



REPUBLIC OF GHANA



SDGs Advisory Unit
Office of the President



GHANA SUSTAINABLE OCEAN PLAN

2025-2030



HIS EXCELLENCY
JOHN DRAMANI MAHAMA
PRESIDENT OF THE REPUBLIC OF GHANA

FOREWORD

The ocean has always been central to Ghana's story. Over the centuries, it has provided livelihoods to our people, facilitated trade with the outside world, and served as a source of recreation of all forms.

Yet today, the ocean is under threat due mainly to overfishing, pollution, and climate change, placing the livelihoods of millions of Ghanaians at risk. If left unchecked, these pressures will undermine our food security, weaken coastal resilience, and diminish the opportunities that the ocean offers to our national development efforts.

It is for this reason that Ghana has developed its first Sustainable Ocean Plan (SOP), a forward-looking and practical blueprint to address our maritime challenges now and in the future. The Plan forms part of a wider national blue economy strategy, and it is anchored in six interrelated pillars of transformation, namely:

1. Ocean wealth
2. Ocean health
3. Ocean knowledge
4. Ocean equity
5. Ocean finance, and
6. Maritime security

It aligns seamlessly with Ghana's wider national development priorities and with its various global commitments, such as SDG 14 (Life under water), the Paris Agreement, and the African Union's Agenda 2063. The main framework for the SOP, however, remains the High-Level Panel's agenda for a Sustainable Ocean Economy. Through this targeted framework, we aim to create an ocean economy that is resilient, inclusive, innovative and above all beneficial to families and communities near and far.

To our partners around the world, the Plan signals our unwavering dedication to fulfilling our global commitments, including 100% management of ocean areas under our national jurisdiction in the most sustainable way by 2030. To Ghanaians, it represents a critical component of our strategy to reset the economy and place Ghana on a path to sustainable growth and equitable development.

Ghana is proud to be part of the High-Level Panel and its quest to promote the ocean-climate nexus in our effort to protect the planet and secure a sound future for generations yet unborn.



H.E John Dramani Mahama
President of the Republic of Ghana

ACKNOWLEDGEMENTS

The preparation of Ghana's Sustainable Ocean Plan (SOP) was made possible through the staunch leadership of H.E. John Dramani Mahama, President of Ghana, his predecessor, Nana Akufo-Addo, the president's SDGs Advisory Unit, the Ministry of Environment, Science, Technology (MEST), the National Development Planning Commission (NDPC), the Environmental Protection Authority (EPA), the Ministry of Fisheries and Aquaculture Development (MoFAD), and other state bodies.

We extend our gratitude to the Technical Working Group (TWG), which brought together experts from government, academia, civil society, and the private sector to assist in the preparation of the Plan.

We also acknowledge the various coastal communities, local authorities, community leaders, fisherfolk, and women in the various areas of the fisheries industry, for their invaluable support and insights throughout the preparation of the Plan. To our international partners, particularly the High-Level Panel for a Sustainable Ocean Economy, the World Bank, UNDP, and the World Resources Institute, we express our profound appreciation for their technical and financial support.



Dr. Nii Moi Thompson

Senior Advisor to the President on
the Sustainable Development Goals

EXECUTIVE SUMMARY

Ghana's Sustainable Ocean Plan (SOP), as part of its responsibilities to the High-Level Panel on the Ocean Economy, provides a framework for harnessing the country's rich marine and coastal resources in ways that drive economic growth, strengthen resilience, and safeguard ecosystems for present and future generations. With a coastline of 550 km, an Exclusive Economic Zone (EEZ)¹ of approximately 225,000 sq.km, and diverse coastal ecosystems, Ghana's ocean space is central to livelihoods, food and nutrition, security, trade, energy, and cultural heritage. Yet, these resources face escalating pressures from overfishing, Illegal, Unreported and Unregulated Fishing (IUUF), pollution, climate change, weak governance, and limited investment, among other factors.

The SOP responds to these challenges by redefining Ghana's relationship with its marine assets. It adopts an integrated, inclusive, and science-driven approach that aligns with global and regional commitments, including the 2030 Agenda for Sustainable Development, the High-Level Panel's Ocean Transformations Agenda, and the African Union's Africa Blue Economy Strategy, and the Africa Union's Agenda 2063, while incorporating national development priorities such as the National Integrated Maritime Strategy, the Ocean Governance study, National Biodiversity Strategy for Ghana, and the Medium-Term National Development Policy Framework (2026-2029).

The SOP is organised around six pillars of transformation, including "Maritime Security and Safety", which was added to the five pillars recommended by the Ocean Panel to reflect Ghana's special maritime needs. (Progress in the context of the SOP will be reported to the Panel on the five agreed pillars).

1. Ocean Wealth - Harnessing fisheries, aquaculture, renewable energy, tourism, transport, and emerging marine industries to diversify the economy and create jobs.
2. Ocean Health - Restoring degraded ecosystems, reducing pollution, enhancing resilience to climate change, and expanding nature-based solutions, such as mangrove and wetland restoration.
3. Ocean Knowledge - Building capacity in marine science and literacy, integrating traditional and scientific knowledge, and investing in research and digital innovations such as Ocean Knowledge Hubs and Digital Ocean Twins².
4. Ocean Equity - Ensuring inclusive participation, equitable benefits-sharing, and empowerment of women, youth, and vulnerable coastal communities.
5. Ocean Finance - Establishing blue finance mechanisms, incentivising private sector participation, and developing regulatory and investment tools to mobilise sustainable funding.

¹ Exclusive Economic Zone (EEZ) refers to a sea zone described by the United Nations Convention on the Law of the Sea (UNCLOS) where a coastal state has special rights over the exploration and use of marine resources.

² Digital Ocean Twin is a virtual representation of the marine environment that allows for real-time monitoring and simulation of ocean conditions

The SOP forms part of a National Blue Economy Strategy (NBES) and will be implemented, monitored and reported on as part of the NBES. A number of flagship initiatives that will catalyse implementation include renewable ocean energy pilot projects, eco-tourism corridors, mangrove restoration projects, and a national maritime operations centre.

Achieving success will require unwavering political commitment, effective institutions, a resilient and diversified financing strategy, and dynamic partnerships with local and international stakeholders. Equally vital will be inclusivity throughout both the design and implementation phases. If fully executed, the SOP has the potential to elevate Ghana as a regional frontrunner in the blue economy space, harnessing the coastal and marine environment to drive food security, climate resilience, innovation, and broad-based economic prosperity.

LIST OF ABBREVIATIONS AND ACRONYMS

ABEF	Annual Blue Economy Forum
AGI	Association of Ghana Industries
AI	Artificial Intelligence
AIS	Automatic Identification System
AU	African Union
BATs	Best Available Techniques
BESec	Blue Economy Coordinating Secretariat
CREMA	Community Resource Management Areas
CSIR	Council for Scientific and Industrial Research
CSOs	Civil Society Organisations
DISEC	District Security Council
DOT	Digital Ocean Twin
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EMS	Electronic Monitoring System
EO	Earth Observation
EPA	Environmental Protection Authority
FAO	Food and Agriculture Organisation
FC	Fisheries Commission
FGDs	Focus Group Discussions
GCLME	Guinea Current Large Marine Ecosystem
GEPA	Ghana Export Promotion Authority
GMA	Ghana Maritime Authority
GPS	Global Positioning System

IMO	International Maritime Organisation
IPM	Integrated Pest Management
IRENA	International Renewable Energy Agency
ITT	Indicator Tracking Table
IUU	Illegal, Unreported, and Unregulated
IUUF	Illegal, Unreported, and Unregulated Fishing
IWMI	International Water Management Institute
LED	Local Economic Development
MARPOL	International Convention for the Prevention of Pollution from Ships
MCoBE	Ministerial Committee on Blue Economy
MDAs	Ministries, Departments, and Agencies
MEL	Monitoring, Evaluation and Learning
MESTI	Ministry of Environment, Science and Technology
MLEAs	Maritime Law Enforcement Agencies
MLGRD	Ministry of Local Government, Decentralisation and Rural Development
MMDAs	Metropolitan, Municipal and District Assemblies
MOF	Ministry of Finance
MPAs	Marine Protected Areas
MSF	Marine Spatial Framework
MoFAD	Ministry of Fisheries and Aquaculture Development
NBES	National Blue Economy Strategy
NBSAP	National Biodiversity Strategy and Action Plan
NDCs	Nationally Determined Contributions
NDPC	National Development Planning Commission

NGOs	Non-Governmental Organisations
NPAP	National Plastic Action Partnership
NaMEIS	National Monitoring and Evaluation Information System
OGS	Ocean Governance Study
PWDs	Persons With Disability
POPs	Persistent Organic Pollutants
PPP	Protection, Production and Prosperity
PPPs	Public-Private Partnerships
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
SOP	Sustainable Ocean Plan
TCoBE	Technical Committee on Blue Economy
TWG	Technical Working Group
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VTMIS	Vessel Traffic Management Information System
WRI	World Resources Institute

CONTENTS

FOREWORD	2
EXECUTIVE SUMMARY	4
LIST OF ABBREVIATIONS AND ACRONYMS	6
SECTION ONE: INTRODUCTION	13
1.1 Ocean Environment and Heritage.....	13
1.2 Rationale Behind Ghana's SOP.....	16
1.3 Ghana's SOP Linkages with Global, Regional, and National Initiatives.....	16
1.4 Context of Ghana's SOP.....	18
1.5 Ghana's Sustainable Ocean Plan Preparation Process.....	19
1.6 Structure of the Plan.....	20
SECTION TWO: SITUATIONAL ANALYSIS	22
2.1 State of Ghana's Ocean and Coastal Environment.....	22
2.2 Environmental and Socio-economic Situation.....	22
2.2.1 Fisheries.....	22
2.2.2 Shipping.....	23
2.2.3 Improper Waste Management.....	24
2.2.4 Pollution from Illegal Mining.....	24
2.2.5 Marine Eutrophication.....	24
2.2.6 Coastal Protection Structures.....	26
2.2.7 Mangroves.....	26
2.2.8 Beaches.....	27
2.2.9 Coral Reefs.....	27
2.2.10 Minerals.....	27
2.2.11 Oil and Gas Industries.....	28
2.2.12 Renewable energy.....	28
2.3 Challenges in Ghana's Marine and Coastal Environment.....	31
2.3.1 Policy and Governance Challenges.....	31
2.3.2 Human Resource and Technological Capabilities.....	31
2.3.3 Access to Data.....	31
2.3.4 Marine and Coastal Resource Management.....	31
2.3.5 Management of Heritage Sites.....	32
2.3.6 Overexploitation versus Underutilisation.....	32

2.4 Opportunities in Ghana’s Marine and Coastal Environment.....	32
2.4.1 The Blue Economy.....	34
2.4.2 Sustainable Fisheries and Aquaculture Development.....	34
2.4.3 Marine and Coastal-based Tourism.....	34
2.4.4 Ocean-based Renewable Energy.....	34
2.4.5 Leveraging International Partnerships and Funding.....	34
2.4.6 Technology and Knowledge Transfer.....	34
2.4.7 Digital Ocean Twin (DOT).....	35
2.4.8 Engaging Coastal Communities.....	35
2.4.9 Leveraging Initiatives by Civil Society Organisations.....	35
SECTION THREE: STRATEGIC ACTIONS FOR THE PLAN	37
3.0 Strategic Actions.....	37
3.1 Ocean wealth.....	37
3.2 Ocean Health.....	39
3.3 Ocean Knowledge.....	42
3.4 Ocean Equity.....	43
3.5 Ocean Finance.....	43
3.6 Maritime Security and Safety.....	46
4.0 PRIORITY ACTIONS FOR SOP.....	47
Ocean Wealth.....	47
Ocean Health.....	47
Ocean Knowledge.....	47
Ocean Equity.....	48
Ocean Finance.....	48
SECTION FOUR: MONITORING, EVALUATION, LEARNING AND COMMUNICATION ARRANGEMENTS	50
4.1 Institutional Arrangements for Coordinating Ghana’s SOP Implementation....	50
4.2 Monitoring, Evaluation and Learning (MEL) Arrangements.....	50
4.2.2 Monitoring and Evaluation Data Management System for Ghana’s SOP.	50
4.2.3 Monitoring Performance.....	51
4.3 Communication Plan.....	53
4.3.1 Key Messages.....	55
4.3.2 Communication Channels and Tools.....	55

4.3.3 Stakeholder Engagements.....	55
SECTION FIVE: MINIMUM CONDITIONS FOR SUCCESS	58
5.1 Minimum Conditions for Success.....	58
5.1.1 Political Will.....	58
5.1.2 Sustainable Financing.....	58
5.1.3 Effective Mainstreaming into Planning and Budgeting Processes.....	58
5.1.4 Strong Inter-Agency Coordination and Collaboration.....	58
5.1.5 Effective Local and International Partnerships.....	59
5.1.6 Inclusivity at all Levels of Implementation.....	59
5.1.7 Robust Data, Science, and Technology Systems.....	59
5.1.8 Inclusivity at all Levels of Implementation.....	59
5.1.9 Climate Resilience and Ecosystem-Based Approaches.....	59
5.2 Potential Risks, Impacts and Mitigation Measures.....	59
5.3 CONCLUSION.....	62
Appendix: Monitoring Indicators for SOP Strategic Actions	65
REFERENCES	75



