implement tiered licensing for fisheries and seafood processing operators and enforce regulations to preserve high quality and standards of processed fisheries output. This will enable both small- and large-scale fisheries processing operators to meet safety and quality standards and align with international export requirements. Integrate regulatory frameworks for public-private partnerships with local and international fish processors to protect and develop the fisheries subsector.

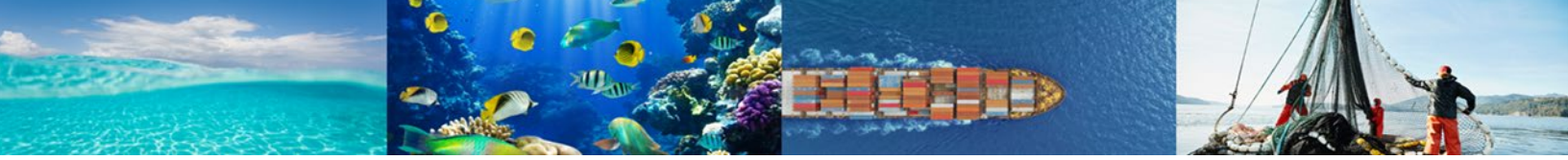
Governance and Institutional Arrangements

FP-03 **Define jurisdiction of relevant authorities responsible for coordinating fisheries and seafood processing operations at national and regional level.**

Define framework for cross-collaboration between relevant agencies in coordinating and monitoring fisheries and seafood processing activities (artisanal and industrial). Enforce compliance with processing standards to protect local consumers of processed products. Ensure that policies related to fisheries processing are harmonised to prevent overlap and duplication of efforts.

FP-04 **Establish implementation and fulfilment stations to enforce regulations and execute support initiatives within fish processing communities.**

Setup processing support stations within coastal fishing communities to enforce regulations and implement strategic support activities such as distribution of funds for the purchase of fish processing machines for women living in coastal communities. Support stations should be situated within fishing communities, particularly in coastal states such as Rivers, Akwa Ibom, and Cross River, etc.



FP-05	**Establish framework for collaboration between agencies and with the private sector for the effective management of fisheries processing in Nigeria**

Develop framework for collaboration amongst government agencies, private investors, and local stakeholders for adequate oversight and enforcement of regulations. Define stakeholder roles and responsibilities across the fisheries processing value chain to address regulatory and structural issues, value chain inefficiencies, environmental sustainability, etc.

Infrastructure

FP-06	**Establish laboratories for the certification of fish and fishery products in line with internationally recognised standards.**

Establish fish pathology laboratories within coastal regions to facilitate compliance with international fish and fisheries product standards such the Code of Practice for Fish and Fishery Products which is the international reference point for technical guidance on the harvesting, processing, transport and sale of fish and fishery products.

FP-07	**Provide critical infrastructure to support processing and semi-processing of fisheries and seafood resources within fishing communities.**

Provide shared infrastructure i.e. cold storage, automated filleting machines, smokehouses, vacuum packaging equipment, etc. to drive productivity within fisheries processing communities. This will potentially create additional jobs across the fisheries and seafood processing activities value chain, improve fisheries output and reduce post-harvest losses. This will also accelerate the development of coastal and riverine areas as well as enhance sector competitiveness.

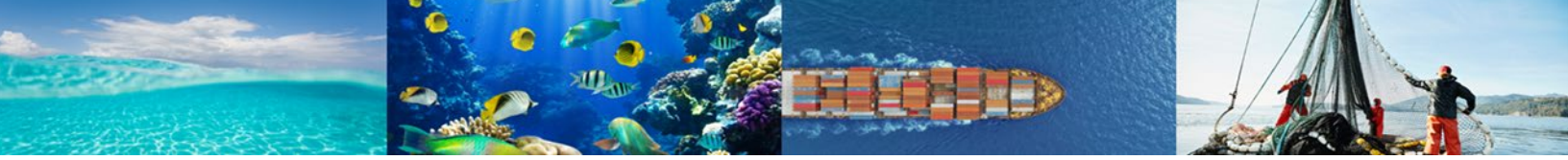
FP-08	**Institutionalise clusters and segments within the fisheries and seafood processing value chain for more impactful support.**

Establish business support centres for fisheries and seafood processing. Create fisheries processing clusters including fish processing operators, research and academic institutions, financial institutions, civil society organisations, and all relevant stakeholders. Setup dedicated hubs for knowledge sharing and exchange of technical know-how to bridge skills gaps within subsector.

Sustainability/ Environmental Considerations

FP-09	**Minimise waste and post-harvest loss of fisheries resources through sustainable fisheries and seafood storage and processing.**

Adopt ecofriendly and climate-smart production techniques/ methods for fish processing and preservation to optimise value creation. Explore the transformation of fisheries processing waste into valuable commodities such as non-food products, animal feed, fertilizers, etc.



Finance and Investment Climate/ Incentives

FP-10 **Introduce targeted incentives such as tax breaks, grants, or low-interest loans for businesses investing in seafood processing facilities and technology.**

Provide incentives to attract and encourage investment in fisheries and seafood processing. Minimise or eliminate market entry barriers and encourage private-sector participation through tax holidays, access to credit facilities, and grants for the setup of processing plants. Develop support programmes and incentives across the value chain for the wholistic development of the sector.

Innovation and Technology

FP-11 **Promote the adoption of advanced technologies across the fisheries and seafood processing value chain.**

Implement strategic programmes to facilitate the adoption of advanced technologies to enhance productivity, reduce waste, and improve quality of processed output. This is also expected to improve food supply and create jobs across the fisheries processing value chain. Implement traceability systems to facilitate tracking of fisheries and seafood products.

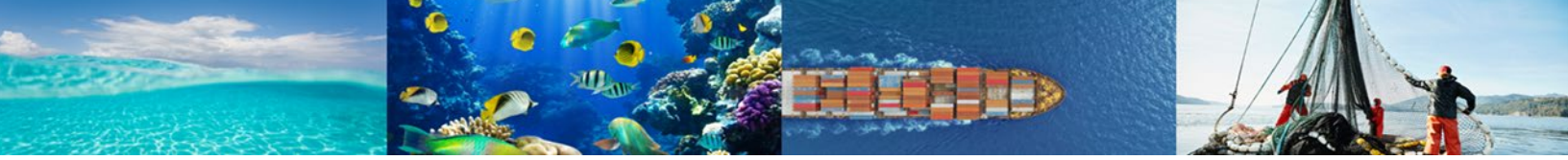
Quality and Standards

FP-12 **Align fisheries and seafood processing procedures with international best practices and global standards.**

Ensure compliance with production, processing, and distribution requirements and international best practices such as Codex Alimentarius standards. Integrate guidelines on food safety, hygiene and output quality to meet the requirements of both local consumers and export markets. Integrate guidelines on food safety, hygiene, and output quality to meet the requirements of both local consumers and export markets. Support local artisanal and industrial processing enterprises to comply with relevant operational standards and output quality requirements. This will potentially reduce Nigeria's dependency on imported fisheries products and enhance foreign exchange earnings.

FP-13 **Establish monitoring systems for verification and certification of locally processed and imported fisheries and seafood products.**

Develop mechanism of checks and verification for all fisheries and seafood products within the country's territorial boarders. This is to enable comprehensive tracking of fisheries products and limit illegal importation of fisheries and processed seafood products. Harmonise existing systems of verification and certification effective implementation of standards and quality. Harmonise existing systems of verification and certification for the effective implementation of standards and quality.



Skills and Capacity Building

FP-14 **Enhance capacity for fisheries and seafood processing operators to scale operations and adopt good manufacturing practices (GMP).)**

Implement capacity-building initiatives to equip artisanal and industrial operators with the requisite knowledge, skills, and resources to optimise fisheries and seafood processing. Train entrepreneurs and business owners on modern processing techniques, use of automated processing technology and general product management. Increase awareness and focus on sustainable and eco-friendly processing methods, hygienic handling practices and quality standards.

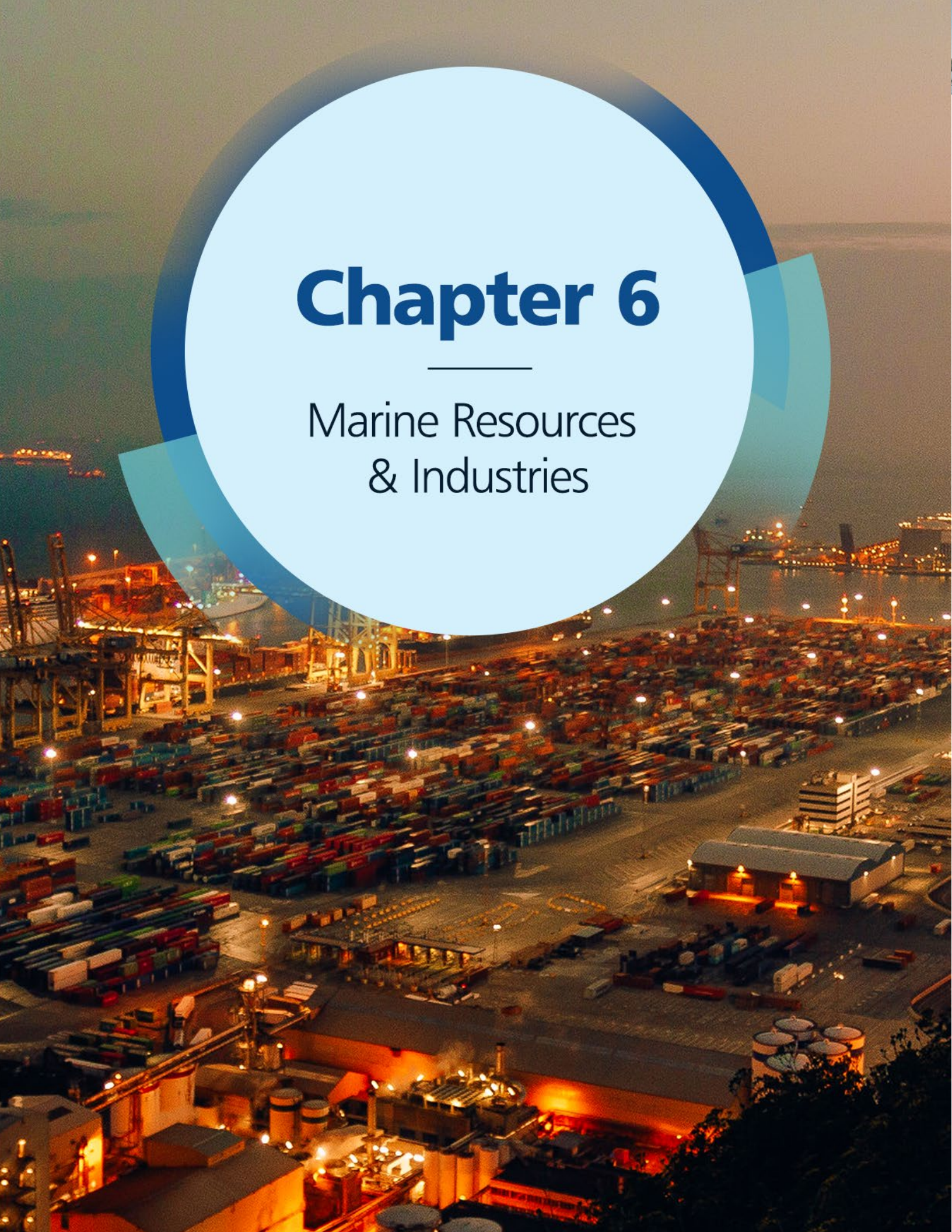
FP-15 **Promote women and youth participation in the fisheries and seafood processing value chain.**

Establish clear inclusion quotas, ensuring that women and youth receive at least 40-50% of available opportunities in seafood processing initiatives. Promote access to resources such as targeted financing, technology, and training to women and youth in fishing communities to foster economic growth and create jobs.

Market Access – Local Patronage/ International Markets

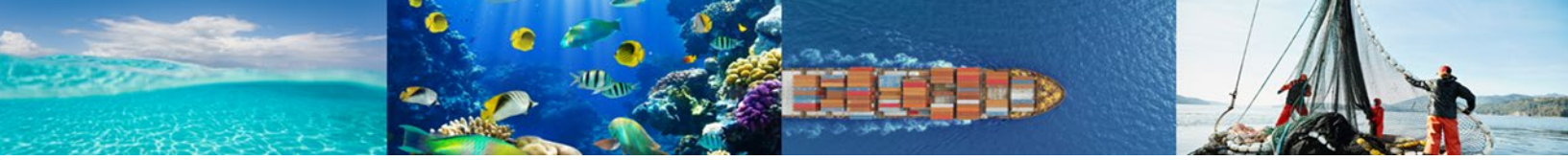
FP-16 **Expand access to both domestic and international markets through business partnerships and trade deals.**

Expand market opportunities and enhance competitiveness of local fisheries processing operators. Collaborate with international organisations towards market expansion and access for local businesses and fish processing operators. Support initiatives to drive export of processed fisheries products and drive foreign exchange earnings.



Chapter 6

Marine Resources & Industries



6 Marine Resources & Industries

The marine resources and industries sector offers untapped potential for sustainable development and economic growth. Nigeria is endowed with rich living and non-living marine resources that are useful in industrial applications. Despite these vast reserves, exploration and exploitation remain in their infancy. Harnessing these resources presents a transformative opportunity to drive economic diversification and support livelihoods, while ensuring the application of sustainability practices.

The resources in Nigeria's maritime domain can support a range of emerging industries, beyond the traditional industries such as offshore oil and gas, shipping and water transport, and fisheries. These emerging industries include offshore energy generation, biotechnology for pharmaceuticals, cosmetics and agriculture applications, marine minerals (seabed) mining, water desalination, etc.

This chapter seeks to chart a course for Nigeria towards realising the ambition of diversifying the economy through the scale up of blue economy activities. The Marine Resources and Industries sector is covered in the following subsectors:

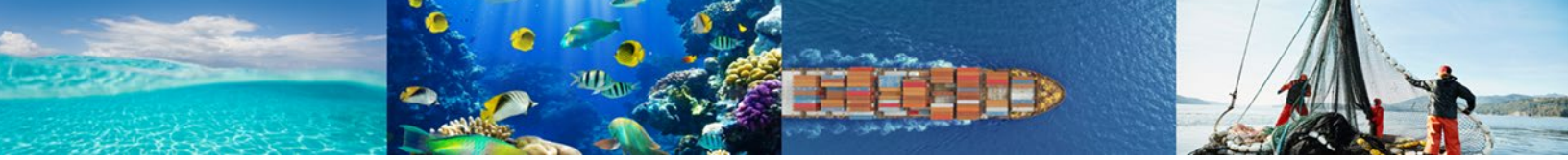
- Marine Minerals (seabed and coastal mining, and salt harvesting)
- Biotechnology (for applications in pharmaceuticals, chemicals, cosmetics, etc.)
- Water Desalination
- Underwater Cables and Pipes

6.1 Marine Minerals

It has been proven that the ocean floor contains mineral resources that are useful for applications in mobile phones, laptops, and renewable energy technologies like solar panels and wind turbines. These minerals can be mined as polymetallic nodules containing minerals like cobalt, copper, nickel and manganese, and other rare metals. Their exploitation however involves initial capital-intensive exploratory mining covering activities such as deep-sea mapping, manned submersibles or remotely operated vehicles, photographic and video systems, and drilling devices. There are also legitimate environmental concerns as regards the impact of seabed mining on the marine ecosystem, biodiversity, and the ability of the oceans as a source of carbon sink.

The International Seabed Authority (ISA) typically grants 15-year exploratory licenses for the mining of seabed metals in the deep seas in areas beyond national jurisdiction. About 31 of these licenses have been granted with the involvement of 14 countries. However, the ISA is yet to grant licenses for the commercial mining of the deep seabed.

Countries around the world have typically proceeded with caution when it comes to the commercial mining of the seabed. This is due to environmental concerns and the need to put in place environmental regulations to ensure its sustainability. There are just a handful of countries that have approved the mining of the seabed within their territorial waters.



6.1.1 Strategic Aspirations

The strategic aspirations of Nigeria for the marine minerals sector are summarised below:

a) To develop a strong legal and regulatory framework around seabed mining by leveraging technical knowledge and best practice lessons from developed countries and the International Seabed Authority.
b) To attract local and international investments to the marine minerals sector and facilitate technology transfer and capacity building.

6.1.2 Challenges

The specific challenges of Nigeria's marine minerals include the following:

a) Insufficient geological surveys and mapping of Nigeria's seabed resources hampers resource identification and planning. Nigeria's Exclusive Economic Zone (EEZ) which may contain valuable resources like manganese nodules and phosphorites remains largely unexplored.

b) The absence of a clear regulatory structure to govern marine mineral exploration and exploitation creates legal uncertainties and deters investment. The Ministry of Solid Minerals Development and NIMASA must cooperate in this regard to bequeath a solid regulatory framework to the nation under the watchful oversight of the National Assembly.

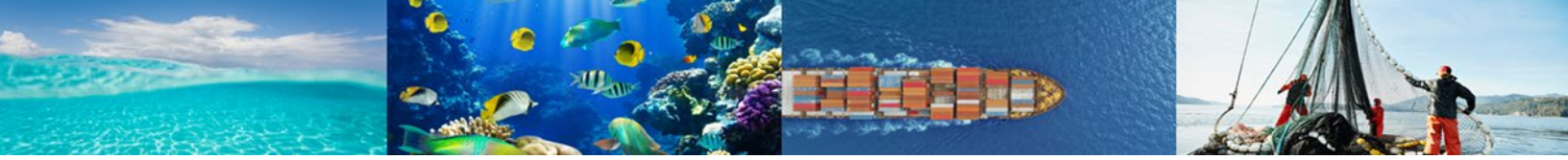
c) Local communities resist projects due to environmental concerns and exclusion from benefits. In the Niger Delta, community protests against resource extraction projects have historically disrupted operations due to concerns about environmental damage and insufficient benefits.

d) Nigeria lacks the advanced technology and skilled workforce needed for deep sea mining operations. The country has yet to adopt technologies used in deep-sea mining in countries like Japan and Norway. This limits its ability to exploit deepwater resources efficiently.

e) Maritime insecurity, including piracy and vandalism, can disrupt offshore activities and deter marine mineral investors.

f) The high capital requirements for exploration and extraction of marine minerals limit private sector participation to organisations specifically setup and capitalised for this purpose.

g) Marine mining threatens ecosystems and biodiversity. Potential dredging for sand and gravel in places such as Lagos and Delta States also raises concerns about coastal erosion and habitat destruction in already vulnerable areas.



6.1.3 Strategic Policy initiatives, Projects and Programmes

Law and Regulations

MM-01 **Develop regulations to govern seabed mining in Nigeria and amend existing laws and regulations to align with the country's policy on marine minerals.**

This policy aims to create a comprehensive legal and regulatory framework that ensures the responsible exploration, extraction, and management of marine mineral resources within Nigeria's Exclusive Economic Zone (EEZ). The development of a clear regulatory framework ensures that Nigeria's marine mineral resources are exploited in a sustainable, environmentally responsible manner, minimising the ecological footprint of extraction activities.

Governance and Institutional Arrangements

MM-02 **Establish a fair and equitable revenue-sharing mechanism between the government and marine mining companies through collaboration and cooperation.**

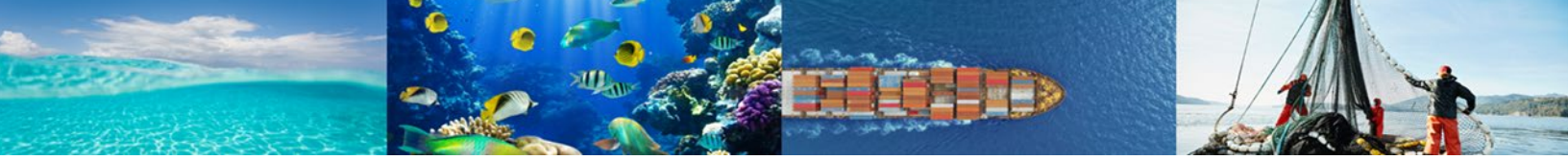
The policy aims to establish a clear, transparent, and fair revenue-sharing mechanism between the Nigerian government and marine mining companies involved in the extraction of marine minerals within Nigeria's Exclusive Economic Zone (EEZ). This mechanism will cover the following key components: revenue allocation, payment transparency, community benefits, sustainable development.

MM-03 **Implement a Flag State Regulation for Pipeline Decommissioning in Nigeria.**

Nigeria will implement a comprehensive Flag State Regulation for Pipeline Decommissioning to ensure environmentally safe, economically viable, and internationally compliant processes. This policy would protect marine ecosystems, ensure sustainable economic activities like fishing and tourism, and enhance Nigeria's reputation as a responsible maritime nation.

MM-04 **Establish a Deep-Sea Mining Authority (DSMA) to oversee licensing, regulation, and monitoring of seabed mining activities.**

The DSMA will act as the regulatory body to manage the exploration and exploitation of deep-sea mineral resources in the Exclusive Economic Zone (EEZ). The DSMA will oversee licensing, enforce environmental safeguards, and ensure compliance with international standards. It will provide a structured framework to attract investment, protect Nigeria's marine ecosystems, and maximise economic benefits from deep-sea mining.



Infrastructure

MM-05 | **Establish marine protected areas (MPAs) and no-mining zones.**

Nigeria will create Marine Protected Areas (MPAs) and no-mining zones which are essential for preserving marine biodiversity, protecting critical ecosystems, and ensuring the sustainable use of ocean resources. The no-mining zones will ensure that high-impact activities like seabed mining do not disrupt vital ecosystems or compromise biodiversity.