SECTION ONE: INTRODUCTION

1.1 Ocean Environment and Heritage

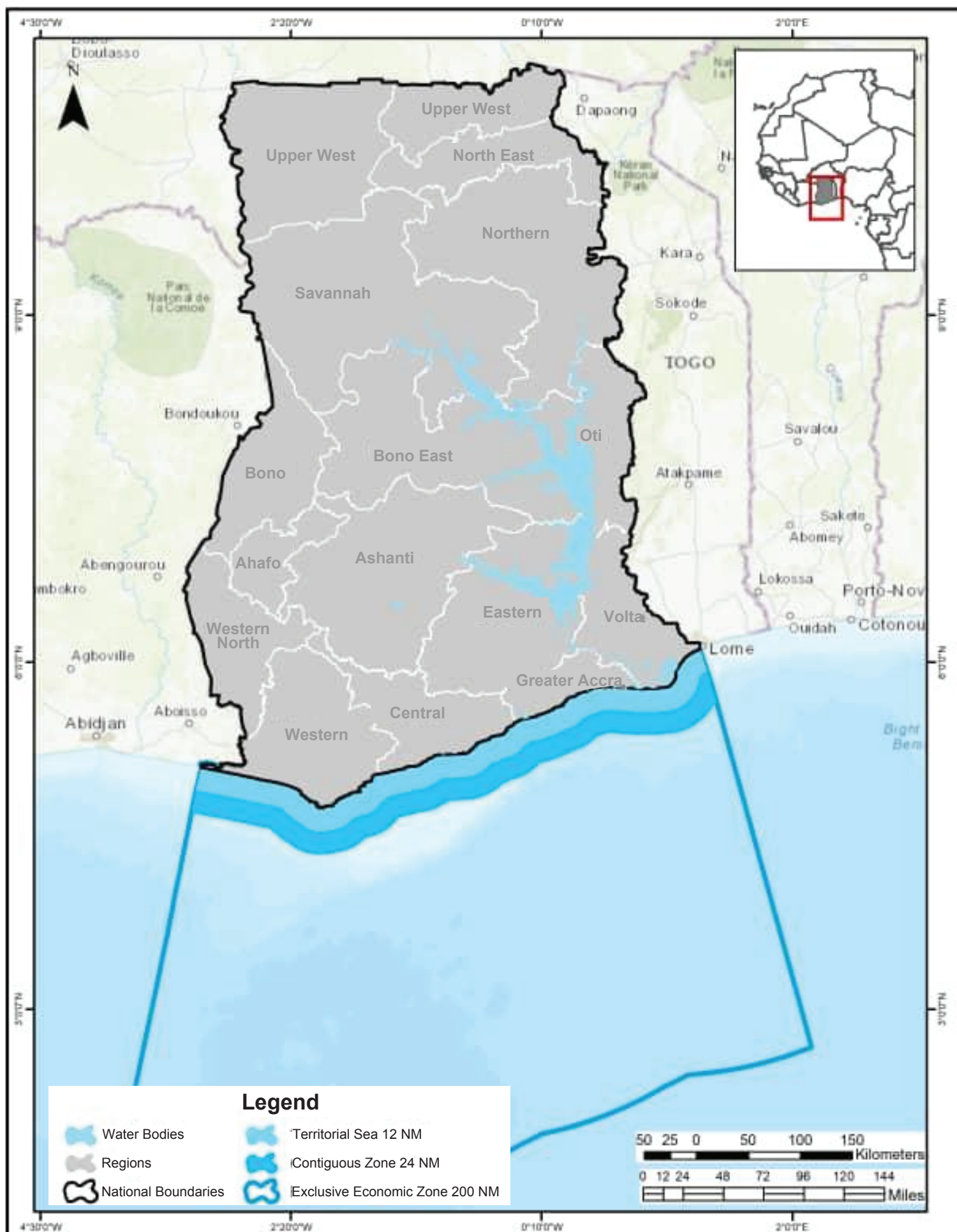
Ghana, with a coastline of about 550 km in West Africa, shares boundaries with the Republics of Togo to the east, Côte d'Ivoire to the west, and Burkina Faso to the north. To the south is the Gulf of Guinea. The coastline comprises long stretches of sandy beaches interspersed with rocky shores, estuaries, mangroves, wetlands, lagoons, and two large capes (Cape Three Points to the west and Cape St. Paul to the east). Ghana has jurisdiction over 200 nautical miles (322 km) of an Exclusive Economic Zone (EEZ) spanning an area of approximately 225,000 sq. km, which is about the same as the land area of 239, 000 sq. km (Figure1). The coastal area extends inland by the 30meter contour and is occupied by a quarter of Ghana's population ³(ESA, 2020). The coastal area is divided into three zones - Western, Central, and Eastern - based on the geomorphology⁴.

Ghana's ocean heritage is a vital part of the country's economy, culture, and history. Since prehistoric times, the ocean has served as a means of transportation, trading, and fishing, linking coastal communities with the rest of Africa and the world. The two major ports at Tema and Takoradi facilitate international trade and serve neighbouring landlocked countries such as Burkina Faso, Niger, and Mali. Offshore oil and gas developments over the past decade-and-a-half have boosted local economies and contributed to government revenue, among other benefits. An estimated 10 percent of Ghana's population depends on coastal and marine resources for their livelihoods. They are largely made up of boat builders, boat owners, fishermen, fish processors, fish mongers, as well as others in ancillary jobs down the fisheries value chain (Yemi, 2025).

The marine sub-sector, though still the largest of Ghana's fisheries and aquatic economy, has steadily lost share of national output, from 0.72 percent of GDP in 2021 to 0.52 percent in 2022, 0.44 percent in 2023, and 0.39 percent in 2024, representing a cumulative fall of 0.33 percentage points. Year-on-year relative declines were about 27.8 percent in 2022, 15.4 percent in 2023 and 11.4 percent in 2024 (Figure 1). This trend warrants an urgent policy response as declining shares signal absolute downturns in marine output in terms of lower catches and value addition. Such decline in turn has significant adverse implications for coastal livelihoods and the national economy.

³Environmental Sensitivity Atlas for the Coastal Area of Ghana, EPA, 2020

⁴How physical, chemical, and biological processes shape land and water features, (Ly, 1980)



Source: EPA

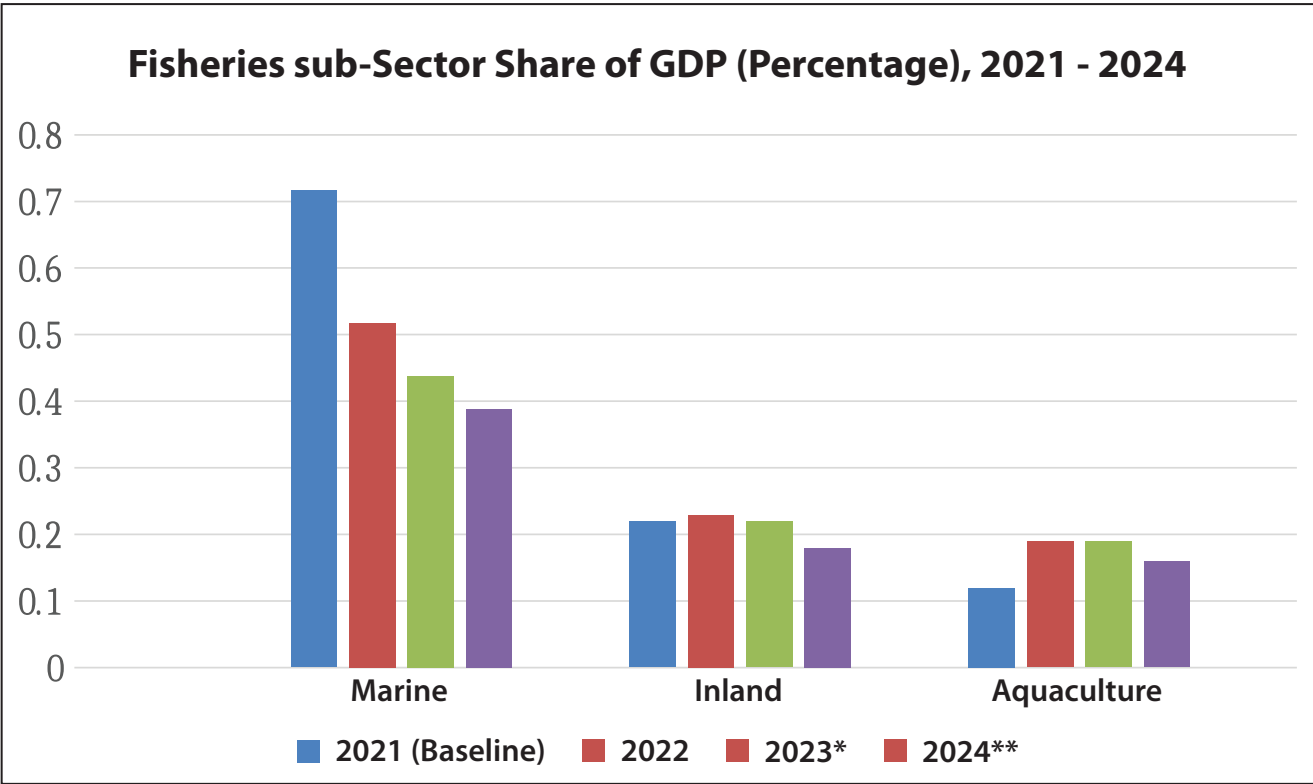


Figure 1: Fisheries sub-Sector's Share of GDP, 2021-2024 (Ministry of Fisheries and Aquaculture medium-term Development Plan, 2025).

In terms of total fish production, although it has consistently grown over time, marine fish catch has been volatile, with an initial decline from 393,970.01mt in 2021 to 378,196.51mt in 2022 (or 4.0%), followed by a surge in production of 47,227.40mt (or 12.49%) in 2023, and a further increase of 442,360.86mt (about 4.0 percent) in 2024. This pattern of growth underscores the marine sector's sensitivity to environmental variability, weaknesses in resource-management, and other marine-specific pressures that can produce abrupt year-to-year swings.

Ghana's marine environment is endowed with rich biodiversity, which includes about 400 marine organisms comprising 347 fish species that belong to 82 families (NBSAP, 2016). The seasonal upwelling within the Guinea Current Large Marine Ecosystem (GCLME), which is one of the most productive marine waters in the world, supports both small pelagic⁵ and demersal⁶ fishes (EPA, 2021).⁷

Ghana's coast is also home to both resident and migratory birds, while the sandy beaches support the breeding of sea turtles. The marine and coastal ecosystems, such as mangroves, coral reefs, and wetlands, offer vital services including carbon sequestration⁸, flood protection, water purification, and nursery habitats for marine species, which are essential for the long-term sustainability of both livelihoods and nature.

The sea is considered sacred by coastal communities. It is associated with a number of taboos and religious rites. Festivals such as Homowo and Bakatue, celebrated by the Ga-Dangme (Greater Accra Region) and the people of Elmina (Central Region), respectively, are linked to resources from the sea. Furthermore, Ghana's ocean heritage includes a significant historical

⁵Pelagic species live in the water column (vertically), not near the bottom (benthic) or close to shore (neritic)

⁶Demersal species are fish and marine organisms that live near or at the bottom of seas or lakes

⁷

⁸Carbon sequestration is the process of capturing and storing carbon dioxide (CO₂) from the atmosphere to reduce its impact of climate change

component. Many of the forts and castles along the coast are now designated as UNESCO World Heritage Sites. Ghana's coastal and marine heritage is a major source of attraction for both local and international tourists.

1.2 Rationale Behind Ghana's SOP

In 2018, 16 world leaders, including the president of Ghana, established the High-Level Panel for Sustainable Ocean Economy (Ocean Panel) with the aim of facilitating a better and more resilient future for people and the planet. Currently, with 18 members, the Ocean Panel is working collectively to protect the ocean's health, unlock its economic opportunities, and empower local communities. The flagship initiative of the Ocean Panel, as captured in the Panel's "Transformations Agenda" (WRI, 2020), is to ensure the sustainable management of 100 percent of the ocean area under national jurisdictions by 2030, guided by Sustainable Ocean Plans.

1.3 Ghana's SOP Linkages with Global, Regional, and National Initiatives

In line with its commitment to the Ocean Panel's Transformations Agenda, Ghana has developed this Sustainable Ocean Plan (SOP), which will serve as a framework for the management of the country's marine and coastal resources within the context of the National Blue Economy Strategy. The SOP is based on the principles of integrated, inclusive, and sustainable development, as outlined in the Panel's framework, while reflecting Ghana's wider development context and aspirations. It also underscores the country's commitment to global and regional frameworks and protocols, including the UN's Sustainable Development Goals (SDGs), the Kunming-Montreal Global Biodiversity Framework, the United Nations Decade of Ocean Science for Sustainable Development, Africa's Blue Economy Strategy, the Abidjan Convention, and the Africa Union's Agenda 2063. The SOP builds on national policies and strategies, including the National Integrated Maritime Strategy, the Ocean Governance study, National Biodiversity Strategy for Ghana, Ghana National Climate Change Policy, the Integrated Coastal Zone Management Strategy and Fisheries Management Plan (2022-2026).

Table 1 Summary of linkages between the Sustainable Ocean Plan and Global/Regional Frameworks

Framework	Shared Goals	Linkage with Sustainable Ocean Economy	Strategic Contribution
1. UN Sustainable Development Goals (SDGs)	SDG 14 (Life Below Water), SDG 13 (Climate Action), SDG 2 (Food Security), SDG 8 (Decent Work)	Ocean Panel promotes 100% sustainable management of national waters; supports ocean-based climate solutions and inclusive blue growth	Provides policy tools (e.g. Blue Papers, Sustainable Ocean Plans) to accelerate SDG implementation
2. Kunming-Montreal Global Biodiversity Framework	30x30 marine protection, ecosystem restoration, biodiversity	Panel supports marine spatial planning, sustainable fisheries, and ecosystem-based	Aligns national ocean policies with biodiversity targets; informs Conference of Party (COP) commitments



Framework	Shared Goals	Linkage with Sustainable Ocean Economy	Strategic Contribution
	conservation	management	
3. UN Decade of Ocean Science for Sustainable Development	Science-based decision-making, ocean literacy, data sharing	Panel's "Ocean Knowledge" pillar complements Decade's goals; Blue Papers bridge science and policy	Enhances uptake of ocean science in governance; fosters collaboration with Intergovernmental Oceanographic Commission of UNESCO
4. Africa Blue Economy Strategy	Inclusive blue growth, sustainable fisheries, maritime transport, tourism, energy	African Panel members align national plans with Strategy pillars; promote regional cooperation	Elevates Africa's Ocean agenda; supports AU-led implementation and capacity building
5. Abidjan Convention	Marine pollution control, coastal zone management, ecosystem protection	Panel's goals complement Convention's legal framework; potential for operational synergy	Offers regional mechanism for implementing Sustainable Ocean Plans in West/Central/Southern Africa
6. African Union Agenda 2063	Environmental sustainability, economic transformation, youth empowerment	Panel's vision of ocean equity and health supports Agenda 2063 aspirations	Reinforces AU's strategic goals through ocean-based development and governance reforms

Source: SDG Advisory Unit's Construct, 2025

1.4 Context of Ghana's SOP

Development in Ghana has historically been in favour of land-based industries over the ocean. However, the Exclusive Economic Zone abounds in resources that are intrinsically linked to economic and socio-cultural activities, as well as providing essential environmental and cultural services. These resources, if well-managed, have the potential to help Ghana address many of the critical development challenges it faces, such as poverty, food and nutrition insecurity, inequality, unemployment, and environmental degradation, while putting Ghana on a sustainable development pathway.

Unfortunately, many of these resources are poorly managed and under stress as a result of adverse human-induced activities and the ravaging effects of climate change, such as coastal erosion. The neglect of coastal and marine resources not only threatens marine biodiversity but it also undermines the resilience of coastal communities and the broader ecosystem services provided by the ocean. The true value of Ghana's coastal and marine resources – its "blue gold" – remains underutilised, and in many instances, untapped.

Ghana's SOP is a response to the urgent need for a proactive and science-driven management approach that integrates ocean health with socio-economic and cultural activities.

1.5 Ghana's Sustainable Ocean Plan Preparation Process

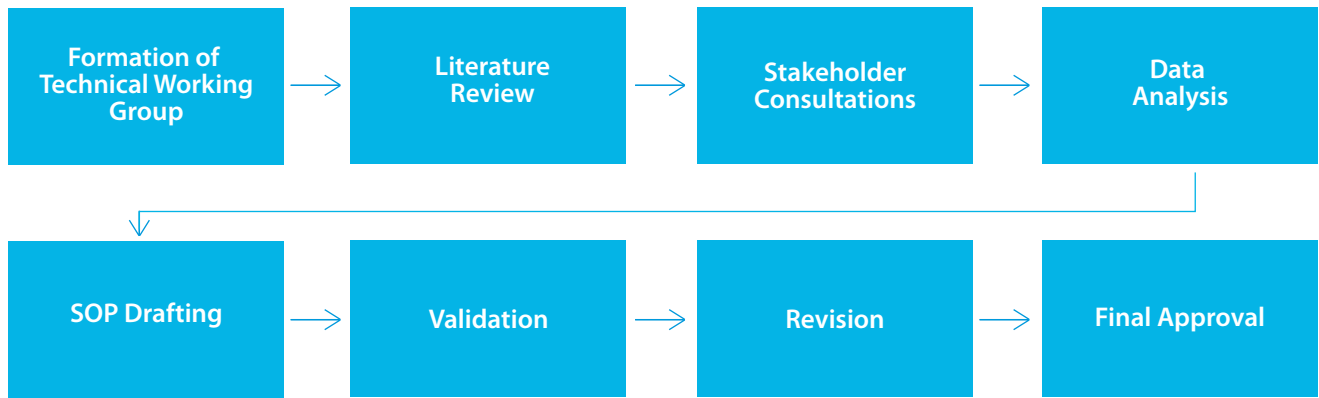


Figure 2: Process for SOP preparation

The development of the Sustainable Ocean Plan (SOP) was anchored in a structured, inclusive, and participatory methodology to ensure national ownership and cross-sectoral alignment. Spearheaded by the SDGs Advisory Unit at the Office of the President, the process was guided by the Ministry of Environment, Science, Technology (MEST), with technical support from the SOP Technical Working Group (TWG). The TWG brought together a diverse coalition of stakeholders, including representatives from key public institutions, private sector actors, civil society organisations, and academia. The plan preparation methodology included desk reviews, integrated expert reviews, field studies, as well as stakeholder engagements at the sub-national and national levels.

Existing literature on Ghana's marine and coastal environment was reviewed to identify Ghana's ocean and wider marine challenges, gaps and opportunities. This gave insights into the current conditions on the five transformation pillars – Ocean Wealth, Ocean Health, Ocean Knowledge, Ocean Equity and Ocean Finance – as proposed by the High-Level Panel for a Sustainable Ocean Economy, as well as the sixth pillar adopted to reflect Ghana's unique need for marine safety and security. The plan also benefited from expert inputs through thematic analysis on the pillars, enriching it with context-specific knowledge and technical depth. Through thematic synthesis and scoring and ranking methods, priority issues were identified across the identified transformation domains. These prioritised issues formed the basis of strategic actions designed to unlock the full potential of Ghana's marine ecosystem – ensuring sustainability, equity, and resilience in ocean governance and development.

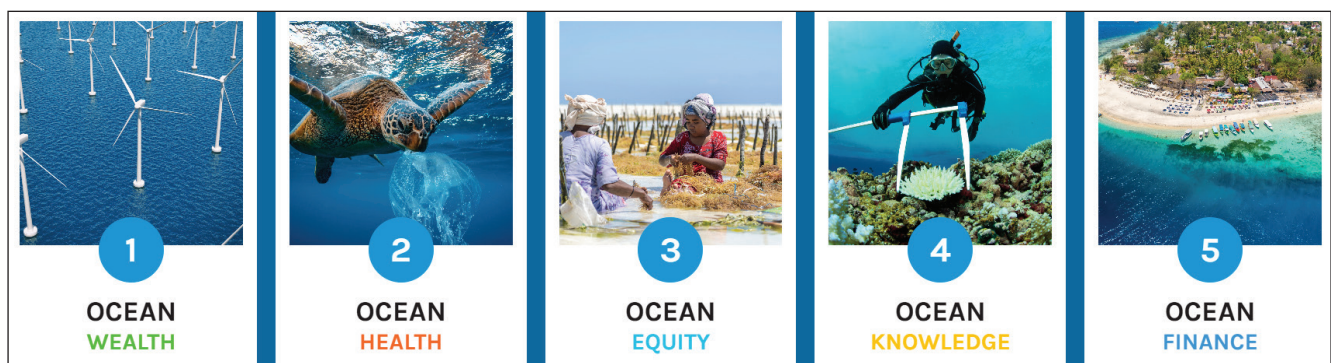


Figure 3. Strategic Pillars of the Ocean Panel's Transformations Agenda (Ocean Panel website available at: <https://oceanpanel.org/the-agenda/> accessed on 15th September 2025)

Stakeholder consultations were also conducted across the four coastal regions (Greater Accra, Western, Central, and Volta). Diverse groups, including government agencies, CSOs, private enterprises, financial institutions, industry and business associations, academia, traditional authorities, security agencies and local communities, including representatives from fisheries and allied industries, were engaged.

In addition to the above, a two-day stakeholder validation workshop was convened across the four coastal regions following the main draft of the Plan. The workshops provided a platform for a critical review of the draft, ensuring that local perspectives, technical insights, and equity considerations were fully reflected. Comments and feedback received during the workshop were systematically incorporated into the revised SOP. Following this participatory refinement, the SOP was formally approved by the SDGs Advisory Unit of the Office of the President. This endorsement reinforced the SOP as the foundational document of the National Blue Economy Strategy.

1.6 Structure of the Plan

The Plan is organised in five sections as follows:

Section one provides a general introduction, the rationale, objective and the national and global linkages to Ghana's Sustainable Ocean Plan. It also discusses the context of the plan and further details the plan preparation process.

Section two presents a situational analysis of Ghana's marine environment, using the Drivers, Pressures, State, Impact, Response (DPSIR) framework. The major challenges and the significant opportunities for developing a sustainable ocean economy are highlighted in the section.

Section three offers information on national strategic actions for building an ocean economy. The section also emphasises 26 priority actions required by the Ocean Panel along the five transformations pillars.

Section four delves into monitoring, evaluation and learning arrangements for the Plan. A detailed communication plan, including key messages, communication tools, and outreach strategies designed to ensure stakeholder's awareness and engagement during the plan implementation has been incorporated in the section.

Section five, the conclusion, provides the minimum conditions necessary for the successful delivery of the SOP as well its potential risks, impacts and mitigation measures.



SECTION TWO: SITUATIONAL ANALYSIS

2.1 State of Ghana's Ocean and Coastal Environment

The Drivers, Pressures, States, Impacts and Response (DPSIR) framework was used to establish the relationship between the marine and coastal environment and the various human-induced activities in the ocean space of Ghana

2.2 Environmental and Socio-economic Situation

2.2.1 Fisheries

There are significant environmental pressures associated with the fishing industry in Ghana. These pressures have a considerable impact on the socio-economic benefits enjoyed by a section of Ghana's population who directly or indirectly rely on the fishing sector for their livelihood.

A total of 18,000 vessels were registered in Ghana as of the end of 2024. This was made up of 17,068 (95%) canoes for artisanal fishing and 932 (5%) transport boats. Out of the registered artisanal canoes, motorised canoes made up 44.9 percent, while the remaining 55.1 percent were made up of non-motorised canoes. Fish catch has been highly volatile since 2021. Marine fish landings declined from 393,970.01 metric tonnes in 2021 to 378,196.51 metric tonnes in 2022, representing a reduction of 15,773.50 metric tonnes. The sector recovered in 2023 with an increase of 47,227.40 metric tonnes, followed by a further rise of 3.98 percent in 2024, reaching a total of 442,360.86 metric tonnes, (MoFAD, 2025).

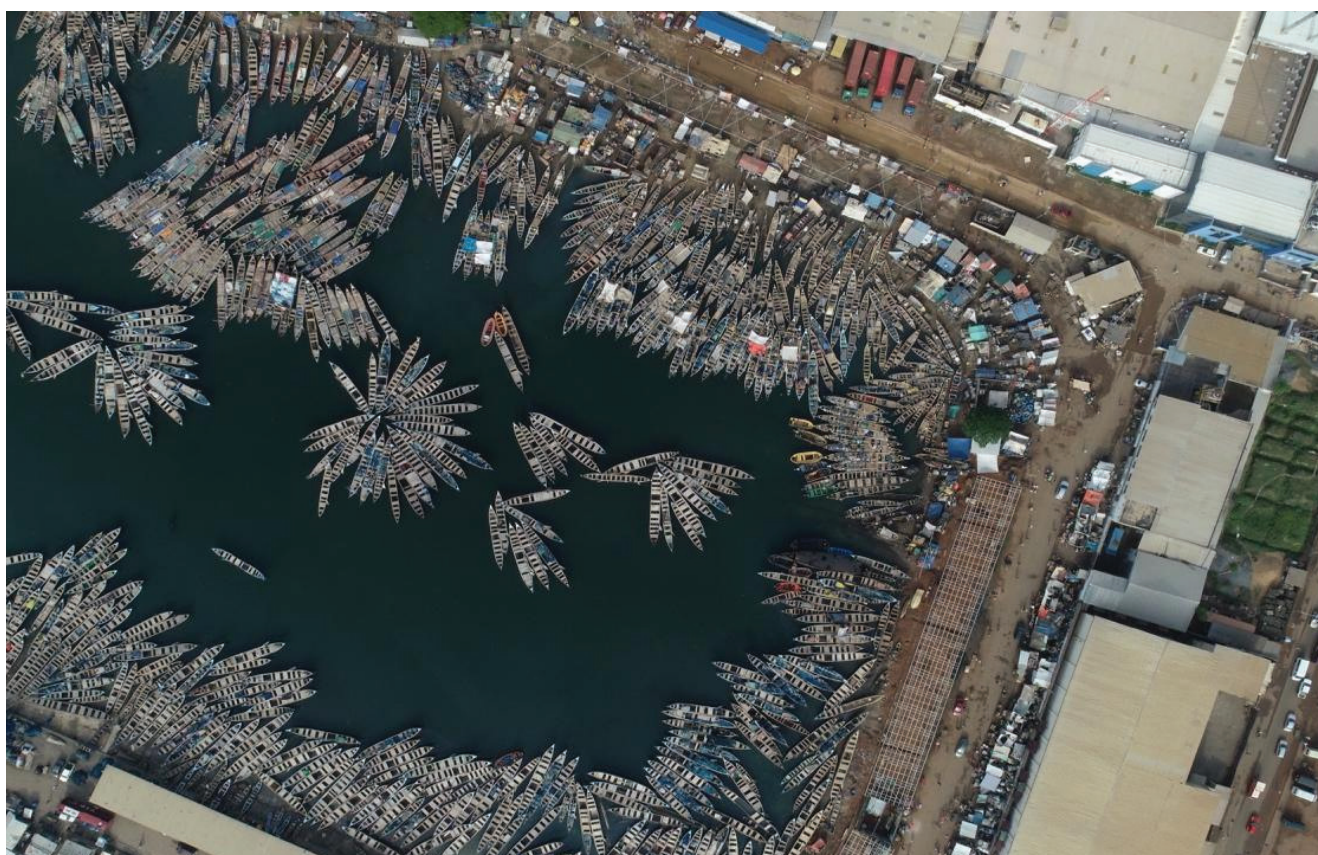


Figure 3. Strategic Pillars of the Ocean Panel's Transformations Agenda (Ocean Panel website available at: <https://oceanpanel.org/the-agenda/> accessed on 15th September 2025)

Over the years, small pelagic fisheries have experienced a continuous decline due to factors such as overfishing, habitat degradation, Illegal, Unreported, Unregulated (IUU) fishing and the impact of climate change (Fisheries Commission, 2023). The results of Fishing Mortality at Maximum Sustainable Yield (FMSY) and related ratios⁹ of three socioeconomically important pelagic species in Ghana in 2023 shows that *Sardinella aurita* and *Engraulis encrasicolus* are overexploited and in overexploitation, whilst *Sardinella maderensis* is overexploited and sustainably fished. The 2024 results were similar (table 1).

Table 2: 2024 Stock Assessment Results

Species	Results
Engraulis encrasicolus	Experiencing overfishing Biomass is depleted
Sardinella aurita	Heavily overfished Biomass is severely depleted
Sardinella maderensis	Sustainably fished Biomass is severely depleted

Source: Ministry of Fisheries and Aquaculture, 2026-2029 Medium term Development Plan

In addition, the occurrences of invasive species such as *Ulva* and *Sargassum* have adversely impacted the local fishing industry.

2.2.2 Shipping

Ghana's Shipping industry plays a vital economic role through its two main ports at Tema and Takoradi, which serve as crucial trade hubs for both domestic commerce and transit routes to landlocked neighbouring countries. The strategic location of these harbours along international shipping lanes enhances regional economic integration, while the growing offshore oil industry has further increased vessel traffic in Ghanaian waters. However, these shipping activities generate substantial environmental challenges. Oil discharges have already contaminated coastal waters, threatening marine biodiversity and fisheries critical to food security (Aheto et al., 2016; Nartey et al., 2011).

Despite Ghana's ratification of the IMO Ballast Water Management Convention, ballast water discharge continues to introduce toxic residues and invasive species that undermine ecosystem stability (Kassem & Esseini, 2012; IMO, 2017).¹⁰ Additional pollution sources arise from untreated sewage and garbage disposal at sea, which contributes to nutrient enrichment, disease risks, and the growing burden of marine litter (Amuzu, 2017; Adewumi & Adebayo, 2020). Meanwhile, ship emissions of sulfuric oxides, nitrogen oxides, carbon dioxide, and particulate matter worsen air quality in port cities such as Tema, with measurable public health impacts (Bediako et al., 2019; Amoasah, 2010).

⁹Ratios are shares of Current Fishing Mortality to FMSY (F/FMSY), Biomass at Maximum Sustainable Yield (BMSY), Ratio of Current Biomass to BMSY (B/BMSY)

¹⁰Ballast water is water taken on by ships in special tanks to provide stability and balance. It is taken from the environment at a port of loading and discharged at the destination port, often containing aquatic microbes, plants, and animals that may lead to the transfer non-native species to new environments, where they can become invasive and harm local ecosystems.

The cumulative effects of the above include biodiversity loss, declining fish stocks, rising health burdens, and increased economic costs, all of which threaten Ghana's blue economy agenda. Policy responses should prioritise stronger enforcement of maritime pollution laws, adoption of advanced monitoring and cleaner fuel technologies, and investment in ballast water management systems. Regional cooperation through ECOWAS will also be critical to ensuring consistent enforcement across West African waters.

2.2.3 Improper Waste Management

Solid waste management is a major problem along the coastal areas of Ghana (as much as it is inland). This is because waste is dumped recklessly and into drains which discharge directly into the sea, or they are dumped directly on the beaches by residents and rubbish collectors. With rapid urbanisation and population growth, the problem is getting worse due to the low patronage of the limited waste management infrastructure provided for waste collection and management. Improper waste disposal from human activities results in pollution of the marine environment, which adversely affects the ecosystem. For example, plastics from land-based sources are ingested by marine animals. These plastics further break down into microplastics, which enter the food chain and bio-accumulate in larger predators, including humans. In addition, items like discarded fishing nets damage underwater ecosystems, disrupting marine biodiversity and destroying habitats.

2.2.4 Pollution from Illegal Mining

Illegal small-scale mining, or *galamsey*, on land has become a significant contributor to both nutrient and heavy metal pollution in Ghana's coastal and river systems (Hogarth, et al., 2016). *Galamsey* operations disturb large amounts of sediment, which contain metals, and release them into rivers such as the Pra, Ankobra, and Tano. Mercury and cyanide are commonly used in gold extraction, leading to the contamination of waterbodies with these toxic substances. As mercury is carried downstream, it accumulates in coastal waters, where it can enter the food chain. Additionally, the physical erosion caused by *galamsey* leads to higher sedimentation rates and siltation, thereby increasing nutrient and heavy metal loads in our estuaries, lagoons and nearshore marine environment, contributing to the degradation of water quality in these water bodies (Obodai et al., 2021).