MM-06 | **Map the ocean assets in Nigeria's Exclusive Economic Zone (EEZ) and Joint Development Zone (JDZ) in collaboration with private sector investors.**

This entails understanding Nigeria's ocean assets using advanced technologies such as sonar surveys, satellite imaging, and seabed mapping. The initiative aims to create a detailed inventory of Nigeria's ocean assets. This data-driven approach will enable informed decision-making for sustainable resource exploitation, economic diversification, and investment attraction.

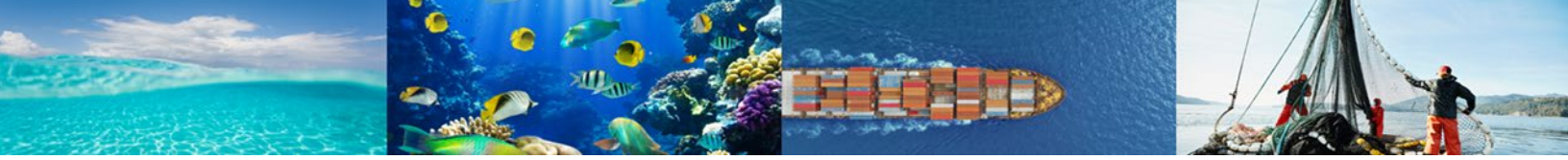
Sustainability/ Environmental Considerations

MM-07 | **Conduct rigorous EIAs to assess the potential environmental and social impacts of marine mining activities.**

This policy mandates comprehensive EIAs for all proposed marine mining activities, focusing on environmental, social, and economic impacts. The assessments will ensure resource exploitation is aligned with sustainable development, minimising harm to ecosystems and local communities.

MM-08 | **Conduct comprehensive baseline resource stock assessments, utilising advanced technologies such as 3-D mapping to identify both living and non-living marine resources and establish a routine mapping schedule**

Baseline resource stock mapping is essential for effective marine resource management, enabling policymakers to identify and assess the distribution of living and non-living resources within Nigeria's waters. A routine mapping schedule will be established with minor updates conducted every 3 to 5 years and major comprehensive assessments undertaken every decade. These regular updates through 3-D mapping will ensure the data remains current, allowing for informed decision-making, sustainable utilisation, and conservation. This initiative aligns with global best practices, enhancing Nigeria's ability to monitor ecological changes, optimise resource use, and address challenges such as overexploitation and climate impacts.



Market Access – Local Patronage/ International Markets

MM-09	**Increase local and international investments in marine minerals enterprises.**

This policy seeks to position Nigeria as a global hub for marine mineral enterprises through promoting an enabling environment that attracts significant local and international investments. The focus is on leveraging Nigeria's rich marine mineral resources, including offshore deposits of sand, gravel, and potentially valuable nodules, for sustainable economic development. We aim to create an investment-friendly legislation, reducing entry costs, and providing fiscal incentives, all within a framework of environmental and social sustainability.

6.2 Blue Biotechnology

The oceans contain a rich variety of organisms useful for many applications – particularly aquaculture, marine natural products chemistry, bioremediation, biofilm or bio-adhesion, cell culture, biosensors and terrestrial aquaculture. These applications further find uses in the pharmaceutical, cosmetics, and agriculture industries among others. For example, screening programs have discovered algae, corals, sponges and tunicates that produce compounds showing antibiotic, anti-tumour, anti-viral or anti-inflammatory properties[28].

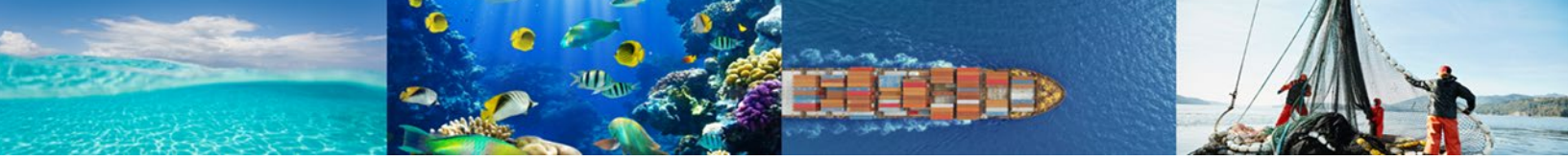
The global marine biotechnology market is expected to reach $10.12 billion by 2031 from $1.32 billion in 2023 reflecting a Compound Annual Growth Rate (CAGR) of 7.8% during the forecast period. The 2022 regional market share includes 43.1% for North America, 23.3% for Europe and 7.1% for Asia.[29] The remaining market share (26.5%) is divided among Middle east, Africa and Latin America. Although specific data for Nigeria's marine biotechnology sector is unavailable, the country is well-positioned to capitalise on this growing market due to its rich marine biodiversity and extensive Exclusive Economic Zone (EEZ). With the rapid expansion of the global biotechnology market, Nigeria has an opportunity to emerge as a key player by investing in marine research, fostering innovation, and leveraging its natural marine resources.

The Federal Ministry of Marine and Blue Economy understands the need to incorporate marine biotechnology in the national policy on marine and blue economy. This is to ensure that marine (blue) biotechnology which has potential for economic diversification is nurtured and developed in the country.

6.2.1 Strategic Aspirations

The strategic aspirations for the blue biotechnology subsector are summarised below:

a) Harness the potential of blue biotechnology to drive economic growth, improve public health, and ensure environmental sustainability.



b) Align national policies with international agreements and conventions on marine genetic resources, such as the Convention on Biological Diversity (CBD) and the Nagoya Protocol, etc.

6.2.2 Challenges

The specific challenges of Nigeria's biotechnology subsector include the following:

a) Research and development (R&D) infrastructure for marine biotechnology is still underdeveloped in the country. There is a significant gap in scientific knowledge and dedicated marine biotechnology research centres are not available.

b) While Nigeria recognises the importance of marine biotechnology, the legal and regulatory framework for its development needs to be clearly spelt out.

c) Marine ecosystems are increasingly threatened by overexploitation, pollution, and climate change, which can negatively affect the potential of marine resources, including those used for biotechnology purposes. Activities such as illegal fishing, unregulated resource extraction, and inadequate waste management threaten the biodiversity of marine ecosystems.

d) There is a lack of public awareness and stakeholder engagement on the development of marine biotechnology. Coastal communities, local businesses, and even the scientific community may not fully understand the economic, environmental, and health benefits that it can offer.

e) Securing adequate funding for marine biotechnology research, development, and commercialisation is a critical challenge. The sector requires significant investment to bridge the gap between research and practical applications.

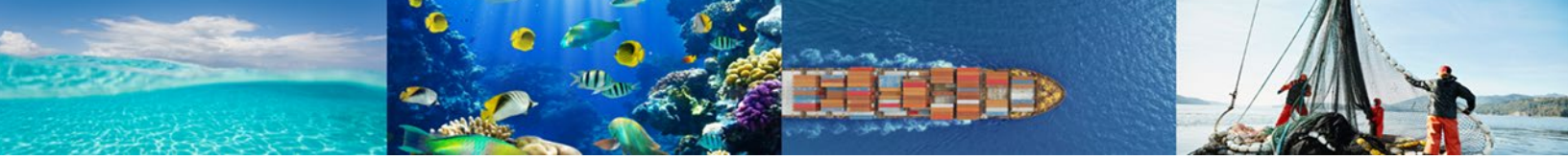
f) Inadequate policy coordination and alignment with international standards.

6.2.3 Strategic Policy initiatives, Projects and Programmes

Laws and Regulations

MB-01	**Develop regulations to govern blue biotechnology activities in the country in conjunction with the National Agency for Biotechnology Research and Development (NABRD) and the National Biosafety Management Agency (NBMA)**

The aim of this policy is to create a regulatory framework for marine biotechnology activities that ensures biosafety and minimal environmental impact on marine ecosystems. The focus among others will be on regulating the exploration and exploitation of marine genetic resources (MGRs) for biotechnology purposes.



Governance and Institutional Arrangements

MB-02 | **Develop a National Blue Biotechnology Strategy**

The Federal Ministry of Marine and Blue Economy (FMMBE) will spearhead the development of the National Blue Biotechnology Strategy in collaboration with key stakeholders. The policy aims to create a comprehensive National Blue Biotechnology Strategy that defines Nigeria's approach to harnessing marine resources for biotechnological innovation, while balancing environmental sustainability and equitable access. The strategy will assess the market opportunities and priorities, define investment and funding approach, articulate the R&D roadmap, and outline strategies for capacity building and knowledge transfer.

Sustainability/ Environmental Considerations

MB-03 | **Establish monitoring and evaluation mechanisms to assess the impact of biotechnology initiatives on biodiversity, the environment, and the economy.**

As the blue economy grows, the sustainable use of marine resources will play a pivotal role in Nigeria's economic diversification, biodiversity conservation, and public health advancements. This policy aims to establish a robust, transparent, and adaptive system of monitoring and evaluation (M&E). The system will provide data-driven insights that help to evaluate the ecological impact, measure economic outcomes, track compliance with regulatory frameworks and support adaptive management.

Innovation and Technology

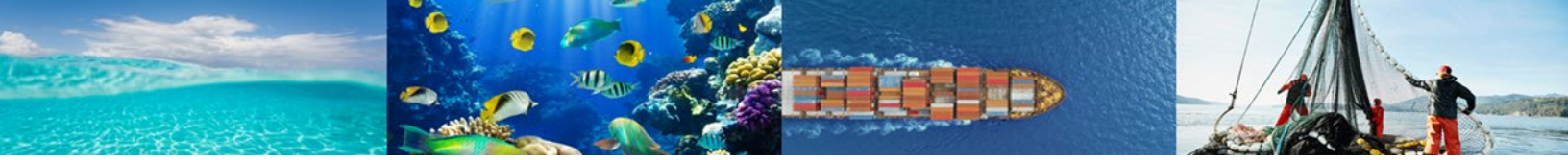
MB-04 | **Promote research and development by encouraging companies to collaborate with R&D institutes, customers, suppliers, and users to overcome resource and technological challenges.**

Promoting research and development is crucial for advancing marine biotechnology. This will promote innovation, develop new technologies, and create high-value products and services from marine resources. It will also focus on collaboration with local and international research institutions to exchange technology and knowledge.

MB-05 | **Promote technology transfer from established blue biotechnology countries to accelerate development in Nigeria.**

This policy aims to establish partnerships that facilitate the transfer of cutting-edge technologies, expertise, and best practices in blue biotechnology to Nigeria.

Key global players in blue biotechnology, such as countries with advanced marine research capabilities (e.g., Norway, Japan, and the United States), will serve as technology transfer sources. These partnerships will enable the development of local capacity in marine biology, bioengineering, and related fields, accelerating innovation and economic diversification.



MB-06	**Establish incubation centre(s) for startup marine biotechnology companies.**

The Federal Ministry of Marine and Blue Economy will collaborate with development partners and key stakeholders to establish incubation centre(s) that provide workspaces, training, and consulting opportunities for marine biotech companies in Nigeria. This package should include grants to secure proof of concepts that can be graduated into industrial scale applications.

Skills and Capacity Building

MB-07	**Include biotech modules in undergraduate bio-science programs to equip Nigerians with the skills needed to work in the blue biotechnology sector**

The development of a blue biotechnology subsector has potential to contribute to Nigeria's economic diversification. This policy aims to develop a pool of skilled Nigerians in fields such as marine biology, bioengineering and bioprocessing, gene editing, etc.

6.3 Water Desalination

Water desalination is the process of transforming seawater into potable water. It offers a solution to the access to drinking water crisis suffered by billions of people across the world. Desalination provides a reliable source of freshwater, especially in regions facing water scarcity due to climate change, population growth, or pollution. The International Desalination Association stated that as of June 2015, there were 18,426 desalination plants in operation worldwide. These together produced 86.8 million cubic meters of water per day for 300 million people[30].

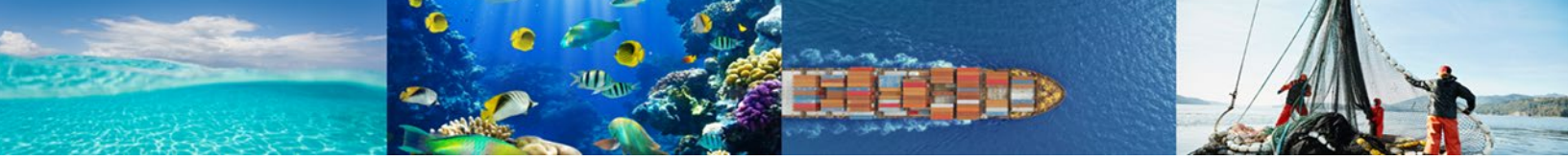
Nigeria, with an estimated population of over 220 million people (2024)[31] faces significant water scarcity challenges, particularly in coastal and semi-arid regions. However, despite being home to Africa's largest river system, approximately 60 million Nigerians still lack access to basic water services[32]. Urbanisation, climate change, and salinisation of freshwater sources have exacerbated the crisis, especially in Lagos, Rivers, and Delta States, where rising sea levels and saltwater intrusion affect drinking water supplies.

The country's coastline of over 853 kilometres offers opportunities for seawater desalination projects. However, desalination remains largely untapped, with existing projects such as the Lagos Water Corporation's pilot desalination plant serving limited populations. The growth of desalination across the globe buttresses the need for Nigeria to tap into this technology thereby bridging the water scarcity gaps. For example, Saudi Arabia (population of 34 million) gets about 50 per cent of its drinking water from desalination.

6.3.1 Strategic Aspiration

The strategic aspiration for the water desalination subsector is:

Support access to water security as a fundamental human right and a prerequisite for sustainable development.



6.3.2 Challenges

The specific challenges of Nigeria's water desalination subsector include:

a) High capital and operational costs - The operational costs especially for energy remain a challenge, given Nigeria's erratic power supply and reliance on costly fuel sources.

b) Desalination processes, particularly thermal and reverse osmosis, are energy intensive. In Nigeria, where energy infrastructure is underdeveloped, this creates a barrier to scalability. Additionally, brine disposal poses a threat to marine ecosystems if not managed properly.

c) There is a shortage of local expertise in managing, operating, and maintaining desalination technologies.

d) Nigeria lacks a comprehensive regulatory framework to govern desalination projects.

e) The high risk and long payback periods associated with desalination deter private sector investment. This is further compounded by Nigeria's challenging business environment.

f) Public awareness of desalination's benefits and environmental impacts is low. Communities might resist these projects, perceiving them as costly or unnecessary, without proper engagement.

6.3.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

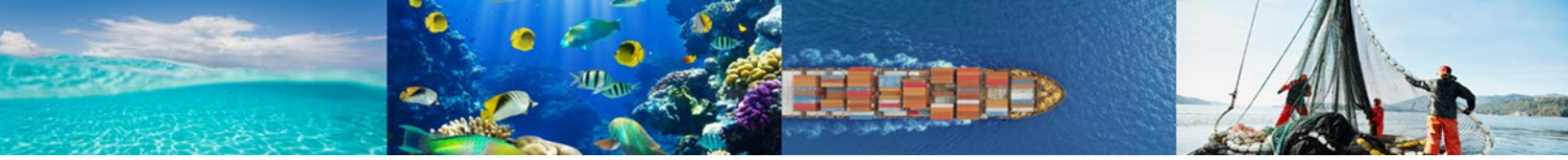
MW-01 | **Develop a National Desalination Strategy**

The strategy will outline a comprehensive approach to deploying desalination technologies to address Nigeria's water scarcity issues. It will assess the market opportunity, technology selection, funding mechanism, capacity building and pilot projects. A desalination strategy aligns with Nigeria's National Water Policy and Sustainable Development Goals (SDG 6: Clean Water and Sanitation).

Governance and Institutional Arrangement

MW-02 | **Conduct a comprehensive assessment of water scarcity needs in coastal regions.**

Assessment of water scarcity in coastal regions is crucial for effective planning and implementation of desalination projects. This will include hydrological analysis, demand, socioeconomic and environmental impact assessment. This is essential for safeguarding public health, supporting economic activities, and meeting Nigeria's commitment to SDG 6 (Clean Water and Sanitation). The assessment will focus on Nigeria's major coastal states.



Infrastructure

MW-03 | **Integrate desalination projects with existing water infrastructure and distribution networks.**

Without integration into broader water supply systems, stand-alone desalination projects risk inefficiencies. Integration will maximise resource utilisation, reduce costs, and expand access to clean water. The study of the Singapore National Water Strategy[33], Israel's National Water Carrier[34] and the UNESCO guidelines on water reuse can serve as a baseline for Nigeria's projects[35]. This aligns with SDG 6 (Clean Water and Sanitation) and SDG 9 (Industry, Innovation, and Infrastructure).

Finance and Investment Climate/Incentives

MW-04 | **Offer fiscal incentives such as pioneer tax status to attract foreign companies with expertise in water desalination technology.**

Water desalination offers a sustainable solution, but the high initial cost of infrastructure and technology remains a barrier. This policy proposes offering fiscal incentives such as tax holidays, reduced import duties on desalination equipment, and subsidies for setting up facilities. The provision of incentives and a supportive regulatory environment will attract foreign investment, promote technology transfer, and accelerate the deployment of desalination solutions where they are required.

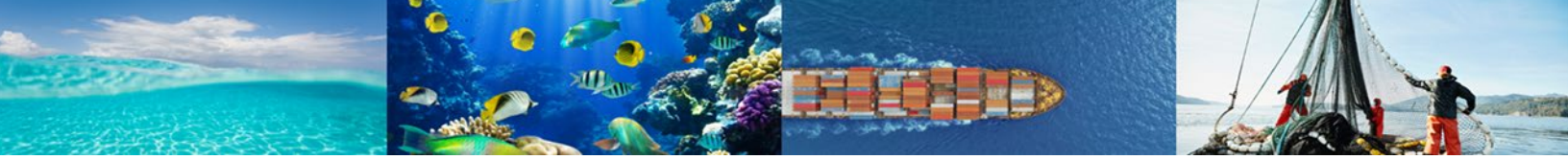
Innovation and Technology

MW-05 | **Explore innovative solutions for brine management.**

Brine, characterised by high salinity and chemical content, poses environmental challenges when discharged into marine ecosystems. Nigeria can explore technologies such as zero liquid discharge to recover and reuse water and minerals from brine, minimising environmental discharge. Investment in brine concentrators and electrodialysis systems to extract valuable salts and metals for industrial application should also be considered.

MW-06 | **Educate the public about the benefits and potential environmental impacts of desalination and ensure community involvement in the design and implementation of desalination projects.**

The policy aims to implement a public education program to raise awareness about the benefits of desalination, such as improved water availability and economic opportunities, while addressing potential environmental risks like brine discharge. It ensures that communities are actively involved in the planning, design, and implementation phases of water desalination projects to foster ownership and transparency.



6.4 Underwater Cables and Pipes

Nigeria's underwater cable infrastructure has grown significantly over the last decade, making the country a critical hub for internet connectivity in West Africa. As of May 2024, Nigeria hosts eight major underwater cable systems: MainOne cable with a capacity of 10tbits; Ntel's SAT-3 with 800gbits; Globacom's GLO-2 12Tbits); Africa Coast to Europe Cable System with a capacity of 5.5tbps; WACS (14.5tbits); Equiano (144tbits); the Nigeria Cameroon Submarine Cable System (NCSCS) with capacity of 12.8tbps; and 2Africa (180tbits)[36]. The combined capacity of these places Nigeria among the top internet bandwidth providers in Africa. Data consumption in Nigeria is projected to increase by 39% annually.[37]

However, despite this impressive capacity, only 55.4% of Nigerians have access to the internet as of 2023, largely due to infrastructure gaps in last-mile connectivity, high data costs, and uneven urban-rural penetration[38]. Nigeria faces several challenges in leveraging its underwater cabling potential, including the vulnerability of cables to physical damage from shipping activities and natural disasters, inadequate regulatory frameworks, and limited investments in data centres and terrestrial fibre optics.

Nigeria launched the National Broadband Plan (NBP) in 2013 to address these internet infrastructure challenges, with a vision to provide broadband connectivity to all citizens. The plan aims to achieve a minimum broadband penetration of 70% by 2025, with specific strategies to increase coverage in underserved and unserved areas. A notable initiative is the Infrastructure Company (InfraCo) which aims to deploy broadband infrastructure across all 774 local government areas in the country, ensuring widespread connectivity and stimulating digital inclusion[39].

To maximise the benefits of underwater cabling, Nigeria must adopt global best practices, such as enforcing stricter maritime regulations and investing in resilient cable systems like Japan's seismic-resistant designs.

6.4.1 Strategic Aspirations

The strategic aspiration for the underwater cables and pipes subsector is:

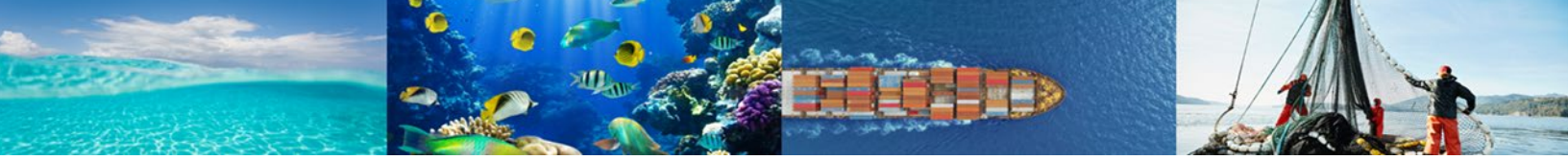
To support the development and maintenance of underwater cable networks to enhance connectivity to remote offshore installations, facilitate international communication, and support scientific research.

6.4.2 Challenges

The specific challenges of underwater cabling subsector in Nigeria as summarised below:

a) Nigeria lacks the regulatory framework required to protect underwater cables, such as designated protection zones enforced in countries like Australia and the United States.

b) Underwater cables in the Gulf of Guinea are highly susceptible to physical damage from ship anchors, fishing activities, and natural disasters. An example of such was the March 14, 2024, failures on four of the fibre optic cables that run below the world's oceans.



Nigeria, Côte d'Ivoire, Liberia, Ghana, Burkina Faso and South Africa were among the worst affected.

c) Data centres and cable landing stations require reliable power, which remains a challenge due to Nigeria's inconsistent electricity supply.

d) Despite a combined bandwidth capacity exceeding 120 Tbps, much of Nigeria's capacity is underutilised due to affordability issues and low internet penetration, especially in rural areas.

6.4.3 Strategic Policy Initiatives, Projects, and Programmes

Laws and Regulations

MU-01 **Develop a regulatory framework for the installation, maintenance, and security of underwater cables and pipes in conjunction with the Ministry of Communications, Innovation and Digital Economy and the Ministry of Petroleum Resources.**

The policy focuses on creating a regulatory framework to regulate the planning, installation, operation, maintenance, and security of underwater cables. It will address challenges such as physical damage, cybersecurity threats, maritime safety and environmental impacts, ensuring Nigeria’s digital infrastructure is resilient and secure.

Infrastructure

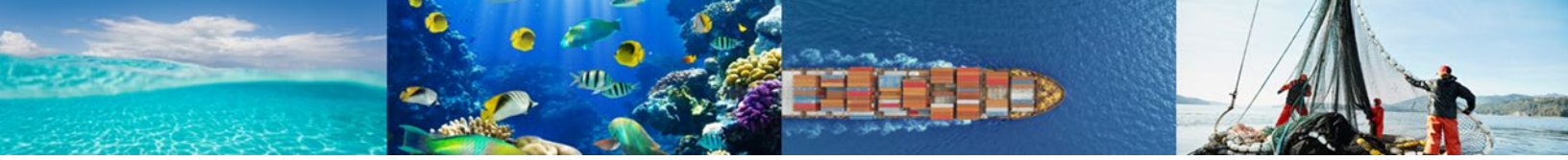
MU-02 **Support the development of new underwater cable infrastructure to improve connectivity and capacity.**

Nigeria can leverage its geographical position and growing digital ecosystem to become a connectivity leader in West Africa. The annual 39% projected increase in data consumption necessitates investments in infrastructure to meet future needs. This consumption rate is ranked above the world’s average. Nigeria can prioritise key marine corridors such as routes that connect Nigeria to global data hubs in Europe, North America, and other parts of Africa.

Innovation and Technology

MU-03 **Support research and development in advanced cable technologies, such as high-capacity fibre optic cables and resilient cable systems.**

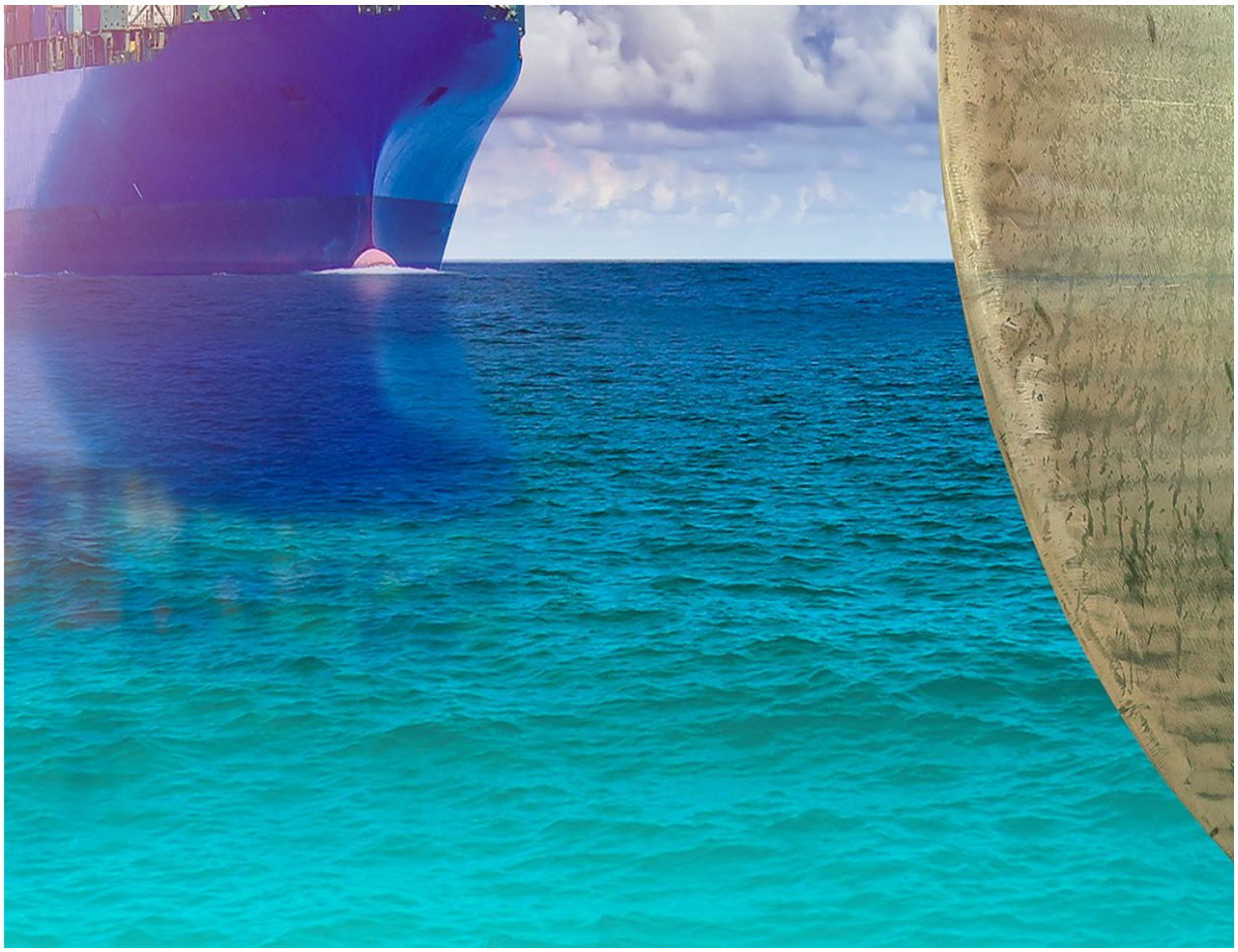
Investing in R&D will keep Nigeria at the forefront of underwater cable technology and ensure a reliable and high-capacity network for the future. This includes areas such as high-capacity fibre optic cables, resilient cable systems and industry partnerships. This can help to position Nigeria as a leader in Africa’s digital transformation, aligning with initiatives like the African Continental Free Trade Area (AfCFTA).

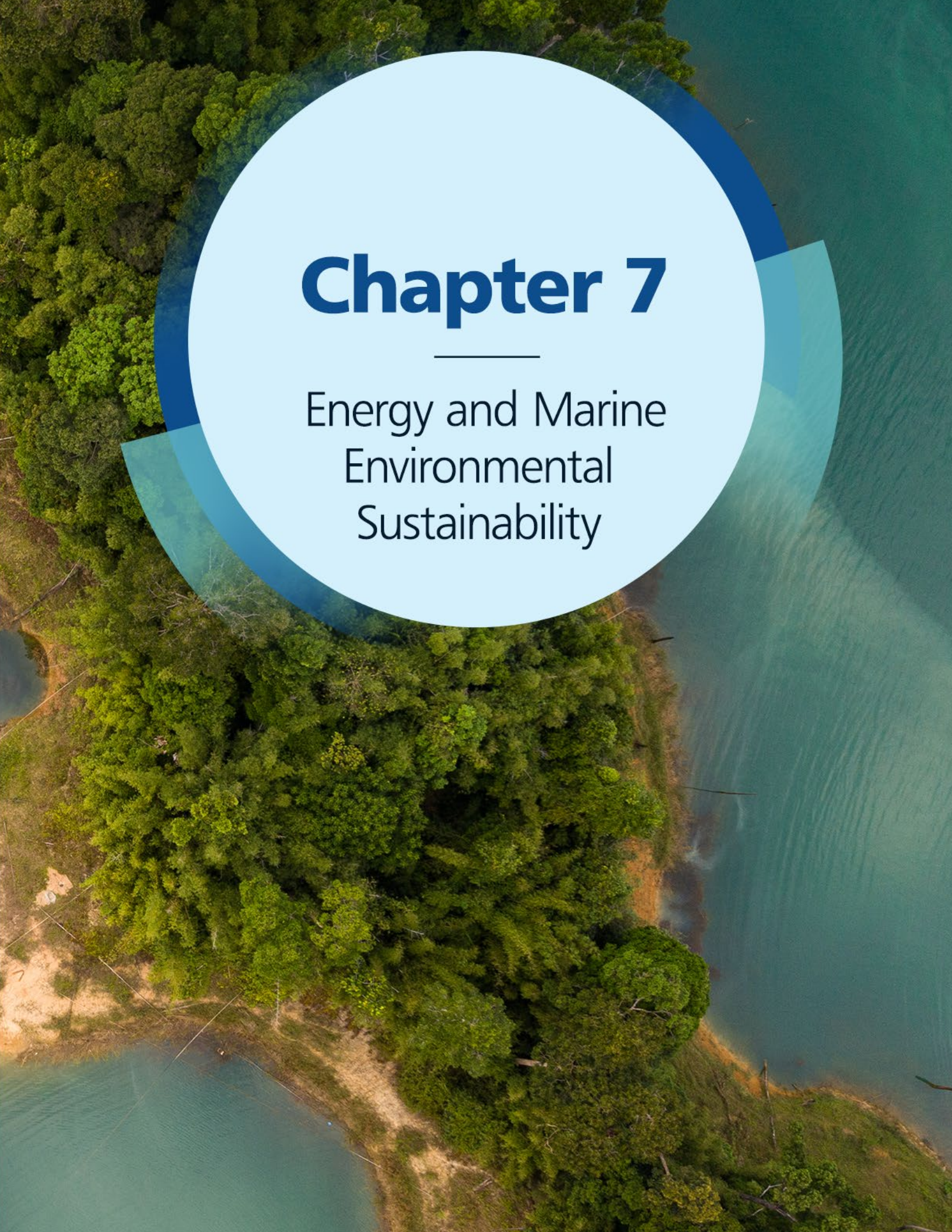


Quality and Standards

MU-04 **Collaborate with other countries and international organisations to ensure the security and reliability of global underwater cable networks.**

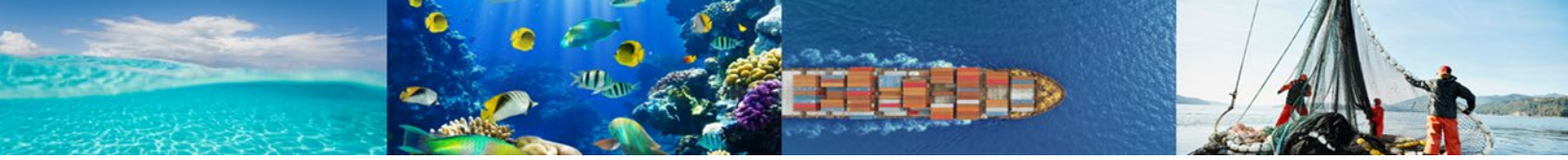
Promoting strong international partnerships will ensure Nigeria contributes to the security and resilience of the global underwater cable network. Nigeria's submarine cables connect to key global networks. Collaboration reduces risks from conflicts, piracy, or sabotage. Nigeria can sign bilateral and multilateral agreements for submarine cable security and maintenance. Nigeria can leverage international standards such as UNCLOS and ICPC best practices.





Chapter 7

Energy and Marine Environmental Sustainability



7 Energy and Marine Environmental Sustainability

The oceans and inland water bodies provide a variety of economic opportunities for the human populations around them. These include maritime transportation and port services, the fisheries and aquaculture industry, and the industries enabled by the exploitation of marine minerals, etc. However, there are a set of blue economic activities that thrive on our need to ensure sustainability in the exploitation of our marine and inland water resources. These include a combination of both commercial and non-commercial activities that earn revenue and create jobs. This chapter focuses on the commercial generation of renewable energy using the offshore resources of wind and tidal waves; and the non-commercial activities of managing marine waste and pollution and preserving the marine ecosystem.

Power Generation - Nigeria has one of the most significant energy deficits in the world. There are millions of people without access to power. Large disparities also exist in access to electricity between urban areas (84 per cent) and rural ones (26 per cent). Estimates suggest that 70% of Nigerians living in rural areas currently do not have access to the national power grid[40]. The Council for Renewable Energy of Nigeria estimates that power outages brought about a loss of 126 billion naira (US$ 984.38 million) annually. However, Nigeria is beginning to shift towards renewable energy generation. Power generation from offshore sources can therefore play a key role in reducing the energy deficit in the country.

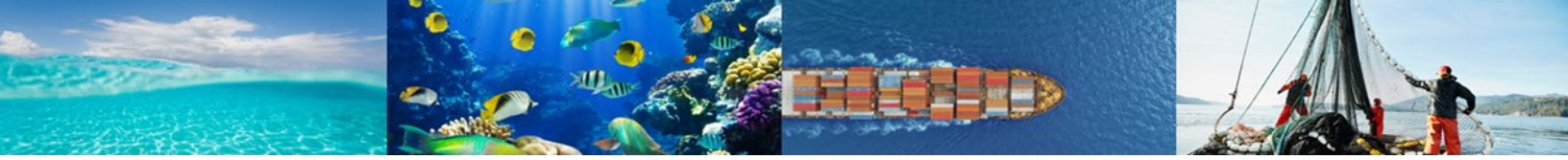
Marine Pollution and Waste Management - Nigeria generates more than 32 million tons of solid waste annually, out of which only 20-30% is collected. Reckless disposal of this waste has led to blockage of sewers and drainage networks and clogging of water bodies. There is also the challenge of discharges including harmful emissions from shipping activities and other forms of blue economic activities that pollutes water bodies with deadly impacts on human health and marine life.

This policy seeks to create a framework for the successful leverage of these blue economic activities to generate revenue, create jobs and achieve developmental strides, while ensuring sustainability. The sector is divided into the following key subsectors:

- Blue Energy and Renewables
- Marine Pollution and Waste Management
- Blue Carbon
- Green Shipping

7.1 Blue Energy and Renewables

Blue or marine energy is power generated from the natural movement of water, using technologies such as offshore wind turbines, oscillating water columns, rotating mass, bule wave, tidal turbines, point absorbers, and oscillating surge flaps, among others.



The opportunities to harness blue energy are abundant, given Nigeria's natural endowments and the sizeable population that live close to coastlines and river basins. Offshore water and wind resources are well suited to power communities, either by feeding the national grid or as part of a mixed power source for mini grids. The waves, tidal and water currents are also highly predictable, making them dependable sources for clean renewable energy.

Nigeria's policy on the marine and blue economy is set to position blue energy to support sustainable development by reducing reliance on fossil fuels, which are often associated with environmental degradation. This aligns with the increasing demand for renewable energy globally to reduce carbon footprint and tackle greenhouse gas emissions.

Nigeria's total renewable energy capacity as of 2023 was 2.98 megawatts[41]. The country's renewable energy is expected to provide close to 60 percent of the nation's energy demand by 2050[42]. While solar energy has been in the forefront of this transition to renewables, the generation of renewable energy from tides and waves and wind turbines located in offshore areas, submarine geothermal resources and marine biomass can become an important contributor to energy needs and climate change mitigation objectives.

7.1.1 Strategic Aspirations

The strategic aspiration for blue energy and renewables in Nigeria is to:

Promote transition to the use of clean and renewable energy from ocean and inland water resources.

7.1.2 Challenges

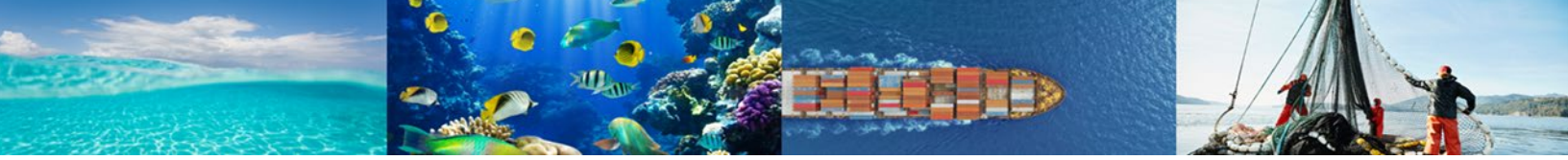
The specific challenges of the Blue Energy and Renewables subsector in Nigeria include the following:

a) The lack of a clear regulatory framework for marine renewable energy supported by an investment promotion campaign creates a lack of impetus for private investment and delays in project implementation.

b) The evolving market structure and dynamics for power supply in Nigeria, and the outdated energy infrastructure (transmission lines and distribution networks) discourage large-scale renewable energy and blue energy projects.

c) High capital costs and limited access to financing hinder investment in renewable energy technologies. The financial landscape in Nigeria makes it challenging for local developers to secure funding for blue energy initiatives.

d) Insufficient data on the marine renewable energy potential and inadequate local research capacity hinder informed decision-making and strategy development.



7.1.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

EE-01 **Facilitate cooperation between federal agencies responsible for energy, environment, and maritime affairs to develop the regulations to guide and drive energy generation from ocean and river resources.**

This will create a unified and streamlined approach to advancing ocean-based renewable energy in Nigeria, through aligned policies, reduced bureaucratic hurdles, and consistency in the implementation of renewable energy projects. It will create an impetus and enabling environment for investments in ocean-based renewable energy, while ensuring the relevant safeguards are in place.

EE-02 **Conduct marine spatial planning to manage the use of marine space and resources.**

Develop GIS enabled maps to coordinate the use of the country's maritime domain by designating space for specific activities, including but not limited to shipping, fishing, oil and gas, tourism, renewable energy, seabed mining, conservation, etc. This will help prevent conflicts and promote sustainability of the marine environment.

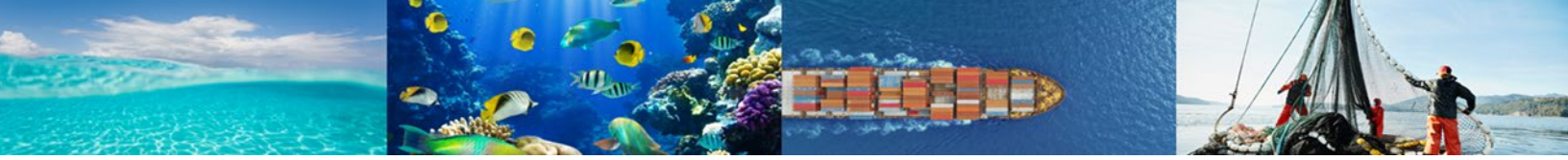
Governance and Institutional Arrangements

EE-03 **Develop a National Blue Energy Strategy that evaluates the feasibility of blue energy projects and articulates a roadmap for their development in Nigeria.**

The policy aims to articulate a strategy for the integration of marine renewable energy sources such as offshore wind, tidal, photovoltaic system and wave energy into Nigeria's energy mix. This should be done in collaboration with the Federal Ministry of Power and its relevant agencies.

EE-04 **Establish bilateral partnerships with countries with advanced marine energy technologies for cooperation and technology transfer towards the adoption of relevant technologies and the development of a local ecosystem to support their deployment in-country.**

Nigeria aims to leapfrog in the blue economy through knowledge innovations. The country will enhance its blue energy capacity through technology and knowledge transfer via international cooperations with countries with proven success in the deployment and use of marine renewable energy.



EE-05 **Advocate for transition to blue energy by promoting specific business cases to identified private sector investors, through an inter-agency cooperation effort.**

Promote private investment in offshore renewable energy focusing on specific business cases identified through feasibility studies. The inter-agency effort should focus on marketing these business cases to investors with a track record of investments in blue energy generation. Success in these projects will establish an investment template and encourage future participation in this market.

Sustainability/ Environmental Considerations

EE-06 **Ensure renewable energy technologies and infrastructure are eco-friendly with minimal impact on the marine ecosystem through periodic environmental assessments and ensuring compliance with regulatory standards.**

This policy aims at conducting thorough Environmental Impact Assessments (EIAs) and establishing clear monitoring system to detect and address ecological disturbances before project approvals, during setup and construction to ensure compliance with regulatory standards such as site location, standards of materials, noise compliance, etc.

EE-07 **Ensure activities of the proposed nuclear power plants by the Nigerian Atomic Energy Commission (NAEC) to be sited along inland waterways for cooling of reactor core are carried out in line with the required sustainability and environmental standards.**

Sustainability in nuclear plants using water as a coolant is essential to ensure reactor safety, protect aquatic ecosystems from thermal pollution, and maintain operational continuity amidst climate-induced water scarcity.

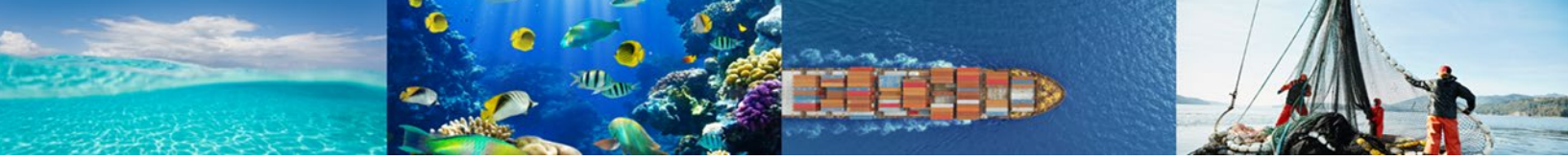
Finance and Investment Climate/Incentives

EE-08 **Facilitate and support local business participation in the development of marine renewable energy through incentives such as the pioneer tax status and inclusion of blue energy projects in renewable energy development grants.**

This policy aims to foster the growth of blue and renewable energy in Nigeria through fiscal incentives such as grants, tax holidays, support to investors to access low-interest loans from the Green Climate Fund, Global Environment Facility, etc. Local businesses will be incentivised through tax breaks, grants, and capacity-building programs to actively participate in energy projects.