2.2.5 Marine Eutrophication

In recent years, coastal waters in Ghana have been increasingly affected by nutrient pollution and heavy metal contamination leading to harmful algal blooms that pose a severe threat to marine life. Both forms of pollution are driven by agricultural runoff, urban wastewater, industrial discharges, and illegal mining (*galamsey*). Studies show that the coastal zones of major cities like Accra and Tema, as well as areas along the Volta River Basin, are particularly vulnerable. In the Keta Lagoon Complex, farming within the catchment area has led to it becoming eutrophic, with most areas predicted to be unsuitable for aquatic life in the future.¹¹ Studies reveal a marked decline in ecological health, attributed to agricultural runoff. Elevated concentrations of nitrate and phosphate-drivers of nutrient overload - were detected alongside increased turbidity and higher water temperatures. These shifts led to a significant reduction in dissolved oxygen, with over 60 percent of the lagoon's area becoming unsuitable for aquatic life.

¹¹Eutrophication is a process where water bodies become overly enriched with nutrients, especially nitrogen and phosphorus. The nutrient overload fuels excessive growth of algae and aquatic plants, leading to harmful algal blooms, depletion of dissolved oxygen, and the formation of *dead zones*



2.2.6 Coastal Protection Structures

Coastal protection structures such as groynes, breakwaters, and revetments have been widely introduced along Ghana's vulnerable shoreline to mitigate erosion and tidal flooding. While these hard-engineering solutions provide localised protection, they fundamentally alter the natural sediment dynamics of the coast. Groynes¹² and breakwaters, for instance, trap sand on their updrift sides, causing sediment starvation and accelerated erosion on the downdrift beaches. This process has been documented in erosion hotspots such as Keta and Ada, where downdrift communities face increased shoreline retreat despite nearby protection works. Revetments,¹³ though effective in armouring shorelines, reflect wave energy rather than dissipating it, often leading to scouring of beach sediments at their base and weakening adjacent unprotected sections.

The ecological consequences of these structures extend beyond shoreline changes. Alterations in sediment transport and hydrodynamics disrupt the functioning of inter-tidal and near-shore habitats, reducing nursery grounds for fish and invertebrates. Hard defences can lead to the loss of sandy beach habitats that support biodiversity such as ghost crabs, shorebirds, and nesting sea turtles. Furthermore, the creation of artificial hard surfaces encourages colonisation by opportunistic marine organisms, potentially shifting community composition and altering local food webs. In some locations, stagnant water created by poorly designed breakwaters has led to deterioration in water quality, affecting benthic ecosystems and increasing risks of algal blooms.

Beyond ecological impacts, these structures affect human–environment interactions. Beaches that once provided recreational and cultural value are rendered inaccessible or aesthetically degraded by revetments and groynes, undermining coastal tourism potential. Studies along Ghana's eastern coastline estimate that communities downdrift of protection structures experience erosion rates of up to 3 to 5 metres per year, threatening settlements, livelihoods, and coastal infrastructure. Without complementary measures such as beach nourishment or ecosystem-based adaptation, the cumulative effect of hard protection could undermine both the ecological resilience of coastal systems and the long-term sustainability of shoreline management.

2.2.7 Mangroves

Mangrove ecosystems (Figure 4) are vital to Ghana's coastal resilience, providing spawning grounds for fish, acting as natural buffers against storm surges and coastal erosion, and supporting local livelihoods. Despite these benefits, the country's mangrove forests continue to decline due to overharvesting and land conversion for agriculture, infrastructure and human settlements. Restoration efforts remain fragmented and under-resourced, limiting the potential of mangroves to contribute to carbon storage, coastal protection and biodiversity conservation. A more coordinated national strategy is urgently needed to scale up mangrove restoration, improve mangrove management and integrate it into climate, biodiversity, and coastal development

¹²Low walls or barriers built out into the sea from a beach to check erosion and drifting.

¹³Retaining walls



Figure 4: A mangrove ecosystem along Ghana's coast. Source: EPA

2.2.8 Beaches

Ghana's beaches are not only ecologically important but also culturally and economically significant, attracting tourists, supporting artisanal fishing, and serving as hubs for community interaction. However, many of the beaches are under threat from plastic pollution, unregulated sand mining, and encroachment by infrastructure development. Conversely, the aesthetic and recreational values of Ghana's beaches remain largely under-developed due to inadequate tourism infrastructure, and poor sanitation. Protecting and sustainably developing the beach ecosystem provides an opportunity to enhance eco-tourism, create jobs, and increase the resilience of coastal communities.

2.2.9 Coral Reefs

Coral reefs, though less extensive in Ghana than in some tropical regions, play a crucial ecological role in supporting marine biodiversity, protecting shorelines, and sustaining local fisheries. These fragile ecosystems are increasingly under threat from sedimentation, pollution, and increasing sea temperatures linked to climate change. Yet, coral reefs remain largely undocumented and unprotected within Ghana's marine management frameworks. Prioritising coral reef mapping, conservation, and public awareness can contribute to biodiversity protection and eco-tourism while serving as indicators of ocean health.

2.2.10 Minerals

Ghana's marine environment harbours potential deposits of offshore minerals such as sand, salt, and possibly seabed minerals like phosphorites and rare earth elements. These resources are under-explored, and their sustainable exploitation could contribute to national economic diversification. However, the absence of a dedicated framework for marine mining, including environmental and social impact assessments, poses a risk to the fragile marine ecosystems. Strategic exploration and governance measures are needed to ensure that potential mineral extraction does not compromise biodiversity or local livelihoods.

Salt production along Ghana's coast, particularly in areas like Ada and Songor, has traditionally been a key economic activity. However, the sector remains underdeveloped due to outdated harvesting techniques, land tenure disputes, and a lack of investment in modern infrastructure. Ghana has the potential to become a major exporter of high-quality salt if production is modernised and linked to regional markets. Enhancing value addition, environmental management and community participation in salt development initiatives could make the sector more sustainable and inclusive.

2.2.11 Oil and Gas Industries

Ghana's commercial offshore oil and gas activities, concentrated in the Jubilee, TEN, and Sankofa-Gye Nyame fields, have introduced significant ecological pressures since production began in 2010. Oil spills remain a critical risk, with even small-scale discharges releasing polycyclic aromatic hydrocarbons (PAHs) and other toxic substances into the marine environment. These pollutants can accumulate in sediments, bio-accumulate in fish species, and pose long-term threats to marine biodiversity and human health through the food chain. Additionally, the discharge of produced water and drilling muds, which often contain heavy metals and hydrocarbons, contributes to water quality degradation in offshore ecosystems.

The cumulative ecological impacts are becoming increasingly evident. According to environmental monitoring reports, areas near production sites show higher concentrations of hydrocarbons in sediments compared to control zones, while fishers report declining catches of small pelagic species. These pressures are compounded by climate variability, which already stresses Ghana's marine ecosystems. If not properly managed, the interaction between oil and gas activities, declining fish stocks, and habitat degradation could significantly erode the resilience of Ghana's marine ecosystems, undermining both biodiversity and the livelihoods of over two million Ghanaians dependent on fisheries.

2.2.12 Renewable energy

The potential for marine-based renewable energy in Ghana, including offshore wind, wave, and tidal energy, remains largely untapped. A preliminary assessment shows a promising potential for offshore wind energy. Two suitable sites have been identified for wind farms with a combined potential to generate up to 2,500 MW (NEK Umwelt Technik AG, 2024). Floating solar panels and green hydrogen production are other ocean-based renewable energy options.

Tapping into these clean energy sources would not only help diversify the energy mix but also reduce greenhouse gas emissions and contribute towards Ghana's commitments under international climate agreements.

The Table 3 summarises the state of Ghana's ocean and coastal environment using the Drivers, Pressures, States, Impacts and Response Framework.

Table 3: Summary of DPSIR Assessment on Ocean Resources

Drivers (D)	Pressures (P)	State (S)	Impacts (I)	Response (R) ¹⁴
Rapid urbanization & population growth in coastal cities (Accra, Tema)	Overfishing, destructive fishing gear, IUU fishing	Declining fish stocks, biodiversity loss, poor water quality	Reduced livelihoods, food insecurity	
Economic dependence on fishing, tourism, ports	Marine pollution (industrial waste, sewage, plastics, ship discharges)	Degraded habitats, high turbidity, contamination near ports	Public health risks, fisheries/tourism revenue losses	
Expansion of offshore oil and gas	Oil spills, produced water, drilling muds, maritime traffic	Hydrocarbon-contaminated sediments, biodiversity decline	Ecosystem degradation, restricted fishing grounds, reduced catches	
Coastal sand mining & land reclamation	Loss of mangroves, beach erosion	Degraded mangrove ecosystems, shoreline instability	Reduced natural coastal protection, habitat loss	
Weak fisheries research and data systems	Limited stock assessments, invasive species spread (e.g., Sargassum)	Overexploited small pelagics (Sardinella, Anchovy), biodiversity stress	Fisheries collapse risk, protein deficit, rising community conflicts	
Deficient regulatory frameworks and fragmented governance	Weak enforcement, overlapping mandates, corruption	Low compliance, institutional inefficiencies	Weak ocean governance, reduced investor/donor confidence	
Climate change (sea-level rise, warming, variability)	Flooding, storm surges, intensified coastal erosion	Increased vulnerability of low-lying communities, habitat loss	Population displacement, high adaptation costs	

¹⁴Responses are discussed as part of section three on strategic actions for the SOP



2.3 Challenges in Ghana's Marine and Coastal Environment

Ghana's marine and coastal environment faces a variety of challenges that threaten its ecological integrity and economic viability. These challenges span across governance, institutional capacity, data collection, and marine resource management. Addressing these challenges is essential for Ghana to sustainably harness the socio-economic potential of its marine resources, while aligning with international standards and commitments.

2.3.1 Policy and Governance Challenges

The current governance system is fragmented, with overlapping and conflicting mandates between government agencies, such as the Fisheries Commission (FC), the Ghana Maritime Authority (GMA), and the Environmental Protection Authority (EPA). Although Ghana has enacted several laws to manage its marine resources and activities, including the Ghana Shipping (Amendment) Act 2011 (Act 826), Fisheries (Amendment) Act 2014 (Act 880) and the Maritime Pollution Act (2016), these laws often lack coherence.

Another challenge is the weak enforcement of regulations, including insufficient monitoring and surveillance of the marine and coastal environment. Illegal, Unreported, and Unregulated (IUU) fishing remains a persistent problem in Ghana's Exclusive Economic Zone (EEZ), contributing to the depletion of fish stocks and undermining the livelihoods of fishing communities. Ghana loses an estimated \$200 million annually from IUU fishing (Gyesi, 2021).

2.3.2 Human Resource and Technological Capabilities

Ghana's institutional framework for managing its marine and coastal environment is characterised by limited capacity, both in terms of human resources and technological capabilities. Capacity challenges are particularly pronounced in the areas of marine science, technology, ocean governance and maritime security. Most institutions have inadequate access to modern technology needed for effective marine surveillance, data collection and analysis.

2.3.3 Access to Data

The absence of an integrated marine data platform hinders access to reliable data necessary for evidence-based decision-making. The country's ability to effectively monitor the marine and coastal ecosystems is also hindered by outdated and incomplete data.

2.3.4 Marine and Coastal Resource Management

Ghana's marine and coastal resources are under immense pressure due to decades of overexploitation, pollution, and unsustainable practices. This has profound socio-economic implications for coastal communities that depend on fishing as their primary source of income and nutrition. The crisis is compounded by IUU fishing, unlicensed operations, destructive methods such as bottom trawling, and poor regulatory enforcement. Additionally, marine pollution, largely from land-based sources such as plastic waste, industrial effluents, and agricultural runoff, continues to degrade the ecosystem.

While fisheries are overexploited, other marine and coastal resources such as offshore renewable energy, eco-tourism, heritage site conservation, sustainable salt production, mangrove restoration, marine foods, and pharmaceuticals remain vastly underutilised. This imbalance not only limits economic diversification but also undermines the full potential of

Ghana's coastal and marine resources. Therefore, a strategic shift toward integrated and sustainable resource management is critical to restoring ecosystem health, securing livelihoods, and unlocking socio-economic opportunities.

2.3.5 Management of Heritage Sites

Ghana's coastal zone is home to numerous heritage sites, including forts and castles (Figure 5), some of which are designated as UNESCO World Heritage sites. These historical landmarks serve as a reminder of the country's colonial and maritime past and are a growing attraction for cultural tourism. However, many of these sites suffer from coastal erosion threats, rising sea levels, and a lack of proper maintenance. Integrating heritage conservation into marine spatial planning and blue economy strategies can generate tourism revenue, preserve cultural identity, and promote coastal stewardship.



Figure 5: Fort St. Anthony in Axim, Ghana. Source: EPA.

2.3.6 Overexploitation versus Underutilisation

The imbalance between the overexploitation of fisheries and the underutilisation of other marine and coastal resources presents both a challenge and an opportunity for Ghana. While fisheries are strained beyond sustainable limits, other ocean sectors, such as renewable energy, marine tourism, mariculture, biotechnology and heritage conservation, remain largely untapped. A more integrated and diversified approach to marine resource management guided by research, marine spatial planning, community engagement, enhanced collaboration among stakeholders and cross-sectoral investment can restore ecological balance, promote economic resilience, and accelerate the transition toward a sustainable ocean economy.

2.4 Opportunities in Ghana's Marine and Coastal Environment

Despite the significant challenges identified in Ghana's marine and coastal environment, there are numerous opportunities to leverage its ocean resources for accelerating socio-economic development while safeguarding the natural resources.



2.4.1 The Blue Economy

The increasing interest in the blue economy concept presents a significant opportunity for Ghana to sustainably harness its ocean resources. The blue economy encompasses sectors such as fisheries, aquaculture, renewable energy, tourism, ports and harbours, maritime transportation, and emerging industries, all of which have the potential to contribute to Ghana's GDP and improve the well-being of citizens. These are elaborated further in the National Blue Economy Strategy.

2.4.2 Sustainable Fisheries and Aquaculture Development

Investing in sustainable fishing and sustainable aquaculture practices has the potential to rebuild Ghana's fisheries while ensuring food security and economic livelihoods. Aquaculture, in particular, offers a solution to the increased pressure on wild fish stocks by providing an alternative source of protein. Aquaculture in Ghana currently contributes about 25 percent of the country's total fish production (MoFAD MTEF, 2024). With the right investments, this could increase significantly, reducing the nation's reliance on imports and creating new jobs.

2.4.3 Marine and Coastal-based Tourism

Marine and coastal-based tourism, including eco-tourism, holds vast potential for Ghana. The diverse marine ecosystems, including coral reefs, mangroves, sandy beaches, sandbars, estuaries, and coastal wetlands, have the potential to attract both local and international tourists interested in marine conservation and sustainable tourism. The sector can further be developed by establishing Marine Protected Areas (MPAs) and promoting other activities such as traditional fish markets, culture and heritage, snorkelling, scuba diving, and wildlife watching.