7.2 Marine Pollution and Waste Management

The management of waste remains a challenge in Nigeria. While efforts are ongoing by the Federal and State Governments to address the situation, only about 20% of the waste generated in Nigeria is collected through the formal system. And just about 10% of the waste is recycled.



This situation has led to the pollution of our marine and inland waters with uncollected solid waste from terrestrial sources. This uncollected waste ends up in open and unlined dump sites, water bodies, drainages, farmland, open spaces etc[43]. About 80% of marine litter is from terrestrial sources, while the balance originates from blue economic activities such as ghost fishing nets, ship pollution, etc.

Marine pollution poses a specific challenge to the blue economy, ranging from impairment of surface water quality to the disruption of aquatic growth. Poor waste management poses danger to the environment and the people with increasing environmental hazards and diseases. Among other unpleasant effects, the accumulation of this litter and waste deplete oxygen in the marine ecosystem thereby causing an imbalance to the ecosystem.

Nigeria has consciously made efforts to end marine pollution through the International Maritime Organisation (IMO) conventions for the prevention of pollution from ships (MARPOL 73, 78). Waste disposal facilities for all types of ship-generated waste have been implemented in Nigeria. The NPA and NIMASA collaborate to provide waste reception facilities and ensure the compliance of ships berthing in Nigerian ports.

In 2021 the Nigeria Maritime Administration and Safety Agency (NIMASA) launched the Maritime Action Plan for Marine Litter and Plastic Management (MAP-ML+P). This document outlines a master strategy and various action plans to address the issues of marine litter in our water bodies.

7.2.1 Strategic Aspirations

The strategic aspirations for Marine Pollution and Waste Management in Nigeria are summarised below:

a) To significantly reduce marine litter in Nigeria's maritime domain to levels where they do not endanger the marine environment.

b) To create a formal industry around marine litter management thereby contributing to the job creation target of the Renewed Hope Agenda.

7.2.2 Challenges

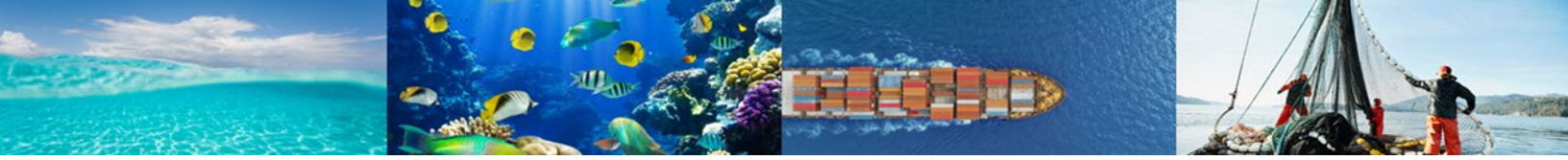
The specific challenges of the Marine Pollution and Waste Management in Nigeria include the following:

a) Despite Nigeria's membership in international agreements like MARPOL, the enforcement of anti-pollution regulations remains weak due to lack of resources and limited monitoring capacity.

b) There is insufficient infrastructure for consumer waste collection, recycling, and disposal, particularly in rural and coastal communities, leading to indiscriminate dumping of waste into rivers and oceans.

c) The Niger Delta has a long history of oil spills due to pipeline vandalism, oil theft, and operational accidents, causing severe contamination of marine and coastal ecosystems.

d) Poor wastewater treatment facilities result in untreated sewage and industrial waste being discharged into rivers and coastal waters, exacerbating pollution levels.



e) Ghost nets and other marine debris from the fishing industry entangle marine life and disrupt ecosystems, with limited efforts to address this issue.

f) Climate change exacerbates pollution by increasing the volume of floodwaters, which carry waste from inland areas to the oceans.

7.2.3 Strategic Policy Initiatives, Projects and Programmes

Governance and Institutional Arrangements

EM-01 | **Review and update the Maritime Action Plan for Marine Litter and Plastic Management (MAP-ML+P) and scale up its implementation.**

The MAP-ML+P identifies six (6) action pillars to reduce marine pollution and enhance waste management. The diligent implementation and scale up of this plan will effectively reduce marine litter and pollution in Nigeria's maritime domain.

Infrastructure

EM-02 | **Contribute to efforts aimed at improving investments in recycling and waste management infrastructures.**

Improving investment in recycling and waste management infrastructures is critical to addressing Nigeria's mounting marine pollution challenges and advancing sustainable waste management practices. This involves establishing modern recycling plants, expanding waste collection systems, and deploying technologies for sorting and reusing materials.

Sustainability/ Environmental Considerations

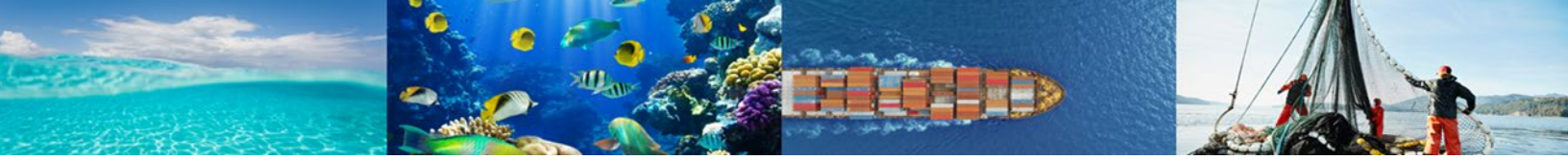
EM-03 | **Commit resources to empower coastal communities to combat marine waste pollution by providing waste management infrastructure, education on recycling and sustainable practices, and support for clean-up initiatives.**

Equip communities with the tools and knowledge to reduce marine debris, adapt to the impacts of pollution on fisheries and livelihoods, and build resilience to climate change-induced threats to marine ecosystems.

Innovation and Technology

EM-04 | **Implement circular economy principles to reduce environmental damage and create added value.**

Support federal and state policies, plans, institutions, protocols, and measures to reduce, manage and promote recycling of marine waste/debris and waste on land and coastal areas. This also comprises commercialisation of new materials from marine debris for other uses i.e. manufacturing, construction, etc.



Quality and Standards

EM-05 | **Implement systems to detect, measure, and mitigate pollutants, such as oil spills, plastic debris, and chemical contaminants in marine environments.**

This policy aims at the establishment of advanced systems to detect, measure, and mitigate marine pollutants, including oil spills, plastic debris, and chemical contaminants, by deploying cutting-edge technologies such as remote sensing, automated monitoring buoys, and data-driven analytics. These systems will enable real-time pollution tracking, enhance response capabilities, and support preventative measures.

Skills and Capacity Building

EM-06 | **Build awareness of waste management and recycling among coastal and riverine communities.**

Improve consumer habits and behaviours to waste management and plastic use through awareness and educational initiatives across various states and local governments. Also, facilitate community-based waste management programmes that encourages the involvement of local communities in modern waste management practices such as waste sorting, segregation, composting and recycling as well as ownership of projects.

7.3 Blue Carbon

Marine ecosystems such as mangroves, seagrasses, and tidal marshes, are highly carbon-rich and play a crucial role in mitigating climate change through carbon sequestration, preserving coastal biodiversity, and ensuring food security.

Nigeria has the fifth largest mangrove area globally and together with the top four makes up about 48% of the global cover[44]. The Niger Delta mangrove ecosystem which covers approximately 1900 km² located in Southern Nigeria is a vital wetland area which plays a crucial role in supporting several biodiversity and providing essential ecosystem services to millions of people in the region[45].

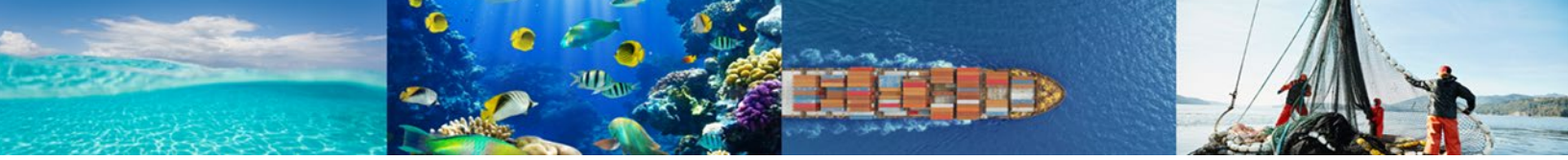
However, it faces various threats and degradation which impacts biodiversity and jeopardises the livelihoods of the host communities that depend on these ecosystems for food and resources. Therefore, various mitigation strategies and policies must be implemented.

7.3.1 Strategic Aspirations

The strategic aspirations as regards Blue Carbon in Nigeria are summarised below:

a) Ensure the preservation of mangrove forests, seagrasses and tidal marshes to protect the health of the ocean.

b) Develop a blue carbon strategy framework for Nigeria to synchronise actions and integrate blue carbon within the national climate commitment.



7.3.2 Challenges

The specific challenges of the Blue Carbon subsector in Nigeria include the following:

a) Nigeria's ecosystem is grappling with habitat degradation and deforestation due to oil spills, illegal logging, and land conversion for agriculture and aquaculture. Coastal wetlands and seagrass beds are under threat from dredging, land reclamation, and infrastructure development, leading to carbon storage loss.

b) There is inadequate mapping and data on the extent of blue carbon ecosystems and their carbon sequestration capacity.

c) Coastal erosion and flooding caused by rising sea levels threaten the integrity of mangroves and wetlands.

d) Blue carbon has not been effectively integrated into national climate policies, such as Nigeria's Nationally Determined Contributions (NNDCs).

e) Nigeria struggles to secure adequate international funding for blue carbon projects, such as from the Green Climate Fund or Global Environment Facility.

f) Coastal communities often rely on unsustainable practices for their livelihoods (logging and overfishing) leading to further ecosystem degradation.

g) The limited awareness about the benefits of blue carbon ecosystems among local populations hinder community-driven conservation efforts.

h) Nigeria shares its coastal and marine ecosystems with neighbouring countries in the Gulf of Guinea, making coordinated management challenging.

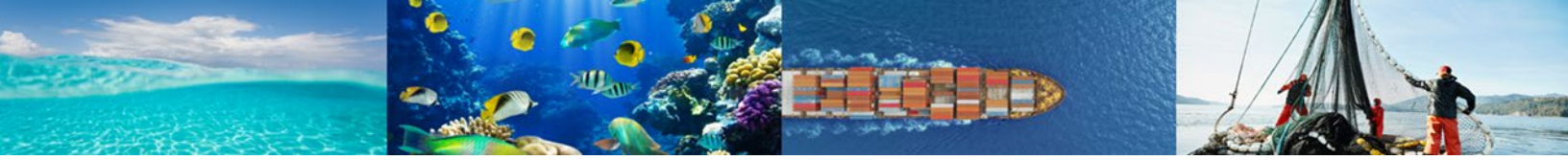
i) The low adoption of global best practices such as those outlined by the International Partnership for Blue Carbon restricts progress.

7.3.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

EB-01 | Develop a national Blue Carbon strategy.

This policy aims at the establishment of a national blue carbon strategy that integrates the management of mangroves, seagrasses, and salt marshes into Nigeria's climate policies and Nationally Determined Contributions (NDCs). This will be done in alignment with international standards such as the IPCC Guidelines for National Greenhouse Gas Inventories and United Nations Framework Convention on Climate Change (UNFCCC).



EB-02 | **Strengthen the protection of mangrove forest, seagrass and tidal marsh ecosystems.**

This policy aims at the designation of mangrove forests, seagrass beds, and coastal wetlands as Marine Protected Areas (MPAs) under Nigeria's Integrated Coastal Area Management Plan. It will set legal framework to prevent unsustainable land-use activities, deforestation, and pollution in these ecosystems.

Governance and Institutional Arrangements

EB-03 | **Integrate Blue Carbon into education and advocacy initiatives.**

This policy is geared towards the development of educational campaigns and capacity-building programs to increase awareness of blue carbon's benefits among policymakers, communities, and the private sector. This will also be achieved through partnerships with academic institutions to include blue carbon in environmental science curricula.

EB-04 | **Mainstream Blue Carbon into climate action plans.**

Nigeria will include blue carbon as a key pillar its National Adaptation Plans (NAPs) and update the NDCs to reflect blue carbon as a priority for mitigation and adaptation. Tools such as the Blue Carbon Policy Framework by the Blue Carbon Initiative will be used as guides for implementation.

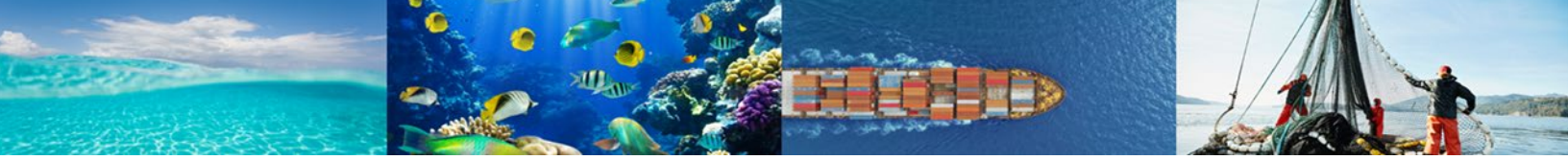
Sustainability and Environmental Considerations

EB-05 | **Empower coastal communities to co-manage blue carbon ecosystems, ensuring access to benefits like carbon credits and eco-tourism revenue.**

This includes involving local populations in the stewardship of mangroves, seagrass meadows, and wetlands. This makes communities gain direct access to benefits such as carbon credits from international markets and revenue from eco-tourism initiatives. This participatory approach enhances ecosystem resilience, reduces degradation, and ensures equitable sharing of economic opportunities.

EB-06 | **Establish a blue carbon research program to map and monitor coastal carbon stocks and assess their sequestration potential.**

Establishing a blue carbon research program will enable the systematic mapping and monitoring of Nigeria's coastal carbon stocks, such as mangroves, seagrass beds, and salt marshes, to quantify their carbon sequestration potential. This initiative will provide critical data for informed policymaking, sustainable management, and participation in global carbon markets.



Innovation and Technology

EB-07	**Strengthen data standardisation methods for effective blue carbon accounting techniques against carbon emissions.**

Nigeria will establish baseline for carbon tracking and accounting and adopt effective methods and technologies that avoid, remove or reduce carbon footprint. We will also create an open-access database linked to international platforms like Global Ocean Observing System (GOOS) to share Nigeria's blue carbon data globally.

7.4 Green Shipping

Green Shipping is aimed at reducing the environmental impact of transporting goods and services by adopting sustainable practices (e.g. cleaner technologies and fuel efficiency). The goals of green shipping include the reduction of carbon emissions, improvement of energy efficiency, minimisation of air and water pollution, promotion of ecological balance, and protection of marine ecosystems.

Nigeria has shown commitment to the global fight against harmful emissions such as Greenhouse Gases (GHGs), SOx, NOx, and Particulate Matter (PM) from shipping via ratification and domestication of MARPOL Annex VI. The decarbonisation of the shipping sector and other blue economy sectors requires intentional adoption of measures that regulates the release of harmful emissions; promotes investments on the use of greener or zero carbon fuels such as renewable energy for powering of ships and other blue economic activities; incentivise the use of greener fuels and operations; and putting a price on carbon emission.

7.4.1 Strategic Aspirations

The strategic aspirations of the country for Green Shipping are summarised below:

a) Ensure sustainable shipping practice(s) to mitigate impact of climate change in the marine environment.

b) Promote the transition of shipping to a low/zero carbon emission industry.

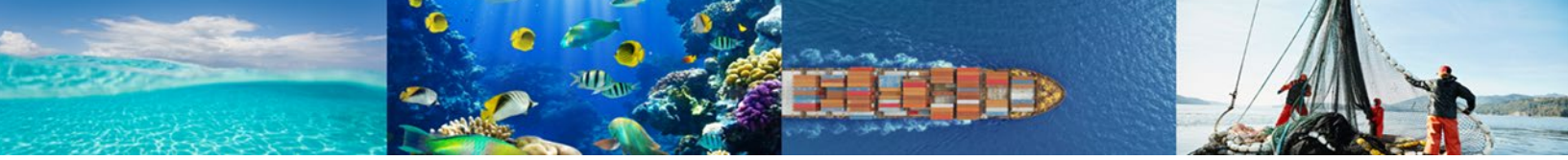
7.4.2 Challenges

The specific challenges of Green Shipping in Nigeria include:

a) The lack of a national policy on decarbonisation.

b) High cost of emission reduction systems and technologies to drive transition.

c) The lack of government grants, subsidies, tax incentives to promote green initiatives.



d) Lack of reliable data on emissions from ships in Nigerian waters to assist government in making informed decisions.

e) Resistance and reluctance to change by industry stakeholders.

7.4.3 Strategic Policy Initiatives, Projects and Programmes

Laws and Regulations

EG-01 | **Amend the Merchant Shipping Act to include clauses on the prevention of air pollution.**

The amendment of the Act will provide the legal backing for effective enforcement of MARPOL Annex VI regulations.

EG-02 | **Develop Decarbonisation Strategy on Shipping.**

The policy aims to articulate the available measures to reduce the harmful emission levels of shipping in Nigeria and informs the strategic plans for the implementation of the measures.

Governance and Institutional Arrangements

EG-03 | **Promote transition to green shipping.**

Advocate for investment in low or zero carbon shipping and provision of incentives to shipowners for adoption of emission reduction measures/technologies.

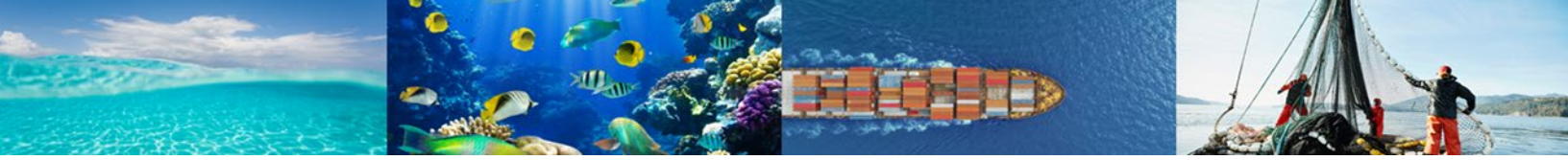
EG-04 | **Mainstream blue carbon into climate action plans.**

Nigeria will include blue carbon as a key pillar its National Adaptation Plans (NAPs) and update the NDCs to reflect blue carbon as a priority for mitigation and adaptation. Tools such as the Blue Carbon Policy Framework by the Blue Carbon Initiative will be used as guides for implementation.

Infrastructure

EG-05 | **Promote investments in compliant fuel oil availability and bunkering infrastructure.**

Strategically position Nigeria to be a bunkering hub in West Africa by promoting investments in the production of compliant fuel oil (bunker fuel with < 0.5% sulphur) and the development of bunkering infrastructure (midstream and offshore) to boost availability and accessibility.