2.4.4 Ocean-based Renewable Energy

The potential for renewable energy generation from offshore wind, ocean waves and tide is another underexploited opportunity in Ghana. These could provide a sustainable energy source while reducing the country's dependence on fossil fuels for energy generation. This sector could create new jobs and generate significant revenue, especially as technology for marine energy generation becomes more cost-effective, as well as reduce Ghana's carbon footprint in line with the Paris Agreement.

2.4.5 Leveraging International Partnerships and Funding

International partnerships present an opportunity for Ghana to access financial and technical support for sustainable ocean management. Several global initiatives, including the Ocean Panel, bilateral and multilateral organisations, as well as private foundations, are dedicated to promoting the sustainable management of marine resources. Ghana can benefit by aligning with these initiatives.

2.4.6 Technology and Knowledge Transfer

International partnerships and collaborations offer opportunities for technology transfer, particularly in areas like marine surveillance, data collection, skills enhancement and marine science research. By adopting modern technologies such as satellite monitoring, drones, and artificial intelligence (AI), Ghana can enhance its ability to collect and analyse ocean data, monitor illegal activities, and improve decision-making.

2.4.7 Digital Ocean Twin (DOT)

Digital Ocean Twin, a virtual representation of the marine environment that allows for real-time monitoring and simulation of ocean conditions, can be developed for Ghana. The DOT can be used to model the impacts of human activities on marine ecosystems, predict the effects of climate change, and optimise the use of marine resources, which can help policymakers and stakeholders to make informed decisions regarding the sustainable use of marine resources.

2.4.8 Engaging Coastal Communities

Coastal communities play a vital role in marine conservation, and their active involvement in sustainable practices is essential. They can also participate in citizen science by working collaboratively with professional scientists on research activities and leveraging local ecological knowledge and participation. Engaging these communities through education, capacity enhancement, and participatory management approaches can promote and improve marine and coastal environmental stewardship.

2.4.9 Leveraging Initiatives by Civil Society Organisations

In the management of marine and coastal environment, CSOs are actively involved in a number of initiatives such as leading and providing funds for the designation of Marine Protected Area(s), mangrove restoration and habitat restoration, fisheries governance and waste management, including plastic waste.



SECTION THREE: STRATEGIC ACTIONS FOR THE PLAN

The overarching objective of Ghana's Sustainable Ocean Plan (SOP) is to optimise the use of the nation's coastal and marine resources to drive economic prosperity and environmental conservation for the benefit of current and future generations. To realise this vision, the Plan outlines a number of strategic actions that are systematically aligned with its six pillars. These actions reflect Ghana's commitment to integrated ocean governance, sustainable development, and inclusive growth.

In addition to the national strategic actions, the SOP includes 26 priority actions in line with the Ocean Panel's strategic objectives. These priority actions serve as the basis for catalytic interventions to strengthen institutional coordination, enhance local systems, and promote resilience and equity in ocean resource management.

The implementation of both the national strategic actions and the priority actions will be monitored and reported biennially, ensuring transparency, accountability, and adaptive learning throughout the lifespan of the Plan. The areas for the priority actions are listed below:

- i. Ocean Wealth - Harnessing fisheries, aquaculture, renewable energy, tourism, transport, and emerging marine industries to diversify the economy and create jobs.
- ii. Ocean Health - Restoring degraded ecosystems, reducing pollution, enhancing resilience to climate change, and expanding nature-based solutions, such as mangrove and wetland restoration.
- iii. Ocean Knowledge - Building capacity in marine science and literacy, integrating traditional and scientific knowledge, and investing in research and digital innovations such as Ocean Knowledge Hubs and Digital Ocean Twins.
- iv. Ocean Equity - Ensuring inclusive participation, equitable benefits-sharing, and empowerment of women, youth, and vulnerable coastal communities.
- v. Ocean Finance - Establishing blue finance mechanisms, incentivising private sector participation, and developing regulatory and investment tools to mobilise sustainable funding.
- vi. Maritime Security and Safety - Strengthening maritime domain awareness, port and harbour safety, and legal frameworks to combat illegal fishing, piracy, pollution, and cyber threats.

3.0 Strategic Actions

3.1 Ocean wealth

Focusing on key areas such as ocean food, energy, tourism, transport, and emerging ocean industries, this pillar outlines strategic actions to create economic opportunities while safeguarding the integrity of the ocean.

3.1.1.1 Promote sustainable management of ocean-based food resources

1. Support research to assess the distribution and availability of lesser-known ocean and sea food options within the EEZ of Ghana
2. Enhance monitoring of ocean-based sources of food by adopting modern technology, e.g., Global Positioning System (GPS), Electronic Monitoring System (EMS), Automatic Identification System (AIS), etc.
3. Sustain closed seasons (no fishing) as a recovery and restoration effort at all levels
4. Promote sustainable fishing practices, including strengthened enforcement of rules
5. Ensure that the maximum sustainable level of fishing fleets is not exceeded
6. Ensure the full implementation of the Marine Fisheries Management Plan
7. Designate Marine Protected Areas (MPAs) and implement their management plans to protect critical habitats and spawning grounds
8. Promote efficiency in fish handling and processing practices, particularly in the artisanal sector, to ensure the quality of products.
9. Organise training programmes on hygiene and quality standards, safe fish processing and post-harvest losses

3.1.1.2 Manage coastal wetland ecosystems and promote their sustainable use to enhance food security

1. Enforce effective management and conservation measures to ensure sustainable utilisation of lagoon fishery resources
2. Develop and implement a management plan for coastal wetlands
3. Facilitate the implementation of the coastal lagoons aspect of the National Fisheries and Aquaculture Policy

3.1.2 Ocean Transport

3.1.2.1. Transition from a commerce-based port into an integrated port

1. Promote private sector drive to attract financing and investment to develop and maintain ocean-based port and transportation infrastructure
2. Modernise and improve facilities at ports and harbours to promote their integrated uses
3. Promote ocean transportation and improve existing port facilities to receive passenger ships, particularly for local and sub-regional travel
4. Promote ship-building and repairs

3.1.3 Ocean Energy

3.1.3.1. Harness renewable ocean energy potential

1. Explore the potential of harnessing renewable ocean energy
2. Invest in technology and pilot projects in ocean-based renewable energy
3. Implement fully the National Energy Transition Framework

3.1.4 Ocean Tourism

3.1.4.1 Invest in developing diverse coastal and marine tourism businesses

1. Develop eco-friendly sites and a cohesive brand showcasing Ghana's coastal and marine heritage

2. Enhance capacity development within the ocean tourism industry
3. Promote sustainable cruise ship tourism
4. Establish innovation incubators or centres to support start-ups or micro and small businesses focused on ocean tourism

3.1.4.2 Promote environmental awareness and responsible behaviour

1. Promote the utilisation of traditional ecological knowledge and practices
2. Improve environmental waste management within the tourism industry
3. Fully enforce rules and regulations to protect the national environment

3.1.5 Emerging Industries

3.1.5.1 Explore environmentally friendly mariculture

1. Assess viability of the marine environment to support mariculture (cultivation of fish and other marine life for human consumption).
2. Research possible marine fish species for mariculture
3. Investigate the potential of sea grass cultivation as a source of alternative livelihood

3.1.5.2 Research into marine natural products

1. Enhance interdisciplinary research to develop essential medicines from marine organisms
2. Promote the production of pharmaceutical and nutraceutical products from marine organisms

3.1.5.3 Promote the use of advanced technologies and methods in salt production

1. Promote the deployment of improved technologies for the production of salt
2. Build capacity to maximise returns along the salt production value chain
3. Engage strategic partners to facilitate access to investment capital, international markets, and technology transfer for salt production

3.2 Ocean Health

Healthy marine ecosystems are critical for maintaining biodiversity, enhancing ecosystem services, ensuring food security, and supporting the livelihoods of millions, particularly in coastal regions. This pillar focuses on strategic actions to combat threats to marine and coastal ecosystems, reduce harmful pollutants, and build resilience against climate-related challenges. These efforts aim to promote sustainable use of marine resources while safeguarding ecological balance and community well-being.

3.2.1 Reduce plastic and solid waste pollution

1. Deepen awareness and educate the public on sound waste management practices
2. Promote inclusion of all stakeholders in plastic and other solid waste management along the plastics value chain
3. Implement the road map for reducing plastic waste

3.2.2 Manage marine pollution

1. Improve waste management systems and enforce waste management laws
2. Restore and protect riparian buffers and coastal wetlands

3. Enforce the prohibition of the use of obnoxious chemicals in the agriculture and fishing sector
4. Promote sustainable mining practices, including adopting mercury-free technologies.
5. Enforce regulations on Persistent Organic Pollutants (POPs)¹⁵ management
6. Develop alternative processes and products that reduce or eliminate the use of POPs
7. Ensure safe disposal and management of legacy POPs and remediate POPs-contaminated sites
8. Promote international collaboration to manage POPs

3.2.3 Prevent pollution from ports, ships and offshore operations

1. Promote “green shipping”
2. Enforce laws focusing on shipping, offshore oil exploration and production activities
3. Integrate earth observation systems in oil spill monitoring and develop effective early warning systems
4. Implement the provisions under the MARPOL Convention
5. Enhance the preparedness and response to oil spill incidents, including collaboration with Regional and International bodies
6. Implement fully the National Invasive Species Strategy and Action Plan (2020-2030)
7. Conduct research and monitor the effects of low-frequency sounds and vessel traffic on marine mammals
8. Mitigate ocean noise pollution by adopting Best Available Techniques (BATs)
9. Stimulate the development and adoption of technologies for producing and storing new zero-emission fuels

3.2.4 Reduce greenhouse gas emissions and build resilience to climate change effects

1. Implement fully the programmes of action under the National Determined Contributions (NDCs)
2. Promote the use of clean energy for ocean-based transportation activities, including fishing
3. Intensify mangrove restoration initiatives
4. Integrate nature-based solutions into coastal hazards management
5. Develop the coastal and marine habitats management regulations to protect sensitive ecosystems
6. Enforce the ban on beach sand-winning
7. Enhance the resilience of coastal communities against climate change impacts

3.2.5 Restore degraded wetlands

1. Scale up wetland restoration and conservation programmes
2. Enhance the capacity of regulatory institutions in coastal and marine management
3. Enforce laws and regulations on wetland management
4. Establish the Community Resource Management Areas (CREMAs) committees for coastal and marine conservation
5. Promote sustainable Local Economic Development (LED) for coastal communities

¹⁵Persistent Organic Pollutants: are poisonous chemical substances that break down slowly and get into food chains as a result



3.3 Ocean Knowledge

Building ocean knowledge and fostering ocean literacy are vital for a sustainable management of marine and coastal resources and the empowerment of coastal communities. This pillar focuses on integrating traditional and scientific knowledge, expanding educational and research opportunities, and promoting public knowledge and awareness of the ocean. By strengthening collaboration with communities, promoting the uptake of technology, and supporting gender-specific initiatives, these strategic actions aim to bridge knowledge gaps, inspire stewardship, and drive innovation for marine conservation, marine-based economic activities and sustainability.

3.3.1 Strengthen collaboration with coastal communities and enhance the use of local knowledge

1. Establish multi-disciplinary initiatives with active involvement of the coastal communities
2. Develop a national database that captures local knowledge
3. Engage local opinion leaders to promote sound traditional practices

3.3.2 Expand educational and training programs on ocean literacy

1. Integrate ocean knowledge into curricula at all levels of education.
2. Develop teacher training programmes on ocean literacy
3. Develop and distribute educational materials related to the ocean in schools

3.3.3 Increasing public awareness through community engagement and media campaigns

1. Launch media campaigns on ocean issues
2. Partner with opinion leaders and civic groups for public awareness programmes
3. Conduct programmes to promote blue economy opportunities

3.3.4 Boost infrastructure and financial support for marine and coastal studies

1. Prioritise scholarships for coastal and marine-related studies
2. Invest in coastal and marine-related research infrastructure (e.g., vessels, labs)
3. Promote academia and industry collaboration in coastal and marine-related technologies

3.3.5 Establish a functional ocean knowledge hub

1. Launch a digital platform for data convergence
2. Establish dedicated Ocean Knowledge Hubs in ocean-related institutions in Ghana.
3. Enhance data sharing protocols among Ocean Knowledge Hubs

3.3.6 Advance coastal and marine biodiversity cataloguing and ecosystem health monitoring

1. Conduct regular biodiversity assessments within the marine and coastal environment
2. Establish coastal and marine ecosystem health monitoring systems
3. Publish annual coastal and marine biodiversity reports

3.3.7 Promote technological integration in marine and coastal informatics

1. Partner with technological firms for informatics tools usage
2. Train researchers on marine and coastal informatics
3. Utilise earth observation systems and emerging technologies for monitoring marine ecosystems

3.3.8 Research into climate change and stressor adaptation strategies for coastal communities

1. Enhance research on climate change impacts on the coastal and marine ecosystems.
2. Co-develop climate change adaptation strategies with coastal communities.
3. Disseminate information on climate change adaptation using various platforms, including print and electronic media

3.3.9 Support marginalised groups initiatives in marine research and conservation

1. Institute training programmes for women and other marginalised groups in marine sciences
2. Provide community-based conservation and restoration training programmes for women and other marginalised groups
3. Promote women-led initiatives in coastal and marine conservation

3.4 Ocean Equity

The aim of the ocean equity is to ensure the transparent, inclusive and equitable use and distribution of ocean resources. The priority actions to achieve the aims include:

3.4.1 Require transparent, responsible business practices

3.4.2 Create the conditions to facilitate the full engagement of women in ocean activities

3.4.3 Recognise and respect the interests of coastal communities and rights of Indigenous people

3.5 Ocean Finance

There is a critical need to establish a robust blue economy framework for fostering sustainable economic growth within Ghana's ocean and coastal ecosystems. This involves creating a regulatory and financial environment that attracts investment while safeguarding marine resources. Key initiatives include the development of blue finance mechanisms, tax incentives, and public-private partnerships (PPP) to mobilise resources for marine conservation and sustainable ocean projects. Additionally, the strategy emphasises building capacity, improving financial literacy, and developing critical infrastructure to support innovation and resilience in ocean-related industries.

3.5.1 Create a blue finance regulatory framework

1. Establish regulations for blue bond issuance, ensuring transparency and accountability in using proceeds for ocean-related projects.
2. Develop guidelines for certifying and trading blue carbon credits to meet international standards, and in line with Ghana's carbon market framework outlined in the Environmental Protection Act 2025, Act 1124
3. Partner with financial institutions to create bespoke financial products for coastal and marine businesses
4. Create a dedicated fund for ecosystem conservation and restoration.

3.5.2 Provide tax incentives for sustainable ocean investments

1. Introduce tax credits for businesses that invest in sustainable marine technologies, such as offshore wind energy, sustainable aquaculture, or marine biodiversity protection.
2. Offer tax deductions for companies participating in blue bond financing or investing in carbon offset projects
3. Provide tax exemptions for Small and Medium Enterprises (SMEs) that adopt sustainable practices, such as using eco-friendly fishing gear or engaging in marine conservation activities.

3.5.3 Enhance private sector participation

1. Develop a private sector engagement strategy framework to promote blue economy projects.
2. Incentivise joint ventures between international investors and local companies to accelerate technology transfer to Small-Medium-Large scale Enterprises
3. Promote the establishment of Blue Economy Investment Funds that pool resources from development banks, institutional investors, and the private sector to finance sustainable ocean projects.

3.5.4 Improve risk mitigation mechanisms to boost investor confidence

1. Scale up ways that (re)insurance can support blended finance opportunities for a Sustainable Ocean Economy
2. Continue to build new tools capability and capacity to assess and manage climate and nature-related risk for ocean industries
3. Scale up the use of existing instruments to support the resilience and investability of ocean industries and ocean conservation outcomes
4. Bundle small-scale blue economy initiatives to enhance investor friendliness

3.5.5 Promote capacity building and financial literacy

1. Develop financial literacy campaigns to educate small and medium-scale businesses on accessing blue finance products, such as microloans and marine insurance, to improve their financial management skills.
2. Partner with relevant local and international organisations to offer technical assistance on developing coastal and marine-specific financial instruments, blue bond issuance, and carbon trading mechanisms.
3. Enhance the capacity of MDAs and coastal MMDAs to prepare bankable projects and link them with wider development objectives
4. Build the capacity of financial institutions for materiality assessment in the ocean economy

3.5.6 Develop Blue Economy infrastructure

1. Initiate public investment programs to expand and modernise marine-related infrastructure to improve productivity and boost the growth of Ghana's blue economy
2. Issue blue bonds to raise capital for infrastructure in fisheries, coastal and marine waste management and port development
3. Leverage international climate finance mechanisms to fund resilient and low-carbon infrastructure
4. Incentivise private sector involvement through risk-sharing mechanisms in port development, ecotourism, and desalination



5. Develop an MSP to guide infrastructure development in coastal and marine areas, avoiding conflict and promoting sustainable use of space

3.6 Maritime Security and Safety

The safety and security of maritime environments are essential for sustainable economic activities, including trade, fishing, and tourism, while also protecting marine resources and marine-based operations from criminal activities. This pillar emphasises creating robust systems to address maritime threats such as piracy, robbery at sea, illegal fishing, pollution, and cyber risks. By enhancing maritime domain awareness, fostering collaboration among stakeholders, and strengthening the legal and operational frameworks, these strategic actions aim to ensure a secure, safe, and resilient maritime space.

3.6.1 Enhance Maritime Domain Awareness (MDA)

1. Deepen awareness of maritime security issues
2. Establish a functional National Maritime Operation Centre (Fusion Centre) to promote data sharing and coordinate security activities among relevant agencies
3. Enhance inter-agency collaboration (local and international) for effective monitoring and combating crime
4. Expand the scope of operations of the District Security Councils (DISECs) to include marine security
5. Improve intelligence gathering by enhancing collaboration among maritime law enforcement agencies (MLEAs), fishers, civil society organisations (CSOs), traditional authorities, and coastal communities, among others
6. Expand surveillance systems by investing in technologies, including satellite-based automatic identification systems and Vessel Traffic Management Information System (VTMIS).

3.6.2 Enhance legal framework on maritime security

1. Ratify and domesticate international conventions.
2. Strengthen collaboration among relevant institutions for effective enforcement of the laws
3. Build capacity of security agencies, the relevant regulatory institutions, the judiciary and legal practitioners in maritime conventions and laws
4. Establish dedicated maritime courts to ensure the speedy delivery of justice

3.6.3 Improve port and harbour security and safety

1. Develop contingency plans for ports and harbours against threats like terrorism, sabotage, armed robbery, oil spillage and fire
2. Institute regular simulation exercises for all relevant institutions and communities
3. Deepen collaboration among ports to enhance sharing of best practices, risk analysis and threat information, in cooperation with relevant stakeholders and social partners

3.6.4 Improve maritime cyber security

1. Assess the cyber risks to Ghana's maritime domain and take anticipatory and responsive measures
2. Incorporate resilient cyber security mechanisms into technologies adopted for use in the maritime domain.

3. Strengthen collaboration among relevant stakeholders to enhance Ghana's maritime cyber security and facilitate information sharing about emerging threats and best practices
4. Ensure continuous improvement in infrastructure and human resource capacity in the cyber space

4.0 Priority Actions for SOP

The successful implementation of Ghana's Sustainable Ocean Plan (SOP) will require a set of transformative initiatives based on national development priorities as well as the UN's Sustainable Development Goals. These are listed below according to the five transformations pillars.

Ocean Wealth

1. Eliminate illegal, unreported, and unregulated fishing (SDG: 14.4)
2. Prohibit harmful fisheries subsidies (SDG: 14.6)
3. Invest in research to make ocean-based renewable energy cost-competitive
4. Work collaboratively to develop frameworks addressing environmental impacts of ocean-based renewable energy
5. Invest in sustainable tourism that regenerates the ecosystem, builds coastal community resilience and reduces inequality (SDG: 8.9)
6. Implement sustainable tourism management strategies
7. Establish early national targets and strategies to support decarbonisation of vessels (SDG: 13.2)
8. Incentivise sustainable, low-carbon ports that support transition to decarbonisation (SDG: 9.1)
9. Promote Fair and equitable sharing of benefits from marine generic resources within national waters.
10. Ensure that all seabed mineral activities, within and beyond national jurisdiction, comply with robust environmental standards (SDG: 14.2)

Ocean Health

11. Implement the Ocean Panel's 'Call to Ocean-Based Climate Action
12. Include ocean-based climate actions in reporting under the Paris Agreement
13. Halt the net loss and increase the extent of coastal and marine ecosystems (SDG: 14.2, 14.5)
14. Establish and effectively manage MPAs and OCEMs (SDG: 14.5)
15. Incentivise the development, production, and use of sustainable alternatives to plastics (SDG: 12.5)
16. Enforce rules on waste shipments and illegal exports of plastic waste (SDG: 12.4)

Ocean Knowledge

17. Make ocean knowledge available to all and invest in building ocean literacy (SDG: 4.7)
18. Invest in knowledge for ocean conservation and future sustainable ocean industries (SDG: 14.a)
19. Develop a complete sequence of national ocean accounts used to inform decision-making.
20. Incentivise the latest technologies for real-time data collection and research (SDG: 9.5)
21. Promote transparent and open sharing and accessibility of ocean data (SDG: 16.10)

Ocean Equity

- 22. Require transparent, responsible business practices (SDG: 16.6)
- 23. Create the conditions to facilitate the full engagement of women in ocean activities (SDG: 5.5)
- 24. Recognise and respect the interests of coastal communities and rights of indigenous people (SDG: 10.2)

Ocean Finance

- 25. Direct public sector financing to invest in a sustainable ocean economy (SDG: 17.3)
- 26. Support sustainable ocean finance and voluntary mechanisms in recovery and stimulus (SDG: 17.9)



SECTION FOUR: MONITORING, EVALUATION, LEARNING AND COMMUNICATION ARRANGEMENTS

The successful implementation of Ghana's SOP requires a clear institutional arrangement, which includes Monitoring, Evaluation and Learning (MEL) arrangements, outlining monitoring and evaluation provisions, dissemination of outcomes, and lessons learned.

4.1 Institutional Arrangements for Coordinating Ghana's SOP Implementation

The institutional arrangements proposed were adapted from global best practices to suit Ghana's peculiar development needs, with the SOP serving as a sub-set of a wider national strategy on the ocean economy.

A Ministerial Committee on Blue Economy (MCoBE), at cabinet level and preferably chaired by the President, is recommended to coordinate the implementation of the SOP as part of the wider Blue Economy Strategy. The work of MCoBE will be supported by a Technical Committee and a Coordinating Office. A representative of the President's SDGs Advisory Unit will be a member of the technical committee. The SDG Advisory Unit will monitor indicators of progress specifically for the SOP for onward reporting to the Ocean Panel secretariat for inclusion in its dashboard. Policies aimed at achieving the objectives of both the Plan and the strategy will be incorporated into the medium-term development plans and their accompanying annual action plans, subject to existing processes and conventions for planning under the leadership of the National Development Planning Commission (NDPC).

4.2 Monitoring, Evaluation and Learning (MEL) Arrangements

The M&E activities will be undertaken by the implementing agencies (MDAs and MMDAs) and coordinated by the Blue Economy Coordination Secretariat (BEsec) to ensure effective and prompt reporting to the Ministerial Committee on Blue Economy (MCoBE) and the NDPC, as shown in Figure 7. The BEsec will track and report on the progress of implementation on a quarterly and annual basis using a pre-determined set of performance indicators in Table 4 in Appendix 2.

Evaluation will rely on a variety of methods to examine the implementation of interventions more closely, gain a better understanding of their nuances, and produce sound assessments of their consequences. In 2029, an evaluation of the SOP will be conducted to assess the cumulative effects of the SOP and to guide its subsequent review and refinement. In addition, periodic special studies and citizens' assessment surveys would be carried out to gain insight into key issues that require further understanding to guide future implementation.

4.2.2 Monitoring and Evaluation Data Management System for Ghana's SOP

The existing data collection, storage and management system will be utilised to ensure the provision of timely and relevant information for reporting on progress. This will also help in the development of an Indicator Tracking Table (ITT) to consolidate data collected on key indicators for decision-making, performance assessment and accountability.

4.2.3 Monitoring Performance

The main mechanism for measuring Ghana's progress towards the objectives of the SOP will be the specially designed dashboard managed by the Ocean Panel Secretariat at the World Resources Institute. The Advisory Unit will work closely with the National Development Planning Commission (NDPC) in performance monitoring and reporting as part of the national M&E framework.

Measuring Progress for the SOP

While the strategic actions ultimately apply to the entirety of the National Blue Economy Strategy, for purposes of tracking and reporting progress to the Ocean Panel's Secretariat, the indicators for the 26 priority actions will be monitored by the President's SDGs Advisory Unit, in collaboration with various ministries, departments and agencies. Table 4 provides the results framework for the priority actions.

Table 4: Monitoring Indicators for the 26 Priority Actions

Priority Action	Indicators
Pillar 1: Ocean Wealth - Sustainably utilise ocean resources for prosperity	
1. Prohibit harmful fisheries subsidies (SDG 14.6)	Proportion of fish stocks within biologically sustainable levels (SDG Target 14.4 – Indicator 14.4.1 – Tier I)
	Sustainable fisheries as a percentage of gross domestic product (SDG 14.7.1)
2. Establish early national targets and strategies to support decarbonisation of vessels (SDG: 13.2)	Existence of strategies and targets in Ghana's SOP to support decarbonisation of vessels
3. Incentivise sustainable, low carbon ports that support transition to decarbonisation (SDG: 9.1)	Daily electronic monitoring of industrial fishing vessels
4. Promote Fair and equitable sharing of benefits from marine generic resources within national waters	Percentage of Marine Genetic Resources (MGR)-derived revenues reinvested in coastal community development
5. Ensure that all seabed mineral activities, within and beyond national jurisdiction, comply with robust environmental standards (SDG: 14.2)	Number of countries using ecosystem-based approaches to manage marine areas (SDG 14.2.1)
6. Eliminate illegal, unreported, and unregulated finishing	Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing
7. Invest in research to make ocean-based renewable energy cost-competitive	Ocean and offshore renewable energy research, development and demonstration (RD&D) as share of total energy RD&D budget (OECD indicator)

Priority Action	Indicators
8. Work collaboratively to develop frameworks addressing environmental impacts of ocean-based renewable energy	Existence of Environmental Impact Assessment (EIA) protocols specific to ocean energy
	Percentage of ocean energy projects subject to strategic environmental assessments (SEAs)
9. Invest in sustainable tourism that regenerates the ecosystem, builds coastal community resilience and reduces inequality (SDG 8.9)	Number of ecotourism sites established and functional
10. Implement sustainable tourism management strategies	Number of ecotourism sites adopting indigenous conservation knowledge and practices
Pillar 2: Ocean Health – Restore and sustain healthy marine ecosystems	
11. Incentivise the development, production, and use of sustainable alternatives to plastics (SDG: 12.5)	Index of coastal eutrophication and plastic debris density (SDG Target 14.1 – Indicator 14.1.1 – Tier II)
12. Halt the net loss and increase the extent of coastal and marine ecosystems (SDG: 14.2, 14.5)	Average marine acidity (pH) measured at agreed suite of representative sampling stations (SDG 14.3)
13. Enforce rules on waste shipments and illegal exports of plastic waste (SDG: 12.4)	Percentage compliance with MARPOL standards by port facilities and vessels
14. Establish and effectively manage MPAs and OCEMs (SDG: 14.5)	Coverage of protected areas in relation to marine areas (SDG Target 14.5 – Indicator 14.5.1 – Tier I)
15. Implement the Ocean Panel’s ‘Call to Ocean Based Climate Action’	Periodic progress report prepared on Ghana’s SOP
16. Include ocean-based climate actions in reporting under the Paris Agreement	Biennial Transparency Report prepared
	Nationally Determined Contributions report prepared
Pillar 3: Ocean Knowledge – Enhance ocean knowledge and literacy	
17. Make ocean knowledge available to all and invest in building ocean literacy (SDG: 4.7)	Progress by countries in the proportion of students (Formal Education category) and number of community members (Community Engagement category) engaged in Ocean sustainability actions (United Nations Decade of Ocean Science strategy document indicators; IOC-UNESCO 2020)
18. Invest in knowledge for ocean conservation and future sustainable ocean industries (SDG: 14.a)	Proportion of government Research and development (R&D) expenditure spent on marine research
19. Develop a complete sequence of national ocean accounts used to inform decision making	Number of datasets integrated into the Ocean Knowledge Hub
20. Promote transparent and open sharing and	Percent of ocean datasets publicly available

Priority Action	Indicators
accessibility of ocean data (SDG: 16.10)	in open-access repositories
21. Incentivise the latest technologies for real time data collection and research (SDG: 9.5)	Proportion of total research budget allocated to research in the field of marine technology (SDG Target 14.a. – Indicator 14.a.1 – Tier II)
Pillar 4: Ocean Equity – Ensure the transparent, inclusive and equitable use/distribution of ocean resources	
22. Require transparent, responsible business practices (SDG: 16.6)	Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)
23. Create the conditions to facilitate the full engagement of women in ocean activities (aligned to SDG: 5.5)	Extent to which Indigenous Peoples and local communities, women and girls as well as youth participate in decision-making related to biodiversity (Target 20 under the Post-2020 Global Biodiversity Framework)
24. Recognise and respect the interests of coastal communities and rights of Indigenous people (SDG: 10.2)	Degree of application of a legal/regulatory/policy/ institutional framework which recognises and protects access rights for small-scale fisheries (SDG Target 14.b – Indicator 14.b.1 – Tier
Pillar 5: Ocean Finance – enhance investment sustainable funding	
25. Public sector financing to invest in a sustainable ocean economy (SDG: 17.3)	Official development assistance, public expenditure and private expenditure on conservation and sustainable use of biodiversity and ecosystems (SDG 15.a.1) (also Target 18 under the Post-2020 Global Biodiversity Framework – Headline Indicator 18.0.1)
26. Support sustainable ocean finance and voluntary mechanisms in recovery and stimulus (SDG: 17.9)	Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries

4.3 Communication Plan

Effective communication is critical to the successful implementation of the SOP and the National Blue Economy Strategy. This will ensure that all stakeholders, including coastal communities, policymakers, private sector actors, civil society organisations, and international partners, are informed, engaged, and aligned with the Plan's objectives and strategic actions. The communication plan, to be jointly implemented by the Unit and the Secretariat of the National Blue Economy Strategy, outlines key messages, channels, tools, and engagement strategies designed to promote awareness, foster collaboration, and encourage active participation in sustainable ocean plan implementation.