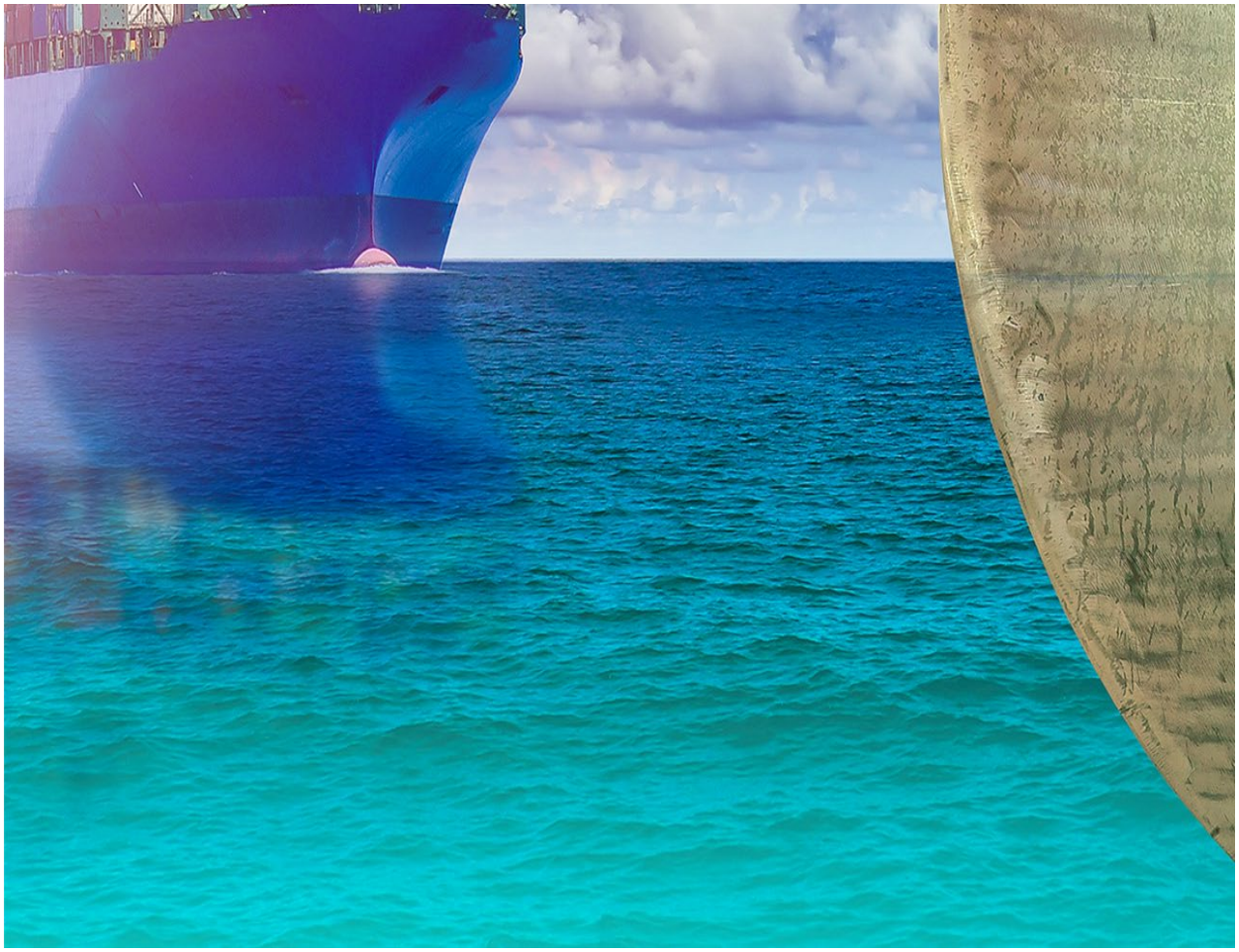
Sustainability and Environmental Considerations

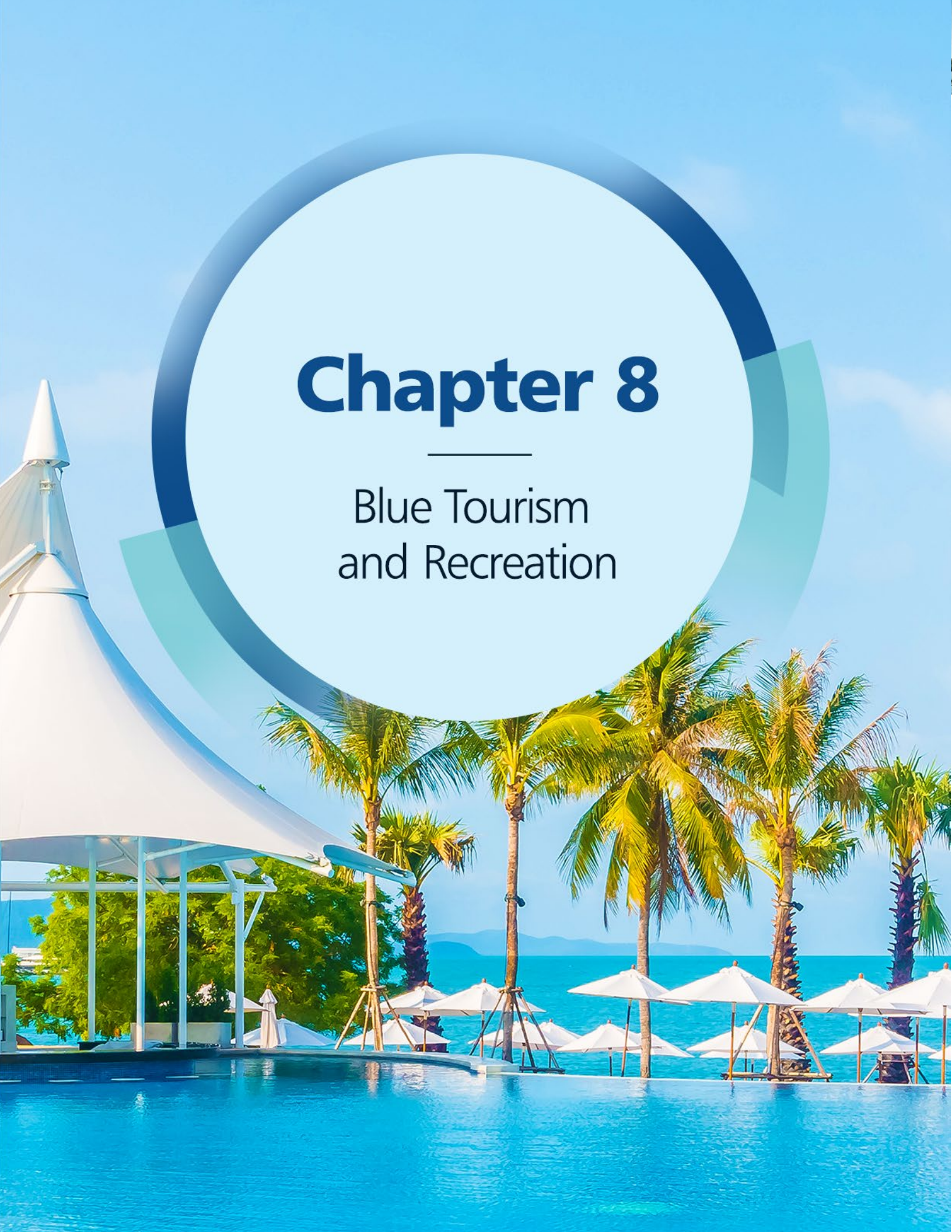
EG-06 | **Collaborate with the Federal Ministry of Environment towards the adoption of a Climate Change Financing Framework for the country.**

This framework will help government to identify alternative sources of finance for mitigation, adaptation and building resilience against climate change.

EG-07 | **Create awareness on shipping emissions and the effects on the climate.**

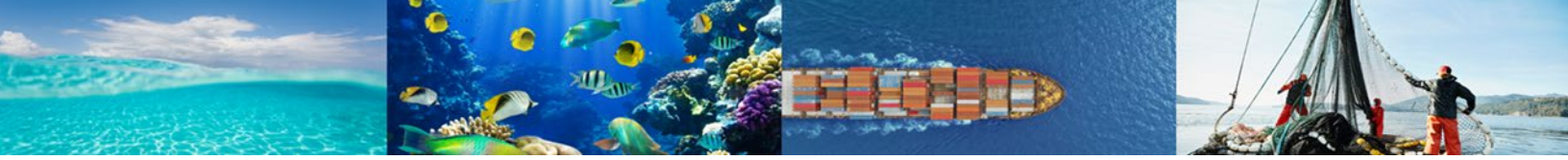
Sensitisation of relevant stakeholders on the harmful effects of emission from shipping and the importance of adaptation to new and emerging green shipping practices.





Chapter 8

Blue Tourism and Recreation



8 Blue Tourism and Recreation

Nigeria offers immense potential for beach tourism, marine ecotourism, diving, and fishing expeditions based on its natural endowments of the ocean coastline and inland waters. However, Nigeria's tourism sector remains an underutilised gem. Coastal cities such as Lagos, Calabar, and Port Harcourt boast of Tarkwa Bay, Calabar Marina Resort, and Bonny Island, respectively drawing domestic and international tourists. Despite the potential, blue tourism makes up a negligible fraction of Nigeria's tourism sector, which contributed 3.6% to the country's GDP in 2022[46]. Globally, countries like Maldives, which derive 66% of GDP from marine tourism, demonstrate how robust policies, including environmental protection and investment in tourism infrastructure, can drive growth in this sector[47].

The development of blue tourism faces several hurdles, including weak infrastructure, environmental degradation, inadequate safety protocols, and limited marketing of Nigeria's coastal and inland water attractions. For example, pollution in coastal waters due to oil spills and plastic waste threatens the biodiversity essential for sustainable ecotourism. Nigeria can emulate strategies for developing coastal tourism by integrating international standards, such as the UN SDG 14 (Life Below Water), which calls for sustainable management of marine resources.

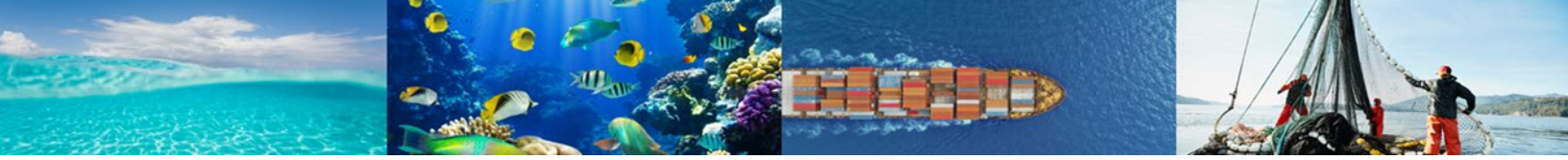
The two subsectors covered by this Policy under Blue Tourism and Recreation include:

- Coastal and Marine Tourism
- Coastal Development

8.1 Coastal and Marine Tourism

Globally, coastal and marine tourism represents at least 50% of total global tourism. It is a significant contributor to economies. The market size is valued at $36.5 billion in 2024 and projected to reach up to $58.2 billion by 2031, representing a CAGR of 7.5%[48]. Destinations like the Maldives and Seychelles draw millions of visitors to their pristine marine ecosystems and eco-tourism offerings. Comparatively, Nigeria's underdeveloped infrastructure, limited marketing, and low focus on eco-tourism have hindered the country from becoming a premier blue tourism destination in Africa, despite its natural endowments[49].

As of 2023, statistics shows that Nigeria attracted only 1.2 million tourists[50], compared to Kenya's 2 million visitors, many of whom are drawn to its well-developed coastal tourism offerings[51]. However, with strategic policies, Nigeria can tap into this multi-billion-dollar market. Adopting sustainable practices such as developing Marine Protected Areas (MPAs), improving access to coastal regions, and implementing eco-friendly lodging options, could attract global travellers seeking unique experiences. Furthermore, integrating local communities in the value chain ensures cultural preservation and inclusive growth, aligning with UN Sustainable Development Goal 14 (Life Below Water) and boosting Nigeria's economic diversification efforts.



8.1.1 Strategic Aspirations

The strategic aspirations for the Coastal and Marine Tourism subsector are:

a) To conserve and develop Nigeria's premier blue tourism destinations, showcasing its unique biodiversity and cultural richness while ensuring environmental stewardships.

b) Integrate the participation of host communities into conservation and development efforts for the designated blue tourism areas, to create income generation opportunities and further environmental stewardship.

8.1.2 Challenges

The specific challenges of the coastal and marine tourism subsector are summarised below:

a) Coastal erosion, pollution from oil spills, and marine litter threaten the integrity of Nigeria's coastline and marine ecosystems, diminishing their attractiveness for tourism.

b) Poor road connectivity to coastal regions, limited availability of modern accommodations, and underdeveloped tourist facilities deter both domestic and international visitors.

c) Nigeria has not effectively marketed its coastal attractions globally, unlike other African nations. This has limited its visibility on the international tourism map, resulting in a smaller share of the global marine tourism industry.

d) Coastal areas, particularly in the Niger Delta, face challenges such as piracy and kidnapping, which raise safety concerns for tourists and discourage private sector investment in tourism infrastructure.

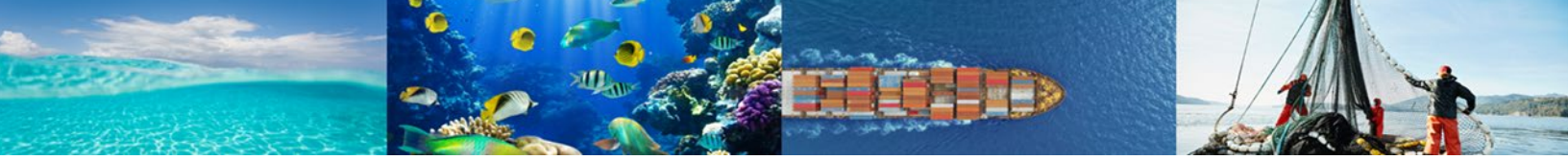
e) The absence of programs to involve local communities in the tourism value chain has led to low levels of local ownership and participation. This exclusion hampers the socio-economic benefits that tourism could provide for coastal populations.

8.1.3 Strategic Policy Initiatives, Projects, and Programmes

Laws and Regulations

BT-01 | **Develop a strategic roadmap for the blue tourism investor promotion program – protected focus sites, site profiles, and suggested policy/regulatory reforms in line with benchmarks against other countries.**

A clear investor framework in conjunction with the Ministry of Arts, Culture and Tourism will ensure that Nigeria increases its share in the blue tourism market. The initiative will focus on Nigeria's most promising aquatic and marine sites, starting with regions that demonstrate high investment potential and manageable development challenges. The strategy will increase Nigeria foreign direct investment in blue tourism, create sustained livelihoods and preservation of marine ecosystems.



Governance and Institutional Arrangements

BT-02 **Collaborate with relevant MDAs to facilitate rollout of blue tourism initiatives – NIPC, FMT, NTDC, Ministry of Environment, etc.**

Coordinating efforts between MDAs will drive efficiency in ensuring that the diverse aspects of blue tourism are effectively delivered – from visa reforms, marketing strategies, investment facilitation and infrastructure development to environmental protection and community engagement. A unified approach will promote Nigeria as a preferred tourist destination. Key outcomes from these will be increased investment, sustainability and conservation, job creation and global recognition.

Infrastructure

BT-03 **Improve governance in protected blue tourism areas and strengthen cooperation between management bodies and local stakeholders.**

The designation of selected blue tourism sites (beaches, islands, mangroves, etc.) requires strong collaboration between local government authorities and host communities. Strengthening participatory governance in these areas is critical to ensuring their continued availability for blue tourism investments and activities.

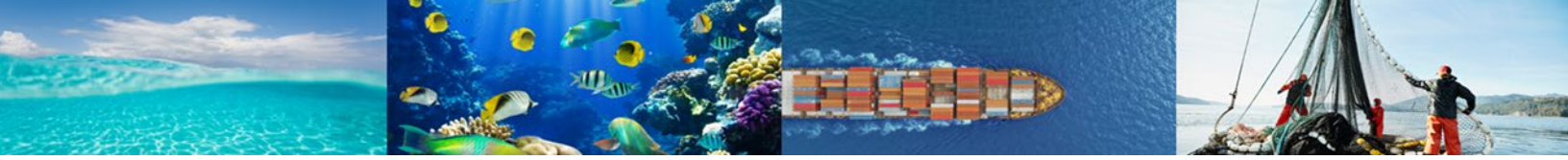
BT-04 **Designate selected coastal and marine tourism sites as protected areas and facilitate the development of enabling infrastructure for tourism investments to thrive in these areas.**

Developing enabling infrastructure such as roads, shore protection walls, etc. for protected tourism sites helps preserve Nigeria's rich biodiversity and unique ecosystems, while providing an enabling environment for private sector investments in developing resorts, cruise packages, etc. to enable Nigeria tap into the blue tourism market; creating jobs and boosting local economies.

Sustainability/ Environmental Considerations

BT-05 **Preserve and protect selected natural and cultural resources for future generations, for the purposes of blue tourism.**

Nigeria is home to diverse ecosystems such as mangroves, coral reefs, and wetlands, which are critical for biodiversity and climate regulation. Nigeria's coastal regions are also home to several indigenous communities whose cultural practices are deeply intertwined with the sea and natural resources. Protecting these resources ensures the survival of both biodiversity and cultural heritage. This policy will position Nigeria as a key player in the global blue economy, ensuring the protection of its precious marine and cultural resources while unlocking significant economic opportunities.



Finance and Investment Climate/ Incentives

BT-06 | **Introduce capacity building seminars for financial institutions towards the financing of a sustainable blue economy.**

Building the capacity of Nigerian banks, insurers and investors on sustainable blue economy finance principles will help to deepen local financiers understanding of the risks and returns in blue economy activities such as coastal and marine tourism.

Market Access – Local Patronage/ International Markets

BT-07 | **Identify and provide support to scale up community-based blue tourism initiatives.**

This will empower local people and promote cultural exchange thereby promoting a diversified national economy. Community-based tourism has the potential to directly enhance the economic well-being of local populations. Engaging communities in the conservation of their natural and cultural resources fosters a sense of ownership and responsibility for local ecosystems. This approach is essential for the long-term sustainability of tourism and marine conservation efforts.

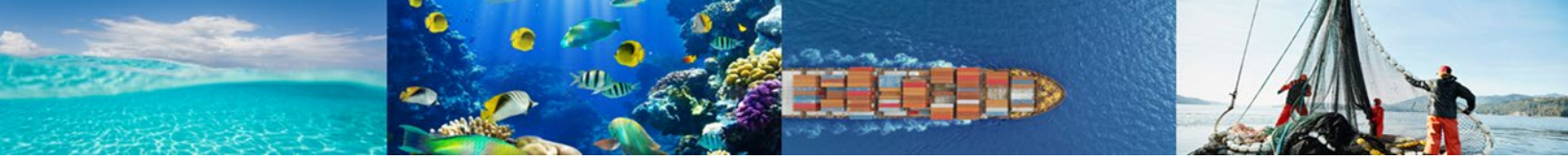
8.2 Coastal Development

Nigeria's coastline stretches over 853 kilometres along the Atlantic Ocean. The nine (9) coastal states of Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, Lagos, Ogun, Ondo and Rivers are estimated to account for about 20% of the national population. The country's coastal regions house approximately 70% of its industrial activities, including ports, oil and gas infrastructure, tourism, and fisheries. However, these areas are facing significant challenges due to rapid urbanisation, inadequate infrastructure, and the effects of climate change, such as coastal erosion and rising sea levels.

Studies of states such as Lagos, Cross River and Delta have shown evidence of long-term coastline erosion of the coastlines, with Lagos State at 86%, Cross River at 60% and Delta state at 52%. The total cost of erosion for these states is at a staggering US$1.9 billion or 1.6% of their combined GDP[52].

Internationally, coastal development has seen varied success depending on the balance between industrialisation and environmental preservation. For example, Singapore has effectively integrated coastal reclamation projects, creating land for development while investing in environmental safeguards[53].

Nigeria must therefore enhance its focus on coastal resilience by investing in flood defences, sustainable fisheries, and eco-tourism, with a particular emphasis on protecting ecosystems like mangroves and coral reefs. The adoption of international best practices such as Integrated Coastal Zone Management (ICZM) and enhanced public-private partnerships could pave the way for a more balanced and sustainable approach.



8.2.1 Strategic Aspirations

The strategic aspiration of the country for coastal development is:

To develop Nigeria's coastal regions using ICZM approaches to create sustainable economic and social activities, protect coastal biodiversity, reduce vulnerability to disasters and coastal erosion, and resolving community conflicts that may occur.

8.2.2 Challenges

The specific challenges of coastal development in Nigeria are as follows:

a) Flooding has become a persistent issue particularly in urban coastal cities like Lagos.

b) Unregulated industrial activities such as oil spills and waste dumping have degraded ecosystems like mangroves, coral reefs, and estuaries, essential for biodiversity and local livelihoods.

c) Coastal regions lack sufficient flood defences, waste management systems, and urban planning frameworks to support growing populations.

d) Industrialisation in coastal areas is heavily skewed toward oil and gas activities, with minimal diversification into other blue economy sectors like tourism, fisheries, or renewable energy.

e) Investment in eco-friendly infrastructure and restoration projects lags far behind the scale of degradation, creating a development deficit.

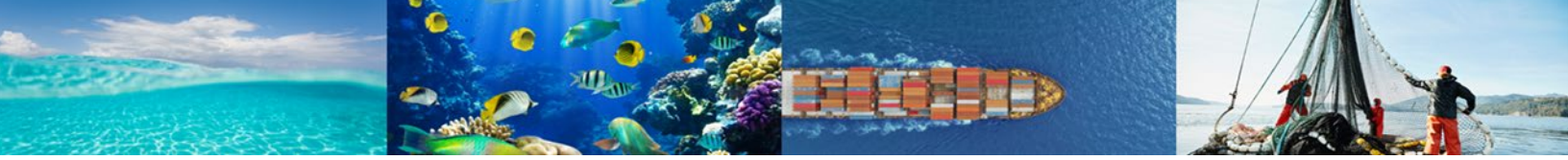
f) Local communities are often excluded from decision-making processes, leading to conflicts over land use, resource access, and development priorities.

8.2.3 Strategic Policy Initiatives, Projects, and Programmes

Laws and Regulations

BC-01	**Domesticate and implement the Integrated Coastal Zone Management (ICZM) Plan of Gulf of Guinea for Nigeria in terms of an Integrated Coastal Area Management Plan.**

The ICZM Plan is a strategic framework to balance environmental conservation, economic development, and social equity in Nigeria's coastal zones. This involves integrating policies and actions across sectors such as fisheries, tourism, shipping, oil and gas, and urban development. Domestication of the ICZM Plan will ensure a coordinated response to these issues, align Nigeria with international best practices, and support commitments under the Sustainable Development Goals (SDGs), particularly Goal 14: Life Below Water.



Governance and Institutional Arrangements

BC-02 | **Initiate new and or reinforce existing studies on coastal ecological systems, the impact of the climate change, and their adapting capacity.**

This policy calls for the initiation of new studies and the reinforcement of ongoing research on Nigeria's coastal ecosystems. The focus will be on understanding ecosystem functions, the impacts of climate change, and the capacity of coastal systems to adapt. This understanding will give Nigeria critical insights into the resilience of its coastal ecosystems and develop adaptive strategies to safeguard them against climate change, ensuring sustainable livelihoods and environmental protection for future generations.

BC-03 | **Create a Disaster Risk Management Plan for coastal communities in Nigeria**

A disaster risk management plan will be developed to protect livelihoods, critical ecosystems, and economic activities like fishing and tourism. This plan will include risk assessments, early warning systems, resilient infrastructure, and capacity-building programs for local communities.

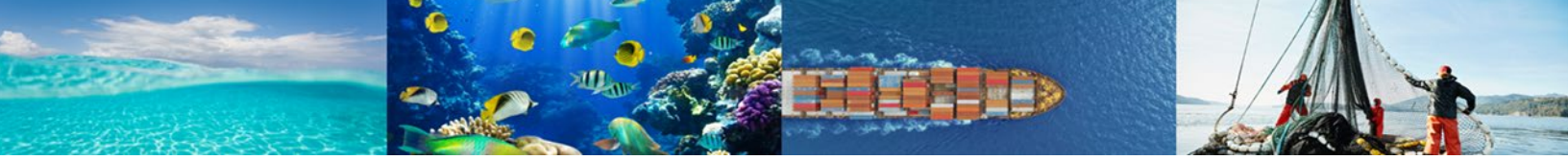
Infrastructure

BC-04 | **Designate areas with endemic species as Inland Waters and Marine Protected Areas.**

This policy proposes the designation of areas with high concentrations of endemic species as Inland Waters and Marine Protected Areas (IWMPAs) to safeguard biodiversity, maintain ecosystem services, and ensure the sustainable use of resources. Designating IWMPAs will protect these habitats and align with international obligations like the UN Sustainable Development Goals (SDG 14: Life Below Water) and the Convention on Biological Diversity (CBD).