4.3.1 Key Messages

1. Sustainable ocean management: Protect marine and coastal resources while enabling economic growth through sustainable practices.
2. Economic and environmental balance: Align environmental protection with economic activities like fishing, tourism, and shipping.
3. Collaboration for impact: Partnering with government, private sector, and civil society is vital for the Sustainable Ocean Plan's success.
4. Preserving for the Future: Ensure Ocean resources remain available for future generations.
5. Climate change resilience: Address climate impacts and support adaptation strategies for vulnerable coastal communities.
6. Investment opportunities for growth: Offers high-impact investment opportunities within the blue economy.

4.3.2 Communication Channels and Tools

1. Traditional Media: Utilise local radio and TV stations to broadcast programs and discussions on the Sustainable Ocean Plan and its relevance to Ghana's economy and environment.
2. Social Media Campaigns: Leverage platforms like Facebook, X (formerly Twitter), and Instagram to reach a wider, especially younger, audience with infographics, videos, and updates.
3. Workshops and Public Forums: Organise workshops, town hall meetings, and stakeholder dialogues in coastal areas to engage directly with communities.
4. Printed Materials: Develop flyers, brochures, posters, and policy briefs that summarise key aspects of the Sustainable Ocean Plan for distribution in both urban and rural areas.
5. Online Platforms: Create a dedicated website or webpage that provides detailed information about Ghana's Sustainable Ocean Plan, its goals, and how people can get involved.
6. Documentaries and Videos: Produce short videos and documentaries highlighting the importance of ocean conservation and the goals of the Sustainable Ocean Plan, featuring testimonies from coastal communities and industry leaders.
7. Partnership with Schools: Collaborate with educational institutions to introduce ocean-related topics into school curricula, including the distribution of educational materials.
8. Press Releases and Newsletters: Regular updates on the progress of the Sustainable Ocean Plan through press releases to media outlets and newsletters for stakeholders.
9. Annual Blue Economy Dialogues: This will serve as a platform to engage stakeholders to track the progress of implementation of Ghana's Sustainable Ocean Plan
10. The key messages will be translated into key Ghanaian languages as well as Braille.

4.3.3 Stakeholder Engagements

1. Government Engagement: Regular meetings and updates with relevant ministries and municipal authorities to ensure alignment and support for the Sustainable Ocean Plan.
2. Community Engagement: Hold consultations and community discussions to encourage grassroots participation and feedback.
3. Private Sector Engagement: Foster partnerships with private companies involved in maritime industries to encourage investment in sustainable practices.

4. NGO and Civil Society Engagement: Collaborate with environmental and conservation NGOs to advocate for the Sustainable Ocean Plan and support its implementation.
5. International Partnerships: Work with international development agencies and donors to secure financial and technical support for the Sustainable Ocean Plan's initiatives.



SECTION FIVE: MINIMUM CONDITIONS FOR SUCCESS

5.1 Minimum Conditions for Success

The successful implementation of Ghana's Sustainable Ocean Plan (SOP) depends on a set of enabling conditions that create the foundation for translating policy ambitions into tangible results. These conditions ensure that ocean governance is politically prioritised, financially sustainable, technically sound, socially inclusive, and environmentally resilient.

5.1.1 Political Will

Strong and sustained political commitment at all levels of government is essential for the success of Ghana's SOP. This includes high-level endorsement, proactive policy direction, and the consistent prioritisation of ocean governance in national development agendas. Political will also secures the enforcement of regulations, effective allocation of resources, and the creation of an enabling environment for stakeholder participation and private sector engagement. Embedding SOP commitments within long-term national development strategies, such as the Coordinated Programme of Economic and Social Development Policies (CPESDP), will help ensure continuity beyond political cycles.

5.1.2 Sustainable Financing

Long-term, predictable, and diversified financing mechanisms are critical for implementing the SOP. National budgetary allocations, private sector investments, and international climate finance will need to be mobilised. Innovative financing tools such as blue bonds, ocean funds, and payments for ecosystem services can enhance financial sustainability, while sectoral levies (e.g., on shipping, offshore oil and gas, or plastics) could generate dedicated revenue streams. Developing a public-private partnership (PPP) framework for ocean infrastructure and ecosystem-based adaptation would further diversify financing sources.

5.1.3 Effective Mainstreaming into Planning and Budgeting Processes

Integrating SOP objectives into national and sub-national development planning and budgeting processes ensures that ocean-related priorities are not treated in isolation. Mainstreaming will facilitate coordinated implementation, efficient resource allocation, and alignment with broader economic, social, and environmental goals. It also provides a pathway for performance tracking and progress assessment through existing monitoring systems such as the SDGs and the National Development Monitoring Framework. Digitalisation of planning and monitoring tools, using geospatial and big data analytics, could further strengthen evidence-based decision-making.

5.1.4 Strong Inter-Agency Coordination and Collaboration

The cross-cutting nature of ocean governance requires robust collaboration among ministries, departments, and agencies—including fisheries, environment, energy, transport, tourism, and local government (Appeaning Addo et al., 2023). Establishing a high-level inter-ministerial coordination mechanism will promote policy coherence, avoid duplication, and enhance joint planning, data sharing, and implementation of SOP actions. Formalising information-sharing protocols and joint enforcement strategies such as integrated marine surveillance systems would improve compliance and reduce resource conflicts.

5.1.5 Effective Local and International Partnerships

Partnerships at local, national, and international levels are vital for leveraging technical expertise, innovation, and financing. Locally, engagement with coastal communities, civil society, academia, and the private sector will enhance ownership and knowledge transfer. Internationally, collaboration with ECOWAS, the Abidjan Convention, and global initiatives such as the UN Decade of Ocean Science and the Ocean Panel will ensure Ghana's efforts are aligned with global best practices. Active participation in regional fisheries management organisations can also strengthen Ghana's response to illegal, unreported, and unregulated (IUU) fishing.

5.1.6 Inclusivity at all Levels of Implementation

The SOP must be implemented through inclusive approaches that involve and empower all relevant stakeholders, especially women, youth, differently-abled persons, and vulnerable coastal communities. Their participation in decision-making, benefit-sharing, and monitoring processes enhances equity, ownership, and long-term sustainability. Recognising that women dominate fish processing and marketing, targeted interventions should address their needs and build resilience in value chains. Youth-focused skills development in blue economy sectors such as aquaculture, marine renewable energy, and ocean sciences can unlock demographic dividends.

5.1.7 Robust Data, Science, and Technology Systems

Reliable, high-quality data is critical for effective planning, monitoring, and adaptive management of marine and coastal ecosystems. Investments in ocean observation systems, hydrographic surveys, and geospatial platforms are needed to improve forecasting and support marine spatial planning. Harnessing artificial intelligence (AI), remote sensing, and blockchain technologies can improve transparency, traceability, and decision-making in fisheries, shipping, and resource governance.

5.1.8 Inclusivity at all Levels of Implementation

The Ghana SOP must be implemented through inclusive approaches that involve and empower all relevant stakeholders, especially women, youth, differently-abled and vulnerable coastal communities. Ensuring their participation in decision-making, benefit-sharing, and monitoring processes enhances ownership, equity, and the long-term sustainability of interventions.

5.1.9 Climate Resilience and Ecosystem-Based Approaches

Mainstreaming climate change adaptation and ecosystem-based management is essential to reduce vulnerabilities and enhance ecological resilience. Nature-based solutions such as mangrove restoration, wetland conservation, and coral reef protection should complement engineered coastal protection. Integrating coastal vulnerability assessments, climate risk insurance, and disaster early-warning systems into national frameworks will safeguard both ecosystems and communities against climate-related shocks.

5.2 Potential Risks, Impacts and Mitigation Measures

The identified potential risks that could prevent achieving the objectives of the SOP and their suggested mitigation measures are listed in Table 3.

Table 5: Potential Risks and their Mitigation Measures

Risks	Potential Impact	Mitigation Measures
1. Strategic Risks		
Misalignment with national and sectoral policies	Duplication of efforts, resource wastage, and reduced stakeholder buy-in.	Integrate SOP actions into NDPC, MDA, and MMDA plans; establish inter-agency MoUs for coherence.
Over-reliance on external funding and partnerships	Vulnerability to donor fatigue or shifting global priorities.	Diversify funding sources through blue bonds, domestic budget allocations, private sector investment, and innovative financing tools.
Underutilisation of ocean economy opportunities	Missed economic diversification, reduced GDP contribution.	Prioritise investment in renewable energy, mariculture, eco-tourism, and heritage site conservation; incentivise emerging industries.
2. Operational and Implementation Risks		
Weak inter-agency coordination	Fragmented implementation, policy incoherence.	Establish a high-level inter-ministerial coordination mechanism and enforce joint planning.
Inadequate technical and human capacity	Poor surveillance, weak enforcement, and low data quality.	Expand marine science scholarships; train enforcement agencies; invest in surveillance and research infrastructure.
Lack of robust data management systems	Delayed decision-making, inability to measure progress effectively.	Develop a national marine data hub integrating GIS, AIS, EMS, and VTMS for real-time monitoring.
Insufficient local community engagement	Resistance to interventions, unsustainable practices continue.	Institutionalise participatory planning; create citizen science programmes; support community-based conservation.
3. Environmental and Climate Risks		
Climate change impacts	Loss of coastal infrastructure, livelihoods, and biodiversity.	Scale up mangrove restoration, implement coastal resilience projects, and establish early warning systems.
Marine biodiversity loss	Collapse of fish stocks, reduced food security.	Strengthen enforcement of fisheries laws; expand and effectively manage Marine Protected Areas (MPAs).
Pollution threats	Degraded ecosystem services, public health risks.	Enforce waste management and POPs regulations; promote sustainable agriculture and mining practices; enhance oil spill response.
Coastal infrastructure impacts	Increased erosion downstream, habitat loss.	Conduct Environmental Impact Assessments (EIAs) before construction; adopt ecosystem-based coastal protection designs.
4. Financial and Investment Risks		
Inadequate sustainable financing	Incomplete or delayed SOP implementation.	Operationalise blue bonds, ocean funds, tax incentives, and blended finance mechanisms.



Risks	Potential Impact	Mitigation Measures
Weak risk mitigation instruments	Reduced investor confidence, vulnerability to shocks.	Develop and scale up insurance schemes for fisheries, tourism, and ocean-based enterprises.
Low financial literacy in coastal enterprises	Limited innovation and expansion in ocean industries.	Roll out targeted financial literacy campaigns and capacity-building for SMEs in blue economy sectors.
5. Government and Compliance Risks		
Weak enforcement of marine regulations	Persistent illegal activities, undermined marine governance.	Increase surveillance capacity (VTMIS, drones, satellite); impose stronger penalties; strengthen maritime law courts.
Delayed ratification/domestication of conventions	Missed alignment with international obligations, reputational risks.	Fast-track legislative processes and harmonise laws with UNCLOS, IMO, and regional protocols.
Corruption and mismanagement risks	Loss of stakeholder trust, reduced donor engagement.	Strengthen transparency and accountability through audits, digital monitoring, and community oversight mechanisms.
6. Socio-Political and Equity Risks		
Exclusion of marginalised groups	Inequitable benefit sharing, social conflict.	Mainstream gender, youth, and disability inclusion in all SOP activities; support women/youth-led enterprises.
Land and resource use conflicts	Delays in project execution, legal disputes.	Adopt Marine Spatial Planning (MSP) to balance competing uses (tourism, fishing, mining, housing).
Community resistance to conservation measures	Loss of livelihoods, non-compliance.	Provide alternative livelihoods (mariculture, eco-tourism); involve communities in co-management of resources.

5.3 Conclusion

The Sustainable Ocean Plan (SOP) provides a comprehensive national framework for managing and utilising Ghana’s marine and coastal resources sustainably. Developed as part of the country’s commitments to the 18-member High-Level Panel for a Sustainable Ocean Economy, the SOP forms part of the wider National Blue Economy Strategy, with specific indicators of progress to be monitored and reported to the Panel’s secretariat at the World Resources Institute. This will be separate from other measures of progress for various policy initiatives under the expanded national blue economy strategy.

The Plan charts a clear, integrated path for transforming the nation’s marine and coastal resources into sustainable sources of prosperity, resilience, and heritage. The Plan unites six pillars – Ocean Wealth, Ocean Health, Ocean Knowledge, Ocean Equity, Ocean Finance, and Maritime Security and Safety—into a single, coherent framework that will guide action from 2025 through 2030. Highlights of the priority actions that will form the backbone for monitoring, evaluation and reporting framework include:

1. Expand and effectively manage Marine Protected Areas (MPAs) and Coastal Wetlands to safeguard key habitats and spawning grounds, with annual targets for hectares restored and biodiversity indices tracked.
2. Eliminate Illegal, Unreported, and Unregulated (IUU) fishing through strengthened surveillance, electronic monitoring systems on 100 percent of industrial vessels, and prosecution of infractions, reducing illegal catch by a minimum of 20 percent each year.
3. Restore mangrove and wetland ecosystems at scale—targeting a 15 percent increase in mangrove cover by 2030—leveraging community-led CREMAs and nature-based solutions for carbon sequestration and coastal defence.
4. Develop and operationalise a Blue Finance Regulatory Framework that issues at least GHS 500 million in blue bonds, mobilises private capital through tax incentives, and establishes a dedicated Ocean Conservation Fund.
5. Pilot and scale renewable ocean energy projects—offshore wind and tidal—that contribute at least 5 percent of Ghana’s electricity mix by 2030, measured through megawatt-hours generated and emissions avoided.
6. Launch the National Maritime Operations Centre and a Digital Ocean Twin platform for real-time ocean monitoring, vessel traffic management, and the integration of Earth Observation data, improving maritime domain awareness by 50 percent.
7. Advance ocean literacy and equity by integrating ocean science curricula in all coastal schools, awarding 100 scholarships for marine studies, and ensuring women and youth participate in at least 40 percent of SOP governance bodies.