BC-05 | **Identify critical sites where ship anchoring should be prohibited.**

The identification and designation of critical marine and coastal sites where anchoring activities will be prohibited is necessary to prevent damage caused by anchoring, habitat destruction, sediment disruption, and loss of biodiversity. These areas will include ecologically sensitive habitats such as coral reefs, seagrass meadows, mangroves, and shipwreck sites of historical significance. Nigeria will leverage international standards such as IMO's guidelines for the Designation of Particularly Sensitive Sea Areas (PSSAs) in the actualisation of this policy.



Sustainability/ Environmental Considerations

BC-06 **Promote sustainable livelihoods of coastal communities and develop capacity for climate resilient economies and communities.**

This policy aims to reduce poverty, foster environmental stewardship, and protect vulnerable communities from climate-related risks such as sea-level rise, flooding, and habitat degradation. This will be achieved through several initiatives including: providing training in climate-smart aquaculture, renewable energy, and ecotourism and the development of educational programs specially targeted at children, youth, women and people with special needs.

BC-07 **Invest in research to understand the specific impacts of climate change on Nigeria's coastal and marine environments.**

Nigeria should establish a robust research framework focused on the specific impacts of climate change such as rising sea levels, coastal erosion, marine biodiversity loss, and ocean acidification etc. This research will assess vulnerabilities, identify priority areas for intervention, and create a baseline for long-term environmental monitoring. This policy ensures Nigeria proactively addresses the unique challenges of climate change, benefiting from global insights while tailoring solutions to local realities.

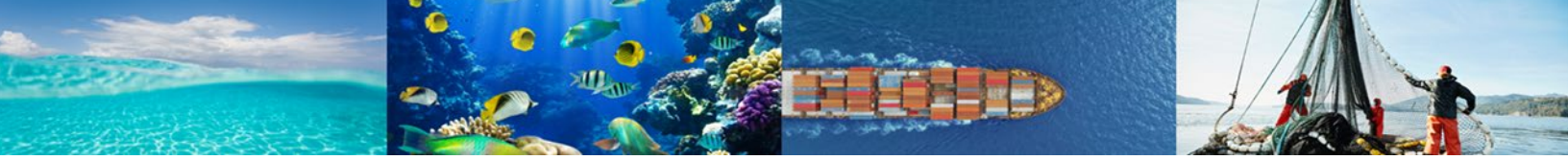
Finance and Investment Climate/ Incentives

BC-08 **Promote incentives for private sector, coastal communities, as well as small and medium-scale enterprises' involvement in blue tourism and climate-resilient infrastructure and technologies.**

Financial support, training programs, and technical assistance will encourage private sector, coastal communities, and local businesses to participate in the tourism industry, and the development of climate-resilient infrastructure and technologies. Employment opportunities, tax holidays (pioneer status), grants, capacity-building programs, and access to low-interest loans aimed at fostering environmentally friendly and economically beneficial tourism activities should be considered.

BC-09 **Establish a coastal resilience fund to finance adaptation projects and seek international funding and grants from organisations such as the Green Climate Fund and the Global Environment Facility.**

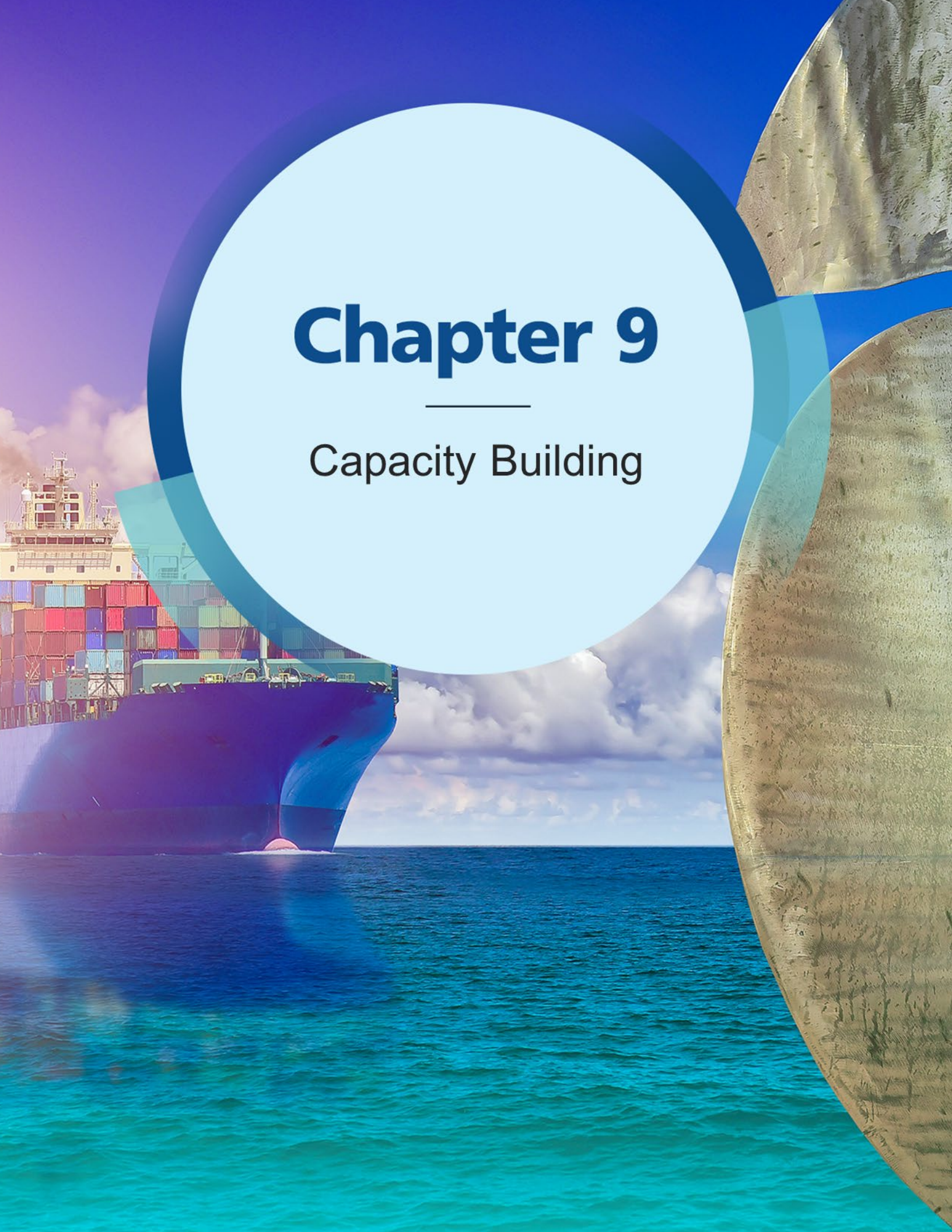
The Coastal Resilience Fund aims to provide dedicated financial resources to support projects that strengthen the ability of Nigeria's coastal regions to adapt to climate change impacts such as rising sea levels, erosion, and flooding. This fund would prioritise investments in infrastructure, such as seawalls and mangrove restoration, as well as capacity-building initiatives for local communities.



Quality and Standards

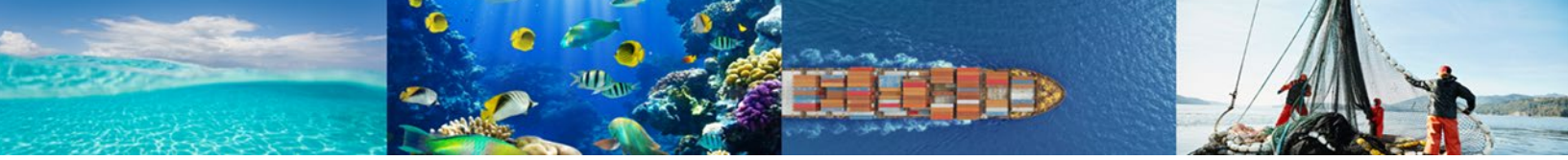
BC-10 | **Development, implementation, and continuous monitoring of coastal and marine ecosystems to track changes and the effectiveness of adaptation measures in line with international standards.**

This policy will facilitate the establishment of a robust framework for effective monitoring and evaluation of the impact of adaptation measures towards the preservation and restoration of coastal zones.



Chapter 9

Capacity Building



9 Capacity Building

The sustainable development of Nigeria's marine and blue economy hinges on the availability of a skilled, knowledgeable, and adaptable workforce. To unlock the sector's vast potential, it is imperative to prioritise capacity building that addresses both current and future needs. This policy emphasises strategic investments in education, training, and skill development to empower individuals, institutions, and communities.

9.1.1 Strategic Aspirations

a) Strategically promote development of skills required for the growth of the marine and blue economy sector through targeted academic and vocational training, professional development, and apprenticeships.

b) Strengthen local capacity for marine hazard management, including training for emergency response and evacuation procedures.

9.1.2 Strategic Policy Initiatives, Projects, and Programmes

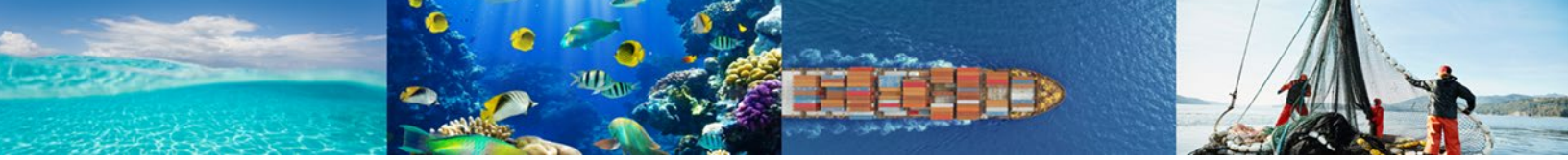
CB-01 **Encourage investment in research and education to strengthen a Scientific Education and Training Centre of Excellence for ocean-related skills development to build blue economy capacity.**

There is need for increased financial support in capacity building efforts to bolster the process of setting up a research based centralised training mechanism to support skill development and promote awareness of marine and blue economy potentials. The centre is will also be instrumental in assessing training needs and meeting skill gaps across subsectors.

CB-02 **Integrate swimming lessons and study programs on the marine and blue economy into academic curriculum across all levels; and retraining programs for MAN graduates and cadets.**

This policy ensures that corporate skills inventories are available to academic planners and educational institutions to integrate knowledge and skills of the marine and blue economy into academic curriculums across all levels of education, graduate programs/ internships, etc. There should also be a plan for inclusive academic programs specifically for training women to be active participants marine and blue economy sector.

This policy also takes into consideration unemployed cadets and graduates who have knowledge of the maritime sector but need adequate retraining and upskilling to be conversant with the changes and innovations within the sector.



CB-03 | **Promote onboard training for Nigeria merchant navy cadets.**

Develop and implement an MOU with companies transporting cargo to and from Nigeria to provide onboard training opportunities for Nigerian naval cadets. Create a system that requires maritime operators registered in Nigeria to provide aboard training berths for Nigerian merchant navy cadets. This policy aims to stimulate the development of technical skills among Nigerian navy cadets.

CB-04 | **Develop professional standards and certification for competencies within the marine and blue economy sector.**

This policy aims to encourage career development within the sector and increase youth participation in courses and degrees around related blue economy fields and foster a generation of blue economy leaders in the country.

CB-05 | **Provide requisite training infrastructure for marine biologists, marine engineers, marine sustainable energy technologists, and marine spatial planners**

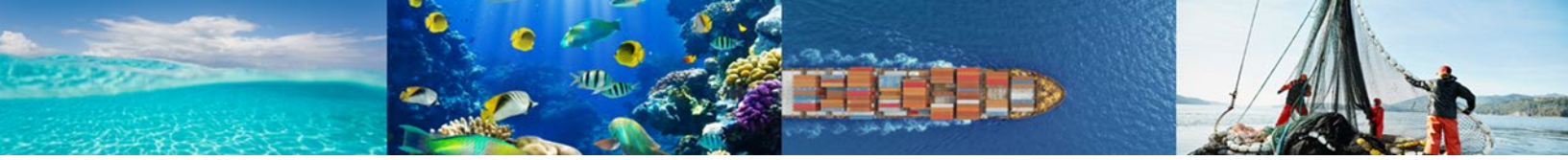
This policy focuses on setting up a technical training institution to provide training support, enabling the development of skills and capabilities in line with global standards and best practice. This will strengthen institutional ties between marine industries and academic institutions and create opportunities for applied learning and apprenticeships.

CB-06 | **Ensure public consultation and stakeholder engagement including compensation benefit to local communities.**

This policy mandates public consultations and active stakeholder engagement for all marine and blue economy projects. It ensures that impacted communities are adequately informed and involved in decision-making processes. It aligns with global best practices such as the Principle 10 of the Rio Declaration (1992), which emphasises public participation in environmental decision-making, and the Equator Principles, which require robust community consultation for socially responsible investments.

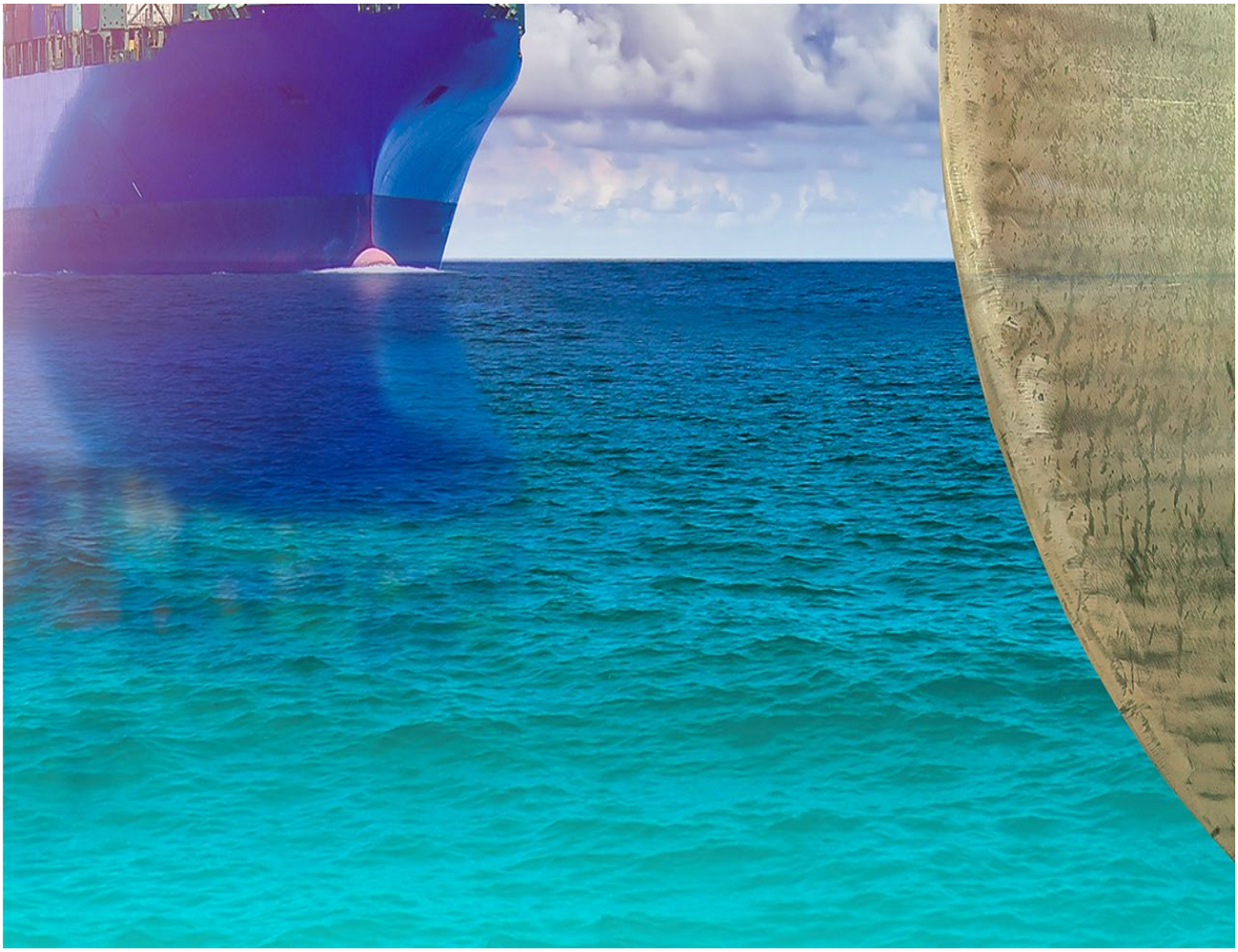
CB-07 | **Partner with external parties to gain technical expertise, and support for our marine and blue economy**

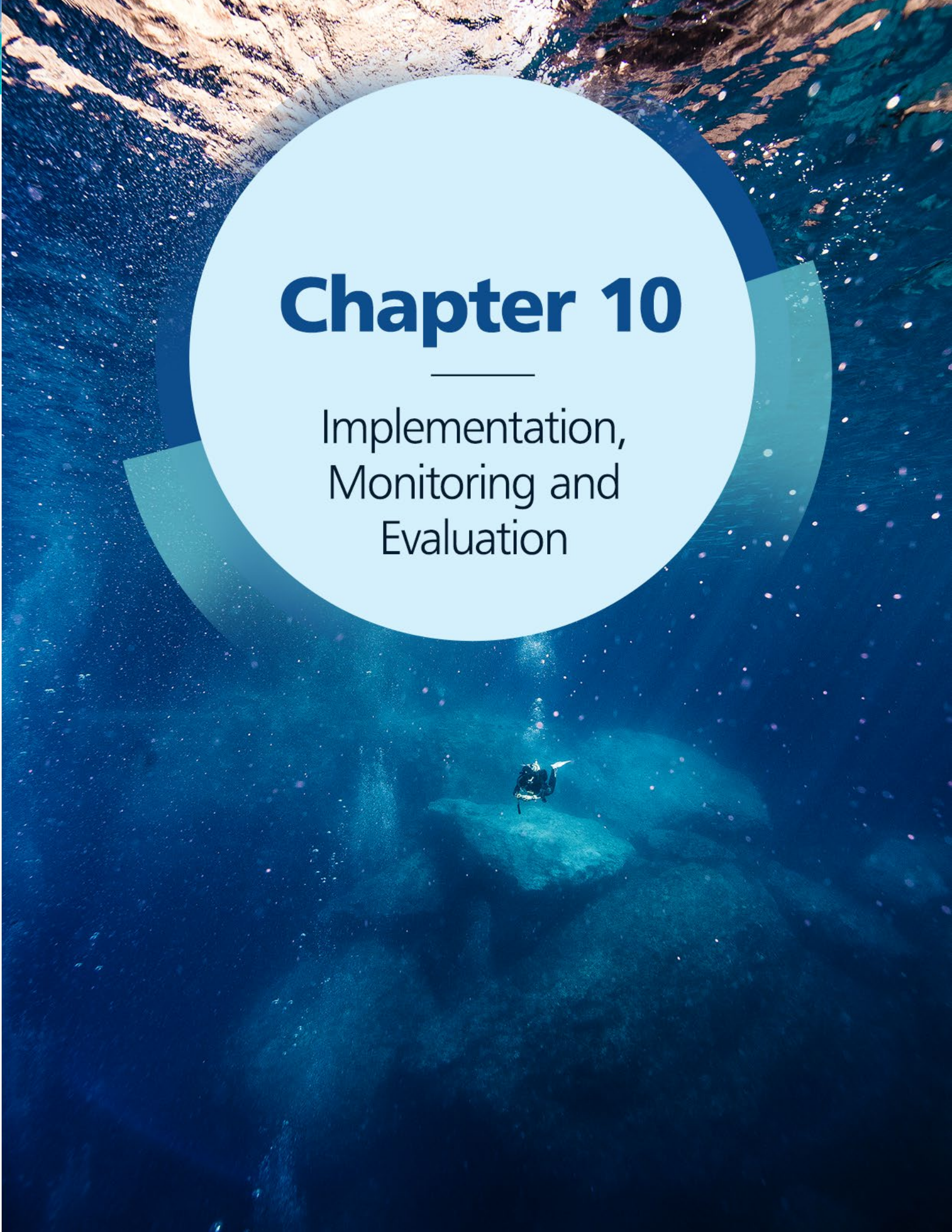
The policy seeks to foster external partnerships with global organisations such as the United Nations, World Bank, and International Maritime Organisation (IMO) to gain technical expertise, adopt best practices, and drive the sustainable development of Nigeria's marine and blue economy.



CB-08 **Develop training programs for local governments, NGOs, and community leaders on best practices for coastal and inland waterways resilience and climate adaptation.**

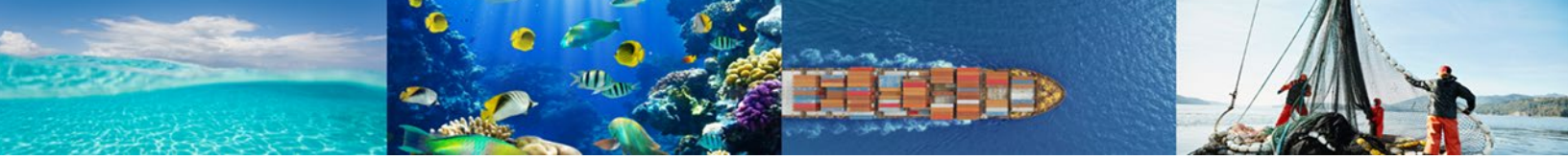
This policy will focus on equipping local governments, NGOs, and community leaders and youths with knowledge and tools to implement and advocate for coastal resilience and climate adaptation measures. It includes training on risk assessment, nature-based solutions, climate-smart infrastructure, and community mobilisation strategies. Nigeria will align this policy implementation with global frameworks such as the Paris agreement, Sendai framework for disaster reduction and UNDRR environmental and social framework.





Chapter 10

Implementation, Monitoring and Evaluation



10 Implementation, Monitoring and Evaluation

The National Policy on Marine and Blue Economy will have an inclusive implementation structure to facilitate a diligent execution of the policy initiatives. The implementation arrangement will involve stakeholders including (i) Federal Ministry of Marine and Blue Economy (ii) the Nigeria Navy (iii) Federal, State and Local Government MDAs (iv) Industry Stakeholders and Associations, and (v) Development agencies.

The implementation structure will be supported by a robust Monitoring and Evaluation (M&E) framework which provides a systematic and comprehensive approach to tracking and measuring results of the policy initiative. The M&E framework will aid in:

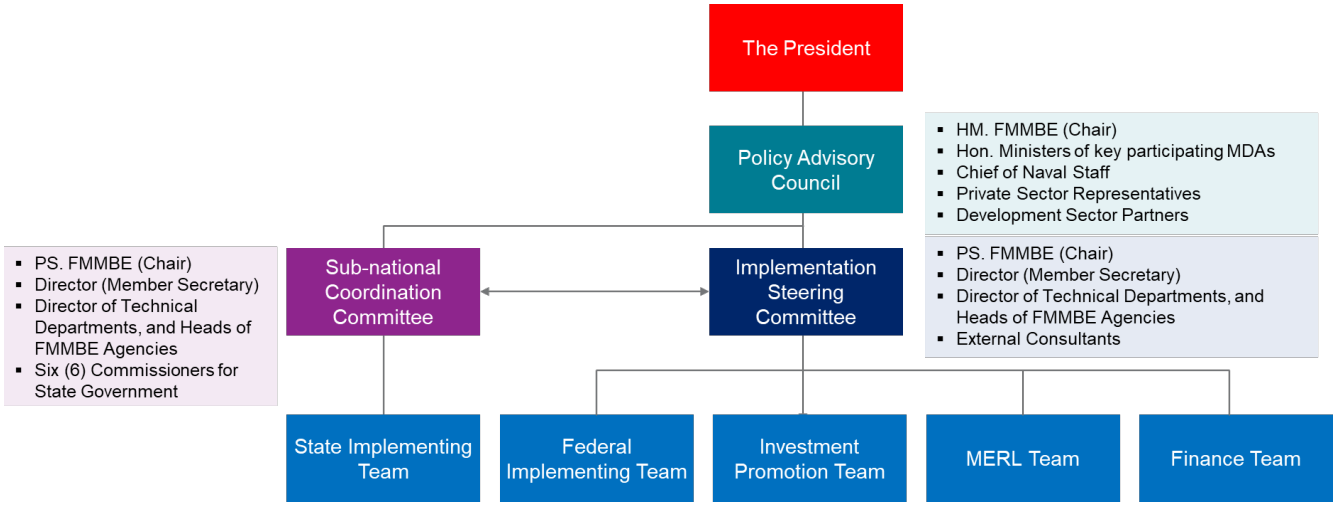
- Determining the extent to which the policy is on track to achieve its objectives.
- Making informed decisions regarding the various ongoing projects.
- Ensuring the most effective and efficient use of resources; and
- Evaluating the extent to which the marine and blue economy has had the desired impact.

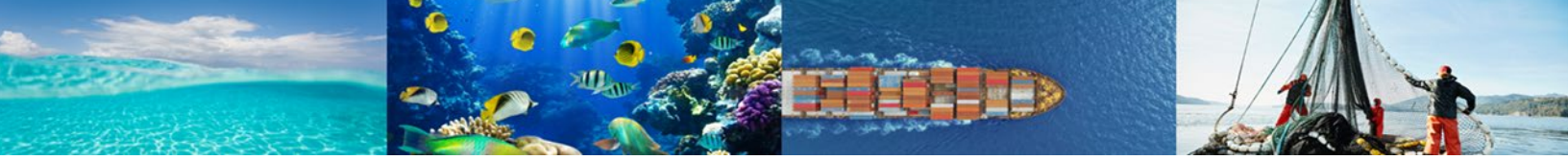
10.1 Implementation Structure

10.1.1 Institutional Arrangement

The Federal Ministry of Marine and Blue Economy and its agencies have primary responsibility for the implementation of the national policy. They will be supported by other Federal and State Government MDAs as required, in line with their respective mandates. The support of development partners and external consultants, as well as the advice and advocacy of industry stakeholders will be further leveraged to put in place a complete implementation machinery for developing Nigeria's blue economy. The institutional arrangement for implementation is outlined in the figure below.

Figure 4: Implementation Structure for the National Policy on Marine and Blue Economy





10.1.2 Implementation Structure Roles

(1) Mr President

The President of the Federal Republic of Nigeria shall be the overall head of the initiative to develop Nigeria's blue economy. He will monitor overall implementation progress by receiving quarterly progress reports from the Honourable Minister for Marine and Blue Economy. He will have the final authority to make decisions referred to him by the Honourable Minister of Marine and Blue Economy. Mr President shall:

a) Formally launch the National Policy on Marine and Blue Economy for implementation.

b) Receive quarterly updates on the policy implementation every quarter.

c) Promote Nigeria's blue economy to the international investor community during its foreign relations and international trade engagements.

d) Provide overall guidance and direction to the Policy Advisory Council.

(2) **Policy Advisory Council (PAC)**

The Council will act as an advisory body, engaging with relevant stakeholders to secure their support and cooperation and overseeing the operations of the implementing steering committee. The PAC is chaired by the Honourable Minister of Marine and Blue Economy. The PAC will have representation of key private sector industry stakeholders and development sector partners.

The PAC will meet at least quarterly, or as frequently as required. Its roles are to:

a) Ensure that the implementation of the Policy stays on course in line with its stated objectives, goals and performance targets.

b) Provide leadership to secure the funding for the various projects and programmes initiated under the Policy.

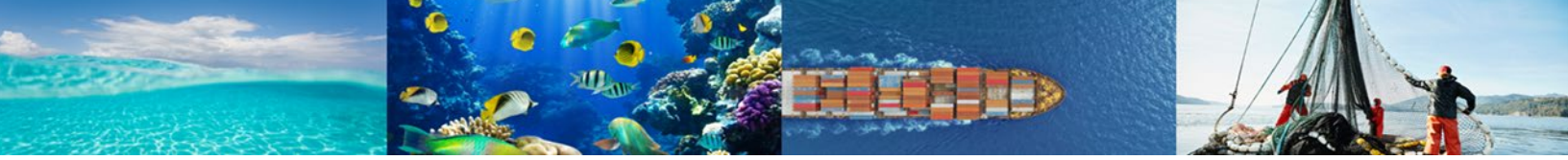
c) Promote Nigeria's blue economy to development partners and international investors for grant funding, investments, and technical assistance.

d) Make decisions on major issues escalated to the Council by the Implementation Steering Committee.

e) Provide coordination on issues affecting a number of MDAs and promote inter-agency cooperation.

(3) Sub-national Coordination Committee (SCC)

The purpose of the SCC is to provide a platform for the coordination of policy initiatives between the Federal and State Governments. The SCC will comprise of the Directors of the Ministry of Marine and Blue Economy and Heads of its Agencies. In addition, six (6) Honourable Commissioners (HCs) relevant to the marine and blue economy selected from the States will make up the composition of the SCC. The selection of the HCs will be rotated yearly, and geopolitical representation will be ensured. The SCC will be chaired



by the Permanent Secretary for Marine and Blue Economy. The SCC will meet on a quarterly basis. The key roles are to:

a) Receive a briefing from the Ministry of Marine and Blue Economy on the quarterly progress report as regards the implementation of the Policy.

b) Review the progress of policy initiatives and projects that require sub-national participation and involvement.

c) Agree on the best course of action for key issues requiring resolution at the sub-national level.

d) Strategise on the co-financing of projects between the Federal and State governments.

e) Raise and discuss the top of the table issues in the sector requiring the urgent attention of the Ministry.

(4) Implementation Steering Committee (ISC)

The ISC is the body saddled with the accountability to oversee the implementation of the Policy. It is a powerful convening platform to drive the coordination of a large and inclusive effort involving various MDAs. The ISC will champion the drive for executive accountability among the implementing MDAs. It will ensure the diligent implementation of the Policy based on a strong program management approach. And also put in place a robust monitoring and impact evaluation framework for the policy implementation efforts. The ISC will meet every two months. Its key roles are to:

a) Oversee the development of annual program workplans and budgets by the various implementing MDAs for the implementation of the Policy.

b) Ensure that the government budgets for the annual program workplans are adequately incorporated into the annual appropriation budgets for each participating MDA.

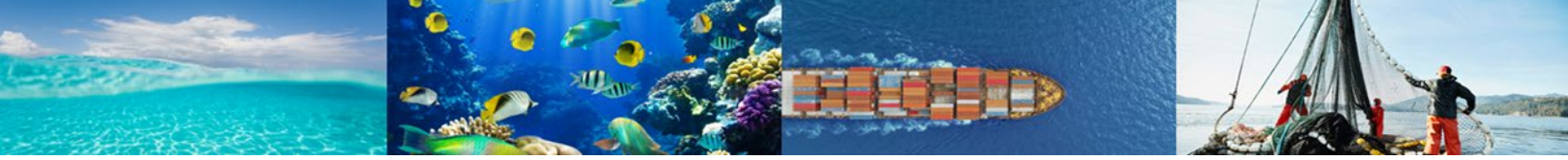
c) Collate all annual program workplans into a single national workplan, identify implementation risks and develop mitigating strategies.

d) Convene meetings every two months to review progress in line with the workplans, resolve project issues, and ensure inter-agency cooperation.

e) Facilitate decision on matters requiring inter-agency collaboration and cooperation.

f) Manage program costs relating to policy initiatives to be delivered centrally, including but not limited to investment promotion, external communication and media strategy, and the provision of enabling support on matters such as laws and regulations.

g) Engage resource persons and external consultants to provide broad support to all the implementation teams.



h) Develop and rollout a robust investor promotion campaign to both local and international investors for the marine and blue economy.

i) Design and deploy a monitoring and evaluation framework to monitor and report on progress as regards policy implementation.

j) Provide quarterly reports to the PAC on the status and progress of the policy implementation effort.

(5) Technical Working Teams (Finance, Investment Promotion, MERL)

The Technical Working Teams (TWTs) are cross-functional groups with a mandate to ensure the seamless implementation of the policy initiatives as it regards finance, investment promotion and monitoring and evaluation. The main purpose of the TWTs is to provide support to the implementing agencies. The Finance Team will be responsible to coordinate fund raising efforts outside the traditional government subvention. The team will assist to raise grant funding, develop funding proposals to international financial institutions, and advice on the structuring of public private partnerships. The investment promotion team will design, execute, and coordinate investment promotion campaigns both within and outside the country. The team will also oversee the media and communication strategy for the policy implementation effort. The MERL team will develop and execute a monitoring and evaluation plan, and report on progress towards the achievements of the Policy's stated objectives.

(6) Implementing Team

The Ministry of Marine and Blue Economy shall appoint implementing team across its agencies in collaboration with other partners and stakeholders at the Federal and State levels. The team will be responsible for the following:

a) Develop and maintain 3-year strategic plans for the implementation of the national policy on marine and blue economy.

b) Prepare annual implementation plans and budgets based on the 3-year strategic plans of the Agency.

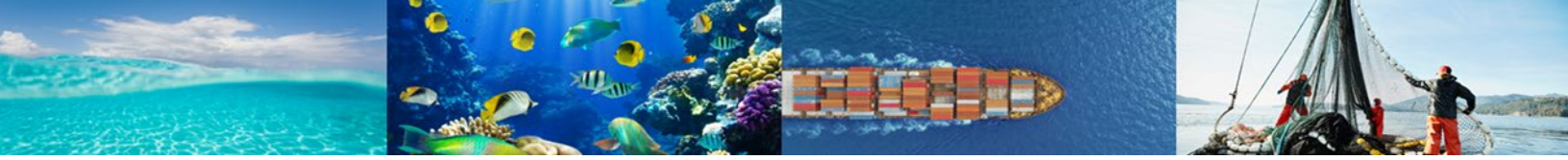
c) Designate Project Managers for the various policy initiatives and projects to be implemented during the year.

d) Implement and ensure full execution of the annual implementations plans for each year.

e) Request and obtain the collaboration of all relevant MDAs external to the Ministry of Marine and Blue Economy, towards the implementation effort.

f) Escalate project issues and risks that cannot be resolved by the implementing agency to the ISC.

g) Prepare monthly project reports to the Head of the Agency and the ISC for consideration during the bi-monthly ISC meetings.



10.2 Implementation Stakeholders

The implementation of the national policy on marine and blue economy requires an inclusive effort. This involves the MDAs of government at the Federal, State and Local levels, as well as the private sector, development partners, and regional and international stakeholders in the blue economy.

This section highlights critical stakeholders and partners in the implementation effort that will play key roles during the implementation effort.

10.2.1 National Stakeholders and their Roles

The Ministry of Marine and Blue Economy will work in collaboration with relevant national stakeholders, including Ministries, Departments, and Agencies (MDAs) at the Federal, State, and Local Government levels, to ensure effective implementation of the policy.

10.2.2 Regional Stakeholders and their Roles

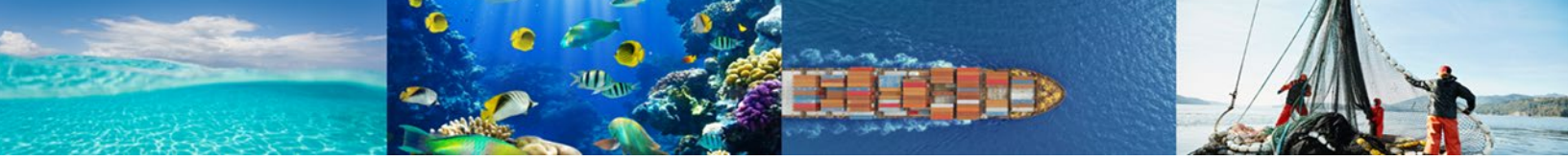
There are benefits in regional maritime collaboration for the regional economies. This includes the facilitating of trade through effective integration of sea transport with the other modes of transport, whether the State is littoral, or land linked. The promotion and development of intermodalism and trade within the African region is of priority to Nigeria's blue economy development efforts.

The following regional stakeholders have been identified as partners in developing Nigeria's marine and blue economy. They will be engaged during implementation for cooperation, collaboration and harmonisation of activities.

a) **The Economic Community of West African States (ECOWAS)** – The ECOWAS is currently implementing its Integrated Maritime Strategy (EIMS) adopted by the fifteen (15) ECOWAS member states. The key objectives of the maritime strategy cover security, governance, the environment, the economy, research, and training. The Federal Government will ensure alignment alongside its regional partners between the implementation of the Policy and the implementation of the provisions of the EIMS.

b) **The Maritime Organisation for West and Central Africa (MOWCA)** - The organisation was established to unify the interests of 25 countries on the West and Central African shipping range (inclusive of five land-linked countries). These countries comprise 20 coastal states bordering the North and South Atlantic Ocean. The overriding objective of MOWCA is to ensure a cost-effective shipping service for the sub-region that is high on safety and low on pollution. While the implementation of Nigeria's policy on the marine and blue economy furthers the objectives of MOWCA, the organisation will be engaged as appropriate to increase the benefits of synergy during implementation.

c) **Port Management Association of West and Central Africa (PMAWCA)** - The organisation was established under the auspices of the Economic Commission for Africa (UNECA). It aims to promote cooperation and share knowledge on best practices in port management and operations to deliver efficient and effective port services across the



seaports located in West and Central Africa. The technical assistance and support of the PMAWCA is required for the successful implementation of the Policy's objectives for ports and related services.

d) **The Gulf of Guinea Commission (GGC)** - The Commission was established by the Treaty signed in Libreville, Gabon, on 3rd July 2001 by Angola, Congo, Gabon, Nigeria and Sao Tome and Principe. Cameroun and Democratic Republic of Congo joined the Gulf of Guinea Commission in 2008. It is an Institutional framework for cooperation amongst the countries bordering the Gulf of Guinea to defend their common interest and promote peace and socio-economic development based on dialogue, consensus, ties of friendship, solidarity, and fraternity. The Gulf of Guinea Commission will be engaged for collaboration and cooperation as required during Policy implementation.

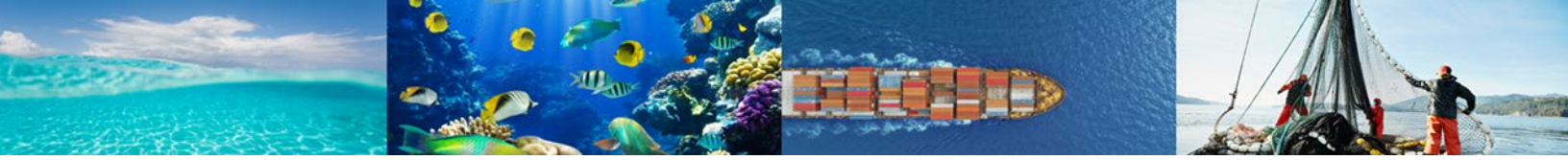
e) **Gulf of Guinea Maritime Security Dialogue (GGMSD)** - The Gulf of Guinea is recognised as one of the important regions in Africa. The Nigerian Navy has taken a leading role in working with the West African partners of the GGMSD by committing resources, expertise, and technology to improve maritime domain awareness through information sharing, exercises, connectivity, and joint patrols such as" Operation Prosperity". The joint patrols and coordinated responses across Exclusive Economic Zones have made much difference in the sub-regional maritime security. The implementation of the Policy as regards maritime security will further strengthen collaboration in this area with other West African countries.

f) **The Abuja Memorandum of Understanding (MoU) on Port State Control (PSC)** - Nigeria as a member of the Abuja MoU has and will continue to support the actualisation of the objectives of the MoU to ensure that the West and Central African region is safe from foreign sub-standard ships. In conjunction with other member states, a comprehensive list of the PSC officers and report of the Port State Inspections is published annually as well as the harmonisation of Port State Inspection procedures and practices.

g) **African Union (AU)** - The African Maritime Transport Charter is an instrument of African unity taken up by the AU in which member states resolve to cooperate in all fields of maritime activity and to coordinate and harmonise their maritime policies. The Charter calls for the promotion of common African positions on issues of international maritime transport policy; harmonisation and sustainable development of the African fleet; establishment of regional and/or sub-regional shipping lines; and promotion of cabotage regimes at sub-regional, regional, and continental levels.

h) **New Partnership for Africa's Development (NEPAD)** - Essential building blocks of NEPAD are the Regional Economic Communities (RECs), which include ECOWAS. NEPAD development goals include enhancing regional maritime transport. Currently, there are no declared NEPAD maritime-related projects directly connected to Nigeria.

i) **African Continental Free Trade Area (ACFTA)** - The African Continental Free Trade Area was founded in 2018 by the African Union which has since commenced continental trading. It was created by the African Continental Free Trade Agreement by member states of the African Union. The general objectives are to create a single market and



deepen the economic integration of the continent; establish a liberalised market through multiple rounds of negotiation; and enhance the competitiveness of member states within Africa and in the global market among others. The implementation of this Policy will engage with the ACFTA secretariat to take advantage of continental trade opportunities for Nigeria.

j) **The Association of African Heads of Maritime Administration (AAMA)** - The Association is a collective body that brings together the leaders of maritime administrations across Africa. The Association has forty-three (43) African States as members. The objective of AAMA is to draw up a master plan on measures necessary to progress the maritime agenda as envisaged in the African Maritime Transport Charter and to strengthen cooperation at the regional, continental and international levels in harmonising policies and goals necessary for the growth of the African Maritime Sector.

k) **Global Monitoring for Environment and Security and Africa (GMES &Africa)** - This initiative is the crystallisation of the longstanding cooperation between Africa and Europe in space science & technology and earth observation. The contribution of space observation to satellite communication, television, radio, and positioning on the earth, as well as to fields such as agriculture, transport, health, natural resource management, the environment, and risk forecasting is well-established.

l) **Africa Deep Sea Resources ADSR** - The ADSR project aims to foster international and regional cooperation to promote the sustainable development of Africa's seabed resources in support of Africa's blue economy. The main objective is to raise awareness among Africa decision-makers about the importance of sustainable development activities in the international seabed area and on Africa's continental shelf.

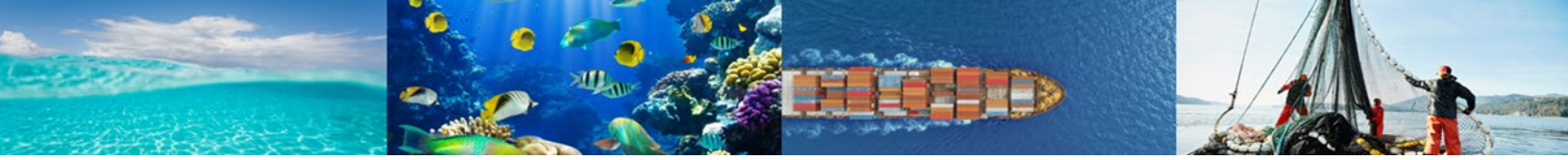
m) **The Fisheries Committee for the West Central Gulf of Guinea (FCWC)** – The Committee promotes cooperation among the Member States to ensure the conservation and optimum use of their living marine resources through appropriate management, and the sustainable development of their fisheries based on such resources. The Member States include Benin, Cote d'Ivoire, Ghana, Liberia, Nigeria and Togo.