APPENDIX: MONITORING INDICATORS FOR SOP STRATEGIC ACTIONS

Table 6: Monitoring Indicators for SOP Strategic Actions

Strategic Actions	Indicators
Pillar 1: Ocean Wealth - Sustainably utilise ocean resources for prosperity	
Promote sustainable fishing practices	Level of implementation of closed seasons
	Total number of fisheries officers trained in post-harvest management protocols/standard
	Level of implementation of sustainable fisheries management programmes for fish stocks recovery
	Proportion (%) of fishers going fishing with prescribed safety equipment
Support research to assess the distribution and abundance of lesser known ocean/sea food options within the EEZ of Ghana	Number of catch assessments of fish stock conducted
Establish a green vessel certification scheme	Green vessels certification scheme established
Reduce greenhouse gas emission	Total greenhouse gas emissions
Promote effective management of the marine fishery sector to ensure sustainability	Number of functional Marine Protected Areas (MPAs) established
	Total number of fisheries officers trained in post-harvest management protocols/standards
	Level of implementation of Marine Fisheries Management Plan
	Number of fish farmers trained on local feed production
	Percentage change in fish/fingerling mortalities under normal production
	Number of fish processing facilities certified under “Class 1 Recognition Scheme”
Harness the potential of renewable ocean energy	Daily electronic monitoring of industrial fishing vessels
Establish mechanisms to promote equitable sharing of benefits from MGR	Percentage of Marine Genetic Resources (MGR)-derived revenues reinvested in coastal community development
Enforce national, regional and international rules and regulations to eliminate IUU fishing practices	Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing
	Number of infractions recorded and prosecuted
Restore coastal wetland ecosystems and promote their sustainable use to enhance food security	Level of implementation of the coastal lagoons aspect of the National Fisheries and Aquaculture Policy
	Proportion of coastal wetlands ecosystem restored
	Number of Coastal Wetlands management plans reviewed and implemented
	Total Fish Supply (mt):

Strategic Actions	Indicators
	- Marine capture - Inland Capture fisheries - Aquaculture
Transition from a commerce-based port into an integrated diverse usage	Maritime Traffic - Container traffic (TEUs) - Cargo traffic (tonnes)
	Turn-around time of vessels - Tema port - Takoradi port
	Number of PPPs for port infrastructure development and maintenance
	Inland Water traffic - Freight (Tonnes) - Number of Vehicles (No.) - Passenger (No.)
	Number of cruise ships operating in Ghana's waters
Harness renewable ocean energy potential	Share of ocean renewable energy in electricity generation
	Existence of Environmental Impact Assessment (EIA) protocols specific to ocean energy
	% of ocean energy projects subject to strategic environmental assessments (SEAs)
Invest in developing high quality and diverse coastal and marine tourist sites	Number of ecotourism sites established and functional
	Number of capacity building programmes organised for ocean tourism stakeholders
	Number of people employed in the marine/ocean sector
Develop coastal and marine conservation and protection programmes	Percent change in tourist arrivals
	Percentage change in revenue generated from ecotourism
	Number of people employed in the marine/ocean sector
Promote environmental awareness and responsible behaviour	Number of tourism and hospitality-related vocational and technical training for local residents
	Number of innovation incubators/centres to support start-ups/micro and small businesses focused on ocean tourism and hospitality
	Number of ecotourism sites adopting indigenous conservation knowledge and practices
Support a multi-sectoral monitoring and evaluation mechanism for coastal and marine tourism in Ghana	Existence of M&E Framework for coastal and marine tourism
	Number of evaluations conducted on coastal and marine tourism impacts
Explore environmentally-friendly mariculture to provide alternative livelihood for artisanal fishers	Number of artisanal fishers adopting sustainable mariculture practices as a primary or supplementary livelihood
	Number of researches conducted on mariculture viability

Strategic Actions	Indicators
Research into pharmaceutical potentials from the marine environment	Number of new pharmaceutical compounds derived from marine resources entering clinical trials or patent registration
Promote the use of advanced technologies and sustainable methods in salt production for local use and export	Proportion of salt producing companies utilising improved technologies
	Proportion of investment in financing control structures, construction, and technological improvements
	Level of implementation of national salt development plan
	Percentage change in salt production and export
Pillar 2: Ocean Health – Restore and sustain healthy marine ecosystems	
Reduce Plastic and Solid Waste Pollution	Level of implementation of road map for reducing plastic waste
	Level of pollutants of effluent discharge into coastal waters and lagoons
	Number of recycling plant established and functional
	Number of plastic items per square kilometre of beach
	Plastic debris density
	Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities
	Percentage change in size of Protected Coastal and Marine Areas
Manage nutrients and heavy metal pollution	Net Change in Ecosystem Area (ha/year)
	Proportion of domestic and industrial wastewater flows safely treated
	Proportion of coastline protected
	Proportion of farmers adopting sustainable agriculture practices
	Proportion of illegal miners provided with alternative livelihoods
	Proportion of farmers provided with complimentary livelihoods
Eliminate Persistent Organic Pollutants (POPs) and Radionuclide Pollution	Percentage of wastewater treated to remove nutrients and heavy metals before discharge
	Number of sites remediated for POPs and radionuclide contamination
	Percentage change in concentration of POPs and radionuclides in marine sediments and biota
	Number of personnel trained on safe handling of POPs

Strategic Actions	Indicators
Prevent Pollution from Port, Ship and Offshore Operations	Number of reported pollution incidents from ships and offshore operations
	Percentage compliance with MARPOL standards by port facilities and vessels
	Number of port facilities equipped with waste reception and treatment systems
	Level of implementation of National Invasive Species Strategy and Action Plan
Reduce Noise Pollution from Marine Activities	Percentage change in ambient underwater noise levels
	Number of research conducted on effects of low-frequency sounds and vessel traffic on marine mammals
Reduce climate change effects on ocean health	Level of implementation of NDCs
	Number of early warning systems established and functional
	Marine water quality
Restore Degraded Wetlands	Percentage of degraded wetlands restored
	Number coastal communities provided with sustainable Local Economic Development (LED) initiatives
	Number of CREMAs established for ocean resource management
Eliminate Illegal, Unreported and Unregulated (IUU) Fishing	Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing
	Number of vessels equipped with Electronic Monitoring Systems (EMS)
Reduce pollution and greenhouse gas (GHG) emissions to mitigate climate change	Total greenhouse gas emissions
	Proportion of investment in financing control structures, construction, and technological improvements
	Presence of ocean-based actions in Nationally Determined Contributions (NDCs)
Pillar 3: Ocean Knowledge – Enhance ocean knowledge and literacy	
Expanding Educational and Training Programs on Ocean Literacy	Percentage of educational curricula revised to include ocean literacy content
	Number of teachers trained in ocean literacy
	Quantity of ocean-related educational materials distributed to schools
Increasing Public Awareness through Community Engagement and Media Campaigns	Number of media campaigns conducted on ocean-related issues
	Number of public awareness events organised in collaboration with civic groups
	Percentage change in public awareness of blue economy opportunities (based on surveys)



Strategic Actions	Indicators
Strengthening Collaboration with Communities and Local Ecological Knowledge Integration	Number of community-led research programs initiated
	Percentage of local ecological knowledge integrated into the national database.
	Number of traditional practices documented and promoted through local influencers
Boosting Infrastructure and Financial Support for Marine Research	Number of scholarships awarded for marine and coastal studies
	Change in amount of funds invested in marine research infrastructure
	Number of research collaborations established between academia and industry
	Proportion of government Research and development (R&D) expenditure spent on marine research
Establish a functional Ocean Knowledge Hub	Number of users accessing the digital platform
	Percentage of stakeholders using enhanced data-sharing protocols
	Number of datasets integrated into the Ocean Knowledge Hub
	Percent of ocean datasets publicly available in open-access repositories
Advancing Coastal and Marine Biodiversity Cataloguing and Ecosystem Health Monitoring	Number of biodiversity assessments conducted
	Percentage of coastal and marine areas covered by health monitoring systems
	Number of biodiversity health reports published
Promoting Technological Integration in Marine and Coastal Informatics	Number of partnerships established with technology firms for marine informatics
	Percentage of researchers trained in digital marine informatics
	Number of marine ecosystems monitored using earth observation tools
Research on Climate Change and Stressor Adaptation Strategies for Coastal Communities	Number of studies conducted on climate change impacts on marine ecosystems
	Percentage of coastal communities engaged in co-developing adaptation strategies
	Number of outreach activities conducted to disseminate climate change adaptation information
Supporting Gender-Specific Initiatives in Marine Research and Conservation	Number of scholarships awarded to women for marine sciences
	Percentage of women trained in community-based marine conservation initiatives
	Number of women-led marine conservation projects supported
	Percentage change in women employed in the marine sector
Pillar 4: Ocean Equity – Ensure the transparent, inclusive and equitable use/distribution of ocean resources	

Strategic Actions	Indicators
Supporting Gender-Specific Initiatives in Marine Research and Conservation	Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)
	Number of scholarships awarded to women for marine sciences
	Percentage of women trained in community-based marine conservation initiatives
	Number of women-led marine conservation projects supported
	Percentage change in women employed in the marine sector
Strengthening Collaboration with Communities and Local Ecological Knowledge Integration	Number of traditional practices documented and promoted through local influencers
Pillar 5: Ocean Finance – enhance investment sustainable funding	
Promote Capacity Building and Financial Literacy	Number of blue economy projects implemented through PPP frameworks
	Number of innovative risk mitigation tools adopted for the ocean economy
	Number of technical assistance programs implemented for blue bond issuance and carbon trading mechanisms
	Percentage of MDAs and MMDAs equipped with skills to prepare and present bankable ocean-related projects
	Number of small-scale fishers trained in accessing blue finance products
	Proportion of financial institutions conducting materiality assessment in the ocean economy
	Number of financial literacy campaigns organised for fisher Folks (small-scale)
Develop Blue Economy Infrastructure Development Programmes	Change in post-harvest losses (Fisheries)
	Number of landing sites and harbours established
	Total number of fisheries officers trained in post-harvest management protocols/standards
	Change in value of public investments made in modernising marine-related infrastructure
Create a Blue Finance Regulatory Framework	Number of credit facilities available for ocean/marine management stakeholders
	Number of blue bond issuances that meet established regulations
	Percentage of certified blue carbon credits meeting international standards
	Number of marine-specific financial products introduced by financial institutions
	Number of coastal communities with access to fair

Strategic Actions	Indicators
	financial services tailored to the blue economy
Provide Tax Incentives for Sustainable Ocean Investments	Number of businesses receiving tax credits for investments in sustainable marine technologies
	Change in value of tax deductions granted for blue bond financing or marine ecosystem restoration
	Percentage of small-scale fishers and coastal communities benefiting from tax exemptions for sustainable practices
	Number of businesses adopting eco-friendly technologies as a result of tax incentives
Pillar 6: Maritime Security and Safety – Ensure safe and secure conditions at sea for all	
Enhance Maritime Domain Awareness (MDA)	Existence of functional National Maritime Operation Centre
	Number of Fisheries Patrol Boats purchased
	Number of Fishing trips monitored and analysed
	Number of patrols conducted (Sea/Beach/Lake)
	Number of fisheries infractions recorded as a result of non-adherence to safety standards and maintenance of safety equipment
Adopt co-management approach to improving maritime security	Number of co-management security committees established in coastal districts
	Percentage change in intelligence sharing among maritime stakeholders
Enhance legal framework on maritime security	Number of judges and prosecutors trained in adjudication of infractions
	Number of international conventions ratified
	Number of infractions recorded and prosecuted
	Number of days taken to adjudicate fisheries infraction cases at the Courts of Law
	Existence of dedicated maritime courts
	Percentage change in fatalities at sea
	Number of judges and prosecutors trained in adjudication of infractions
Improve port & harbour security and safety	Number of contingency plans established for ports and harbours

Strategic Actions	Indicators
	Number of strategic sector cooperation with other countries ports and harbours
Improve maritime cyber security	Number of vessels equipped with Electronic Monitoring Systems (Automatic Identification System - AIS)
	Mean Time to Detect cyber intrusion



REFERENCES

- Appeaning Addo, K., Djokoto, G., & Gbeckor-Kove, P.D. (2023). Ocean Governance Study Ghana. https://www.un.org/oceancapacity/sites/www.un.org.oceancapacity/files/files/Projects/Norad/OGS/final_report_on_ocean_governance_study_in_ghana_24_feb_2023.pdf
- EPA, 2020: State of the Marine Environment Report for Ahanta West, Ellembelle, Jomoro and Nzema East Districts of the Western Region of Ghana. Marine Management in West Africa through Application Project. 197 pages
- Fisheries Commission, (2023). Annual Performance Report. https://efaidnbmnnnibpcajpcglclefindmkaj/https://www.mofaq.gov.gh/wp-content/uploads/2025/04/Very-final_2023-APR-FINAL-02082024_Board.pdf.
- Ly, C. K., (1980). The role of the Akosombo Dam on the Volta River in Causing Erosion in Central and Eastern Ghana (West Africa), Mar. Geol., 37:323 – 332.
- Nunoo B., Asiedu K, Amador D, Belhabib D. Pauly (2014): Reconstruction of Marine Fisheries Catches for Ghana, 1950-2010
- MoFAD MTEF, (2024). MEDIUM TERM EXPENDITURE FRAMEWORK (MTEF) FOR 2024-2027. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://mofep.gov.gh/sites/default/files/pbb-estimates/2024/2024-PBB-MFAD_.pdf
- NDPC (2024), Vision 2057: Long-Term National Development Perspective Framework, Accra. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ndpc.gov.gh/media/Long-Term_National_Development_Perspective_Framework_Vision_2057.pdf
- Transformation for a Sustainable Ocean Economy (2020). High Level Panel for a Sustainable Ocean Economy, Transformations for a Sustainable Ocean Economy, A Vision for Protection, Production and Prosperity - <https://oceanpanel.org/wp-content/uploads/2022/06/transformations-sustainable-ocean-economy-eng.pdf>
- WRI (2020): <https://oceanpanel.org/about-ocean-panel/>
- Yemi, O Oloruntuyi, 2025. <https://risevest.com/blog/marine-fishing-and-its-impact-on-ghanas-fishing-economy>
- <https://www.graphic.com.gh/features/features/losing-out-to-iiu-fishing-the-cost-ghana-bears.html>- Date accessed: August, 2025
- <https://doi.org/10.1080/23308249.2014.962687>- Date accessed: August, 2025

Mahu, E., Danso, P., Edusei, M.O. et al. Impact of agricultural practices on ecosystem health of lagoons: a case study of the Keta Lagoon Complex in Ghana, West Africa. *Environ Monit Assess* 195, 622 (2023). <https://doi.org/10.1007/s10661-023-11253-2>

Aheto, D. W., Asare, N. K., Quaynor, B., Kankam, S., Okyere, I., & Okyere, D. (2016). Impacts of oil exploration and drilling activities on marine biodiversity and ecosystems in the Western Gulf of Guinea (Ghana). *Ocean & Coastal Management*, 129, 208–221. <https://doi.org/10.1016/j.ocecoaman.2016.05.007>

Kassem, H., & Esseini, U. B. (2012). Ballast water management and the control of marine invasive species in West Africa. *Journal of Environmental Science and Engineering*, 1, 1025–1033.

Amuzu, A. T. (2017). Marine pollution in Ghana: The need for a comprehensive legal framework. *Ghana Journal of Geography*, 9(1), 25–44.

Bediako, J. K., Lin, S., & Sarkodie, S. A. (2019). The environmental impacts of shipping emissions: A case study of West Africa's shipping corridor. *Atmospheric Environment*, 201, 270–281. <https://doi.org/10.1016/j.atmosenv.2018.12.042>

IMO. (2017). Ballast Water Management Convention and its implications for Africa. *WMU Journal of Maritime Affairs*, 16(3), 331–343. <https://doi.org/10.1007/s13437-017-0127-1>



CONTACT US

SDGs Advisory Unit ,
Office of the President (Annex),
State Protocol
Email: info@sdgsghana.gov.gh