10.2.3 International Stakeholders and their Roles

The United Nations (UN) provides overall guidance and framework for the marine and blue economy through the Sustainable Development Goals (SDGs) and the UN Ocean Conference. Some of the UN's agencies are empowered to coordinate protocols and conventions in the global maritime transport and logistics, international trade and shipping, blue economy and international labour spheres to achieve among other goals the following objectives:

a) Ensure that economic activities in the oceans, such as fishing, mining, and energy production, are done in a way that minimises harm to the environment.

b) Encourage collaboration among countries to address global ocean-related challenges, like climate change, pollution, and overfishing.



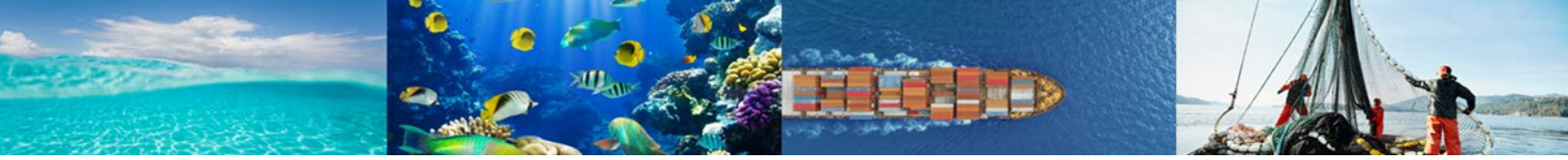
c) Develop and implement common rules and guidelines for shipping, marine safety, and environmental protection.

d) Assist developing countries to benefit from ocean resources and shipping responsibly and sustainably; and to

e) Prevent and respond to maritime security threats, such as piracy, terrorism, and smuggling.

Some key UN agencies include:

- International Maritime Organisation (IMO) - which focuses on maritime safety, security, and environmental protection,
- United Nations Conference on Trade and Development (UNCTAD) - which works on sustainable trade and investment in the marine and blue economy sphere,
- Food and Agriculture Organisation (FAO) - which concentrates on sustainable fisheries and aquaculture,
- United Nations Environment Programme (UNEP) - which addresses marine environmental protection and conservation,
- International Labour Organisation (ILO) - promotes decent work in the shipping and fishing industries,
- International Commission for the Conservation of Atlantic Tunas - this is an important world body that regulates and manages the harvest of the different Tuna species and Nigeria is a member,
- World Trade Organisation (WTO) - the WTO is the apex global body that regulates international trade which includes maritime trade and ocean resources.
- International Whaling Commission (IWC) - that regulates whaling and marine mammal conservation,
- International Seabed Authority (ISA) - which governs deep-sea mining and ocean floor activities,
- International Oceanographic Commission (IOC) - coordinates oceanographic research and observation in the globe,
- International Federation of Freight Forwarders Associations (FIATA) - oversees and sets freight forwarding standards and training curriculum for the training and certification of Freight Forwarders global, and
- Regional Fisheries Management Organisations (RFMOs) - manage fisheries resources in specific region.



10.3 Implementation Planning

The implementation of the National Policy on Marine and Blue Economy will be done over a 10-year period (2025 – 2034). It is the primary responsibility of the Federal Ministry of Marine and Blue Economy and its agencies to implement the Policy, in collaboration with all relevant partners and stakeholders.

a) **Strategic Roadmap** – The development of a Strategic Roadmap for the marine and blue economy is the first step towards the implementation of the Policy. It is a compendium of the initiatives contained in the national policy document for implementation purposes. This document defines the MDAs responsible for implementing each initiative and their expected start and end dates. A lead agency will be identified for each policy initiative. The Lead Agency bears primary responsibility for the execution of the policy initiatives assigned to it.

b) **3-Year Strategic Plans** - The Ministry and its Agencies will develop 3-year strategic plans for the implementation of the Policy. Each agency will develop detailed plans for the policy initiatives for which it has lead responsibility. The strategic plans shall be done in consultation with collaborating MDAs and other relevant stakeholders. The Strategic Plans will capture the policy initiatives drawn from the national policy that will be executed within three (3) years.

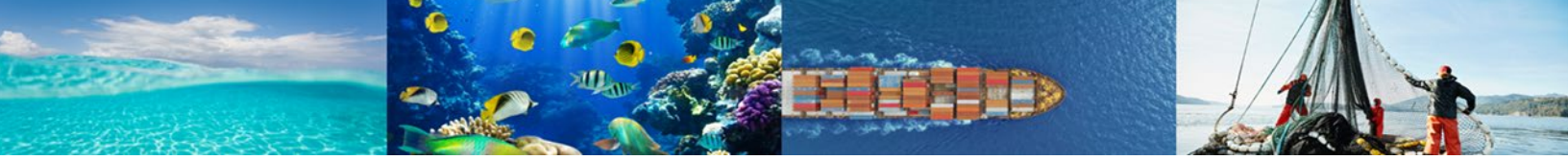
   The Strategic Plans will detail the specific action plans for implementing each policy initiative. The responsibility for each action plan will also be assigned to specific departments/officials in each agency. An indicative funding plan for the implementation of the Strategic Plan will also be developed.

   A 3-year planning horizon enables the MDAs to plan adequately for the implementation of the Policy, through inclusion of the action plans in government planning documents such as the Medium-Term Sector Strategies and the Medium-Term Expenditure Framework.

c) **Annual Workplan and Budget** – The policy initiatives scheduled for implementation in a given year will be set out in further details by the responsible Agency. The funding sources for the tasks to be carried out will also be specified. The Annual Workplan and Budget are to be fully captured in the budgets of the implementing MDAs for each year.

10.4 Funding Arrangement

The implementation of the policy initiatives contained in this document requires significant funding. The funding will be sourced from both traditional and non-traditional sources. The traditional sources of funding include government subvention, loans from multilateral development banks, and private investments. Non-traditional sources of finance will however be leveraged to increase the financing of the policy initiatives.



Government Budget

The public sector budget remains a key source for funding the implementation of the Policy. Annual government subvention should be used to close infrastructure gaps, establish best-in-class legal and regulatory frameworks, and develop human resource capacity among others; thus, creating an enabling environment for blue economic activities to thrive.

The public sector budget should also be made available to maintain an efficient bureaucracy to govern blue economic activities in the country. Specific attention must be paid to skills development, enforcement of laws and quality standards, research and development, and technology and innovation.

Grants

Nigeria receives more than $3.5bn annually in grants and concessionary loans from institutional donors to support various development causes. Development programs have helped to deliver substantial benefits in areas such as economic development and trade, agriculture, climate mitigation/adaptation, infrastructure, water supply and sanitation, etc. Being a maritime nation, the marine and blue economy supports the livelihoods of millions of Nigerians. The water bodies are also a key resource for carbon sink, contributing greatly to climate mitigation efforts.

Grants from institutional donors are critical to support technical assistance and design efforts, the piloting of development schemes, capacity building of coastal and riverine communities, economic development and trade initiatives, blue infrastructure development, etc.

Multilateral Development Banks

MDBs, such as the African Development Bank (AfDB) and the World Bank, provide financial and technical assistance to support large-scale development projects.

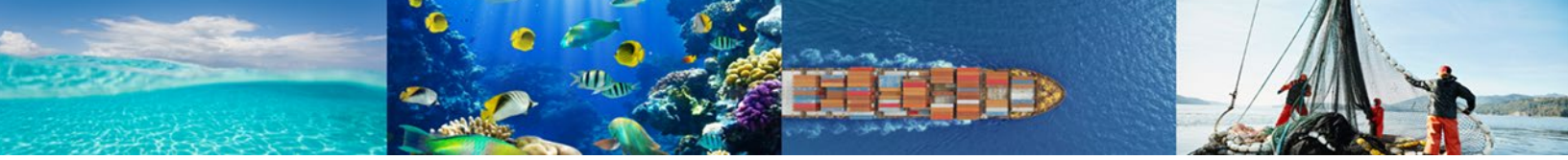
MDB funding aligns with Nigeria's goals for sustainable economic growth as it can enable large-scale investments in the marine and blue economy while promoting environmental stewardship. Examples include financing large-scale marine infrastructure projects, including deep-sea ports and intermodal transport systems; supporting capacity-building programs for regulatory agencies overseeing marine resource management; and marine biodiversity conservation initiatives and projects aimed at reducing marine pollution, etc.

Private Sector Investments and Public Private Partnerships

Private sector investments are crucial for scaling a blue economy with long-term sustainability. Domestic businesses and international investors can direct investment into activities that help to grow the marine and blue economy in Nigeria.

However, the public sector must create the infrastructure and an enabling environment to ease business entry. In addition to this public sector investment, a strong investment promotion drive is required to facilitate and incentivise these private sector investments.

Furthermore, Public private partnerships can be leveraged to address financing gaps from the public sector budget.



Blended Finance from the Private Sector

Blended finance is most often used to support investments in infrastructure and other areas where there is an expected economic return. In a blue economy context, these include investments in sustainable fisheries and aquaculture, ocean renewable energy, wastewater management and pollution control, ports, clean marine transportation, and blue tourism.

This is critical for Nigeria's context as public resources for development are limited. It will be a combination of public and/or development finance flows (e.g. concessional donor funds or philanthropic funds) with private return-seeking capital investments.

The funding initiatives of multilateral development banks for the blue economy (e.g., the World Bank's ProBlue multi-donor trust fund), can be leveraged as sources of concessional loans for blended finance initiatives to expand the supply of financing for the blue economy in Nigeria.

Green Climate Fund

The GCF is a combination of grant, concessional debt, guarantees or equity instruments for blended finance and crowd-in private investment for climate action in developing countries. GCF is mandated to invest 50% of its resources to mitigation and 50% to adaptation in grant equivalent. At least half of its adaptation resources must be invested in the most climate vulnerable countries (SIDS, LDCs, and African States).

Nigeria can leverage financing from the GCF to fund the implementation of its Policy for the blue economy. This will involve the identification and preparation of specific blue economy projects with climate mitigation and adaptation benefits.

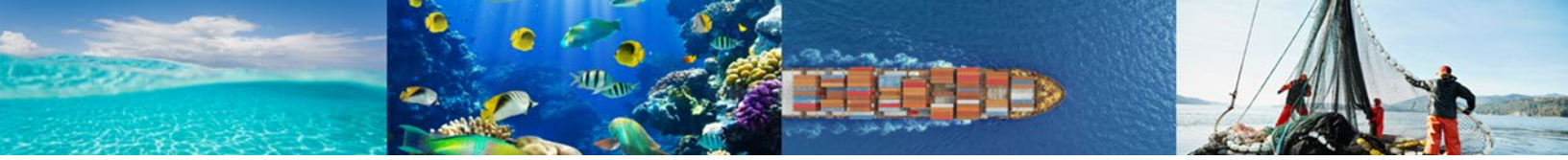
Blue Bonds and Debt-for-Nature Swaps

Blue bonds are debt instruments issued by governments, municipalities, development banks, corporate entities, or others to raise capital from investors to finance marine and ocean-based projects that have positive environmental, economic and climate benefits.

Capitalised funds from the Blue Bond will be kept in a trust to fund marine ecosystem conservation projects, such as restoring mangroves or coral reefs along Nigeria's coastline, support sustainable fisheries management and monitoring programs, etc.

The world's first blue bond was issued by the Government of Seychelles in 2018, and it raised US$15 million for investments in sustainable fisheries. It was supported by the World Bank and the Global Environment Facility (GEF), which provided technical assistance and additional financing and guarantees to lower interest payments on the bond.

Furthermore, bilateral debt-for-nature swaps will be explored to reduce the country's debt while channelling the saved funds into environmental conservation, mangrove restoration, and other coastal development efforts that benefit the country's blue economy.



10.5 Monitoring and Evaluation

A robust monitoring and evaluation activity will be deployed to ensure that policy implementation outcomes are measurable, scalable, replicable, and continuously improved upon. Monitoring, evaluation, research, and learning (MERL) methodologies, tools, and frameworks will be utilised to design and implement a comprehensive system that ensures effective tracking of the implementation of the policy initiatives. The MERL approach to be introduced by the Program Management Office is centred on two key components.

Development of a MERL Framework

A comprehensive MERL framework tailored to track progress on policy implementation activities will be developed and rolled out annually. The framework will incorporate well-established MERL methodologies, including Log Frames, Theory of Change (ToC), Key Performance Indicators (KPIs), and Baseline and Endline Assessments, ensuring alignment with the Policy's goals and objectives. The framework will also include data collection tools such as focus group sessions, surveys, interviews, and observation checklists. It will ensure continuous quality improvement feedback loops for real-time learning and adaptation.

Regular Monitoring Activities

Regular monitoring activities will be conducted to assess the effectiveness of Policy implementation strategies. This will include review meetings to track the progress with interventions and identify areas for improvement. As well as the use of performance dashboards to visualise key metrics related to the outcomes from the policy implementation effort.

Regular monitoring will be conducted through field visits and engagements with stakeholders to collect data with geographic position system-enabled tools for real time tracking and reporting of location-specific project status. This will map project achievements across locations and areas for continuous improvement.

Findings from regular monitoring activities will feed into ongoing learning and inform future policy implementation strategies, ensuring adaptive management. The MERL approach will ensure systematic tracking of policy goals, provide data-driven insights into project implementation effectiveness, and promote continuous learning for successful outcomes.

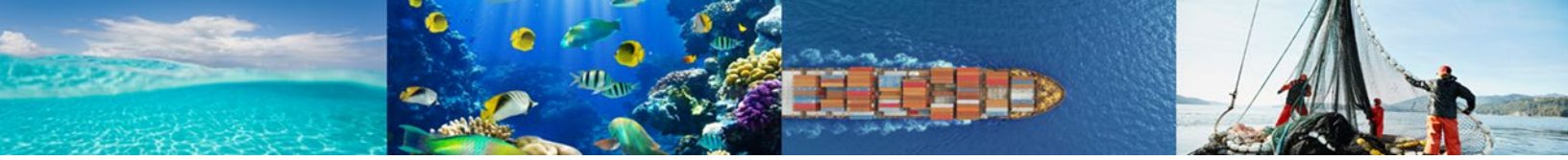
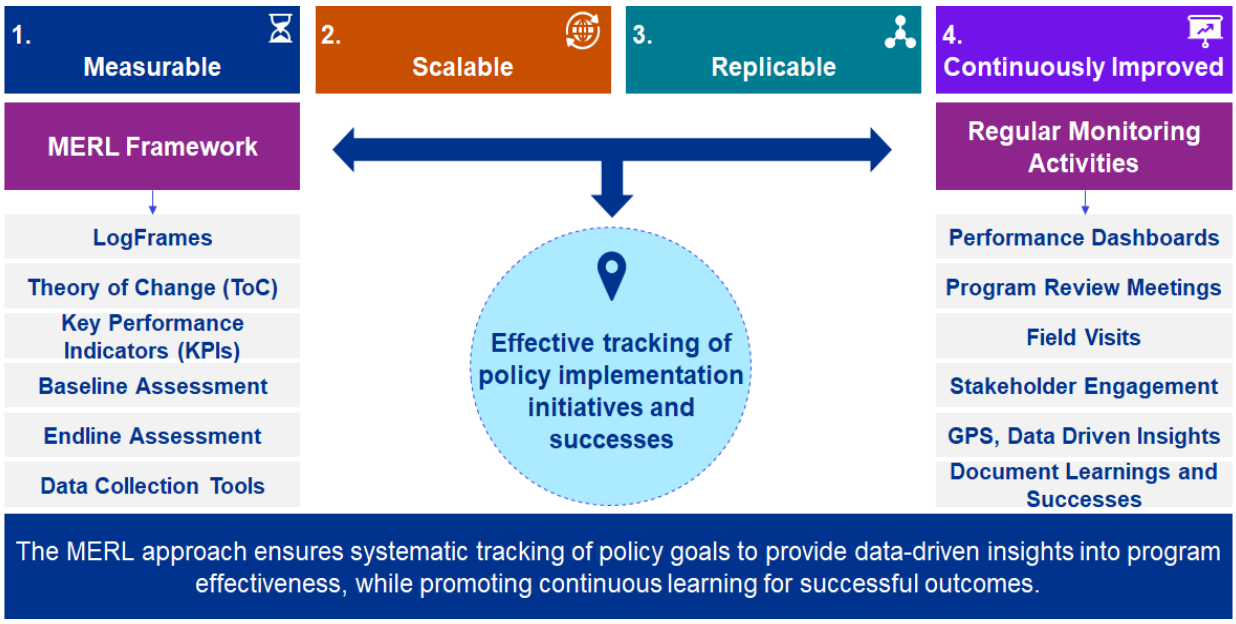
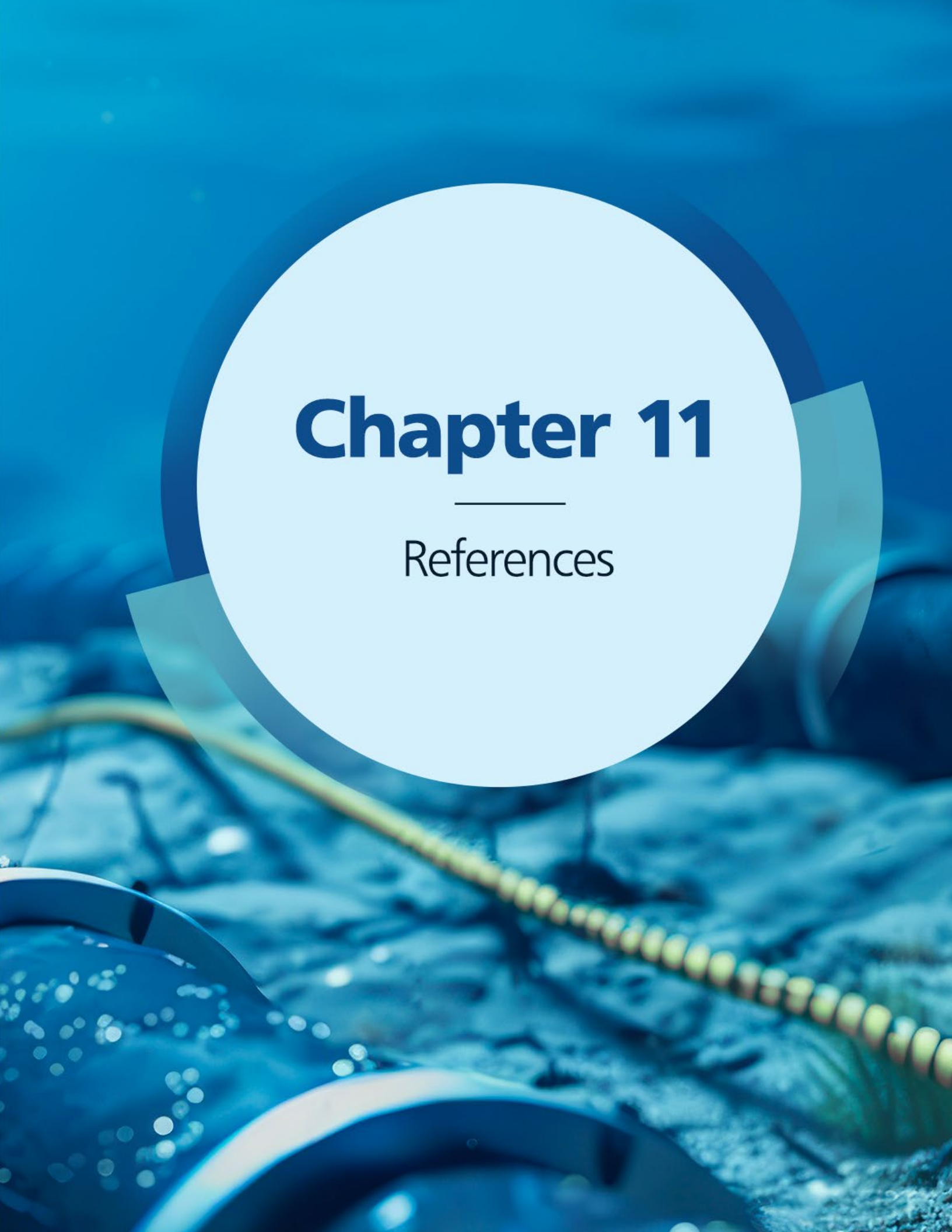


Figure 5: Monitoring, Evaluation, Research and Learning (MERL) Approach





Chapter 11

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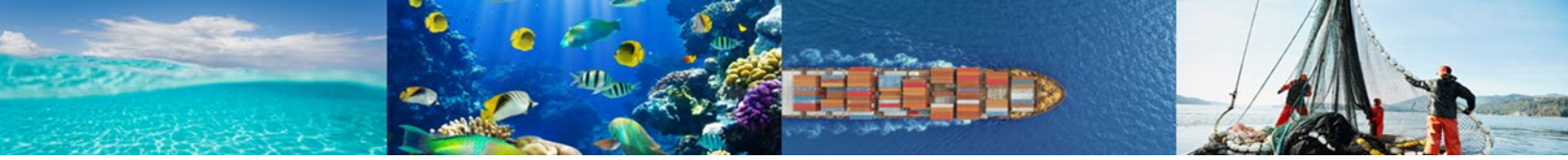

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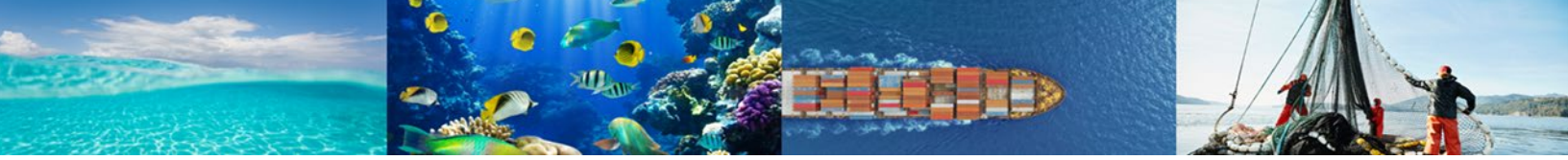

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